Dietary Intake and Health Outcomes

Final Report

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Abstract

The Harvard Service Food Frequency Questionnaire (HSFFQ) has been used in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) in North Dakota, Missouri, and Massachusetts. This project collaborated with those States to improve HSFFQ output to better facilitate nutrition education, food package decisions, and referrals; to design, implement, and evaluate the use of aggregate nutrition data for local and State practices and policy decisions; and to use prospective data to examine the relationships between diet and childhood obesity. The project developed a standardized version of the HSFFQ to make collecting and compiling aggregate data easier and to make data reports more useful. The project demonstrated that aggregating nutrition data at the State level is feasible. The calibration studies uncovered the need for further analyses to explain the performance of the tool in the diet assessment of low-income Hispanic and African-American children. Prospective analysis of the influence of diet on overweight in low-income preschool children, while inconclusive, demonstrated the ability to use aggregate nutrition data to explore important epidemiological hypotheses.

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NOTE TO READERS

During this project, the Institute of Medicine (IOM) published a report on "Dietary Risk Assessment in the WIC Program" (2002). Some of the report's recommendations affect the usefulness of the project's findings. In particular, the IOM recommends against using individual-level dietary assessment data—as would be provided in the output from the Harvard Service Food Frequency Questionnaire (HSFFQ)—to determine eligibility status for the WIC program or for nutrition education purposes. Errors in individual-level reporting greatly reduce the validity of the data for assessing diet in individuals. Therefore, the project's improvements in the HSFFQ output to facilitate individual-level nutrition education, food package decisions, or referrals may no longer be relevant. USDA's Food and Nutrition Service is making recommendations to the WIC program about the use of dietary assessment methods.

Despite these limitations, however, the IOM concludes that the errors are less serious in group assessments. The aggregated data, therefore, could be used for identifying dietary patterns in a WIC population and patterns that need improvement, for monitoring group-level changes over time, and for assessing effects of nutrition education interventions. Group assessment data would be collected best by trained individuals on randomly selected subsamples of the WIC population. Any tool used for this purpose still must be evaluated in terms of the criteria presented in Chapter 4.9 (that is, "a tool would still need to be easy to administer, appropriate for the group and reasonably accurate."

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Massachusetts, Missouri, and North Dakota State WIC Programs

Focus group participants from the North Dakota WIC Program

This report represents the collaborative efforts of many individuals, including the advisory committee and staff, and the Harvard study group and staff whose names appear at the beginning of this document. Completion of this project was complex and required substantial dedication and effort by all those who participated throughout its completion.

The study group wishes to acknowledge the assistance of the Lynn Community Health Center and the Harvard Street Neighborhood Health Center WIC Programs in collecting the calibration study data. The WIC Program Directors, Steve Beauchaine (Lynn WIC) and Marian Gabriel (Dorchester WIC), kindly opened the doors of their clinics for the purposes of this project. The on-site coordinators, Dawn Belben (Lynn WIC) and Jennifer Wallace (Dorchester WIC) and the dedicated registered dietitians who collected the 24-hour recalls worked extremely hard to gather information under challenging circumstances. The committee would especially like to thank all of the WIC staff and clients who dedicated their time to the calibration studies-- this research would not have been possible without them.

We extend our gratitude to the 4 WIC sites in North Dakota that piloted the Client Printout preceding the focus groups. Thanks to the WIC nutritionists and clients in North Dakota who took the time to participate in both rounds of those focus groups. Hank Dart and Morgan Ford worked closely with the study group and utilized the focus group input to develop the Client Printout. With the help of the focus groups they successfully designed a functional final product for the efficient and valuable nutrition education of WIC clients.

Corey Bergund at the North Dakota Department of Health dedicated much time and effort to make it possible to link the Harvard Service FFQ data with WIC certification data and vital statistics data for use in the prospective analysis of diet and health outcomes. Gideon Aweh, Data Manager at the Channing Laboratory made himself endlessly available to support the committee members and staff who utilized the linked data over the course of this project. P. Kirstin Newby a doctoral student in nutrition at Harvard completed the prospective analysis. The committee would like to thank Ms. Newby's doctoral research committee (advisory committee members Drs. Colditz, Willett, and Berkey, and Dr. Karen Peterson from the Departments of Maternal and Child Health and Nutrition at Harvard) for the time and support they offered to the completion of this analysis.

Each of the 3 states that were members of the advisory committee contributed unique and valuable perspectives to the overall aims of this project. Lucy Zahler from Missouri provided great insight into the various uses of the Harvard Service FFQ in her state. Jill Leppert from North Dakota offered endless support and wonderful examples for each aspect of this project. Deborah Klein Walker and Jan Kallio provided perceptive viewpoints around the limitations as well as the endless possibilities of utilizing service data for individual assessment, education, and population analysis for program and policy planning, and research. All of the state

members remained dedicated and optimistic that the concepts explored through this project would one day be tangible.

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For the Harvard Research Study Group

Boston, Massachusetts
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Table of Contents

Executive Summary

Background

Diet assessment

Diet assessment facilitates early detection of asymptomatic children with dietary intake problems, creating an opportunity for early intervention before more marked effects such as weight loss or obesity become apparent. In a report on dietary assessment in the Special Supplemental Nutrition Program for Women, Infants & Children (WIC), the Institute of Medicine (IOM) concluded that although dietary assessment methods (i.e., 24-hour recalls, food frequency questionnaires) are not accurate for assessing diets of individuals, they have an important role in WIC for planning or targeting nutrition education for WIC clients and, given the less serious nature of the errors in group assessments, provide useful population level nutrition information that is helpful in program planning and policy evaluation (1).

Nutrition Education

Diet information provides a starting point for nutrition counseling. When diet assessment is omitted nutrition education tends to be general rather than tailored to individual needs (2). The use of a personalized evaluation of dietary quality has been shown to enhance awareness and motivation for dietary change. When advice is carefully focused, behavior changes have been accomplished (3). In our own work in Massachusetts we observed that the majority of WIC visits include some 10 to 15 minutes of nutrition education, reflecting the integral part this plays in the services that are provided (4).

Pediatric obesity

Obesity now affects 1 in 5 children in the US. Many of the consequences of adult obesity begin in childhood--for example hypertension, abnormal glucose tolerance and hyperlipidemia occur with increasing frequency among obese children and adolescents. Questions remain as to whether the onset of obesity in early childhood carries greater risk of adult morbidity and mortality. Yet the underlying importance of preventing childhood obesity due to its strong relation to

adult obesity and the associated chronic diseases, mandate a more rigorous understanding of the relationship between diet and the development of this common childhood condition (5). Further study of diet and obesity and the predictors of the onset of obesity in much larger populations are needed.

The prevalence of obesity has been rising rapidly in the United States, supporting the notion that this is not just a genetic condition, but rather a consequence of lifestyle, including diet. An interaction between our underlying genetic make up and an environment that discourages physical activity and encourages consumption of calories, is fueling the growth of obesity (6). Does diet composition contribute to the development of obesity above and beyond total caloric intake?

Project overview

The overall goal of the proposed project was to build on ongoing Harvard collaborations with WIC programs in North Dakota, Missouri, and Massachusetts to increase the usefulness of the Harvard Service Food Frequency Questionnaire (HSFFQ) and its associated dietary data output in improving nutrition education and guiding program planning. In addition, prospectively collected state WIC data were utilized to examine relations between diet and health outcomes in children with obesity at 4 years of age as a prototype. The project aims were to:

1. Evaluate and improve the HSFFQ output to better facilitate nutrition education, food package decisions, and referrals.

2. Design, implement, and evaluate the use of aggregate nutrition data for program planning and evaluation at the local and state levels, by aggregating diet assessment and administrative data from WIC programs in collaborating states.

3. Utilize prospective data collected through the WIC program to examine relations between diet from age 2 to age 4 and childhood obesity, as

measured by excess adiposity among 4-year-old children. Specifically, test the hypothesis that a high-fat diet leads to greater childhood obesity and that a diet high in fruits, vegetables, and fiber is associated with lower levels of obesity.

To achieve these objectives we completed the following tasks:

A. Conducted focus groups on-site in North Dakota. North Dakota was chosen as the most appropriate location for the focus groups given their history and statewide experience with the Harvard Service FFQ (HSFFQ) (complete implementation and regular use of the HSFFQ for nutrition assessment and education throughout the North Dakota WIC Program). The first round of focus groups were run to learn about how the HSFFQ was used by WIC providers to deliver nutrition education to WIC clients. The second series of focus groups was conducted following the pilot run of a newly developed "Client Printout" to learn about its effectiveness from both WIC clients and nutrition counselors.

B. Developed a standardized version of the HSFFQ under the Nutrition Education aim to ease the expansion of the use of the HSFFQ in service and research settings.

C. Implemented common procedures in North Dakota and Missouri for collecting statewide WIC data, compiling it and sending it to Harvard for analysis. Harvard returned an aggregate report for use in program planning and evaluation at local and state levels.

D. Collected dietary intake data on low-income African American and Hispanic children in an attempt to expand the calibration of the HSFFQ and broaden the usefulness of the HSFFQ in assessing diet and informing nutrition education in multi-ethnic populations.

E. Compiled longitudinal data from North Dakota and prospectively examined the influence of dietary composition and beverage consumption on changes in body mass index among low-income preschool children.

It should be noted that as part of the original proposal the study group recommended a review of the dietary assessment tools currently in use or being developed by different WIC programs. During the course of exploring this task, it was revealed that the Institute of Medicine (IOM) was conducting just such a review as part of their review of dietary risk assessment in the WIC program. Therefore, we did not pursue this proposed task and refer the reader to the IOM report, "Dietary Risk Assessment in the WIC Program" (1).

A national advisory board comprising representatives from the states, National Association of WIC Directors, the Center for Disease Control and Prevention and US Department of Agriculture provided guidance throughout the study.

Findings from focus groups

Use of HSFFQ in nutrition counseling in North Dakota

North Dakota WIC dietitians do both individual and group counseling. They use the HSFFQ printout for individual counseling in conjunction with several nutrition handouts. Some dietitians write or circle items on the handouts to personalize them for WIC clients. They often use the HSFFQ and its printout to clarify dietary intake.

Client printout

Four sites in North Dakota piloted the client printout for approximately one month prior to the focus group feedback from WIC providers and clients. At all sites the client printout was distributed to the women one month after the completion of the HSFFQ. The month-long time-period between the completion of the HSFFQ and receiving the printout did not concern the clients or the providers. Four of the clients said that the printout was not a good indication of what they usually ate because they did the HSFFQ when they were in early pregnancy and had

"morning sickness all day". The providers reported that they liked the client printout and would use it for all clients except those with developmental delays or language issues.

Overall, the reception of the client printout was positive by both providers and clients. Many wanted to know when something similar would be available for children.

Standardized HSFFQ

The development and use of the Harvard Service Food Frequency Questionnaire (HSFFQ) continues in service settings such as prenatal clinics, Head Start Programs, schools, and WIC programs for both service and research purposes. The standardized product, although presented differently, contains the majority of the core foods found on the HSFFQ used in each of the 3 states. The last page of the standardized questionnaire includes questions that examine fiber intake, type of fat eaten, fried food consumption, and multi-vitamin and supplement use. In addition, the last page will offer the user (practitioner, researcher, etc.) a choice of 1 of 3 different modules of questions that ask about physical activity, food security or food scarcity, food behavior (see Appendix E). The standardized HSFFQ is available in English and Spanish and in a paper or direct-enter computer format.

Explanation of aggregate data reports with reference to examples

Aggregate data reports are currently created and utilized by North Dakota and Missouri. Each state compiles the HSFFQ data for their state and sends it to Harvard for analysis. Harvard runs specific analyses on the data and returns an aggregate report back for use in state WIC program planning and policy decision -making.

The Advisory Board to the ERS/USDA Dietary Intake and Health Outcomes grant developed a standard format for the state reports. Each report includes population nutrition information for children, pregnant women, and post-partum women (lactating and not lactating) broken down into specific age groups. The

contents include overall nutrition statistics, a list of the top 10 foods that contribute to each nutrient, mean consumption per day for 7 food groups and 2 nutrients, a list of what foods contribute to each food group, a list of the contents for the raw nutrient file, and the raw nutrient file for 18 nutrients (see Table 1 in the main report for further detail). An example report is included in Appendix F. In concept each state receives the exact same information as decided on by the Advisory Board. In practice the states' agendas continue to evolve and in response to these changes modifications are made to the aggregate data reports.

North Dakota has used the data to examine differences in dietary intake in pregnant women and children 3 to 5 years old by annual family income and family size. Missouri used the data from the HSFFQ to evaluate the influence of a nutrition education and Farmer's Market Voucher pilot project on the consumption of fruits and vegetables in a small population of women and children in the WIC program. Both examples demonstrate the ability of a state to use the data from the aggregate data to answer questions deemed important by state health departments.

Calibration study results

In previous studies evaluating the Harvard Service Food Frequency Questionnaire (HSFFQ) the term *validation* has been used to describe studies using the same methods employed in the completion of the *calibration* studies described in this report. Calibration is another commonly used term to describe studies that quantitatively compare values from one method of diet assessment (i.e., food frequency questionnaire) to values from a "gold standard" method of diet assessment (i.e., 24-hour diet recall) (7). The term calibration is used throughout this report.

African American Children

For the 108 African American children aged 1 to 5, participating in Massachusetts WIC with complete data, feasible daily energy intake (500 – 3500 kcal per day), and who were not siblings, we compared the first of 2 Harvard

Service Food Frequency Questionnaires (HSFFQs) collected to the average of 3 24-hour diet recalls to calibrate the questionnaire. Pearson correlation coefficients, adjusted for total energy intake and within and between person variation, were calculated for the following 7 WIC nutrients: protein (r = 0.37), vitamin A (r = 0.45), vitamin C (r = 0.007), folate (r = 0.27), zinc (r = 0.15), calcium (r = 0.13), and iron (r = 0.23).

For the African American children used in this calibration research, the ratio of within to between subject variability is greater than that found in the North Dakota calibration for sixteen out of the nineteen dietary nutrients/substances. This implies that a greater number than the three 24-hour recalls that were collected would be necessary to accurately represent the diet of these children (8). Thus, the fact that these correlations were somewhat low, may not necessarily imply that the Harvard Service FFQ (HSFFQ) has a poorer validity among African American children, but may instead reflect the inadequacy of the three days of diet recalls as the gold standard representing the diet of these children. The increase in this ratio could be due to the generally increased availability of foods in the greater Boston area as compared to North Dakota.

Hispanic children

To calibrate the questionnaire for use in Hispanic children aged 1 to 5 years we compared the first of 2 Harvard Service Food Frequency Questionnaires (HSFFQs) collected to the average of 3 24-hour diet recalls. The final sample comprised 45 children after excluding individuals with reported energy intake below 500 kcals or above 3500 kcals, siblings, and those missing 1 or more diet recall(s). Pearson correlation coefficients, adjusted for total energy intake and within person variation, were calculated for the following 7 WIC nutrients: protein (r = 0.04), vitamin A (r = 0.07), vitamin C (r = 0.04), folate (r = -0.32), zinc (r = 0.07), calcium (r = 0.28), and iron (r = 0.16). Given the small final sample of Hispanic children who participated in and completed the calibration study (n=45), the correlations, as well as the within and between subject variability have very wide confidence intervals. Therefore, these results should not be used to draw

conclusions about the validity of the Harvard Service FFQ (HSFFQ) among low-income Hispanic children participating in WIC.

Analysis of the ratio of the within and between subject variability suggests that, as with the African American sample, a greater number of 24-hour diet recalls may have been necessary to accurately estimate "true intake" and to adjust for day-to-day fluctuations in an individual's intake (i.e., within subject variability) for the Hispanic children who participated in the present calibration study. This may be related to the variety of foods available in an urban area like Greater Boston. An increased variety could affect the day-to-day differences in food intake for each individual because more choices are available.

Findings from prospective analysis

Prospective analyses looking at dietary composition, beverage consumption, and changes in body mass index among low-income children 2 to 5 years of age using linked, longitudinal data (Harvard Service FFQ, WIC Certification data, and vital statistics data) from the state of North Dakota were completed. The aggregate nutrition data from WIC was linked to vital statistics, birth certificate data, in order to obtain additional variables needed to conduct a thorough analysis (e.g., birth weight and maternal education). The first analysis tested several hypotheses, considering both nutrients (total fat, animal fat, vegetable fat, and fiber) and pre-defined North Dakota (ND) food groups[1] (fruits, vegetables, breads/grains, and “fat foods”) used for nutrition counseling in the North Dakota Special Supplemental Nutrition Program for Women, Infants, and Children. (Please refer to the original printout for client nutrition education included in Appendix B for food group definitions). After univariate and multivariate regression analyses were performed for all nutrients and foods, only vegetable intake was significantly related to larger decreases in BMI. Further research is

[1] Nutritionists at the North Dakota WIC program modified the HSFFQ food groups (used to derive daily food serving and nutrient intake information) for state-specific uses. These predefined food groups (hereafter referred to as “ND food groups”) are used in this study. The ND food groups are similar to the categorization scheme used in the USDA Food Guide Pyramid[9]. The ND food groups are not related to the WIC federal food package, nor are they federally defined food groups. The groups were created for dietary analysis and nutrition education purposes and are used for nutrition counseling at North Dakota WIC clinics.

needed to reproduce these findings when controlling for additional risk factors such as familial obesity and physical activity.

The second analysis explored the hypotheses that fruit juice, fruit drinks, milk, soda, and diet soda are positively related to changes in BMI. Changes in BMI were not significantly related to intakes of fruit juice, fruit drinks, milk, soda, or diet soda in either univariate or multivariate analysis. Results did not change when further adjusted for sociodemographic variables. Similar findings were seen when intakes of milk and juices were dichotomized into excessive ($\geq$ 12 oz) consumption categories. The influence of beverages on body weight may be more important for older children who consume a more varied diet.

Review of diet assessment tools currently in use or being developed by different WIC programs

Please refer to the 2002 Institute of Medicine Report: "Dietary Risk Assessment in the WIC Program" (1). It can be read on-line and/or ordered at: http://www.nap.edu/books/0309082846/html.

Conclusions

The use of the Harvard Service FFQ (HSFFQ) has been successfully implemented and is on-going in all 3 collaborating states. With the input of health communication specialists, WIC practitioners, and clients, the HSFFQ Client Printout has been tested and refined and is currently used to provide valuable individually tailored nutrition education. The newly developed standardized version of the HSFFQ will facilitate the expansion of its use to additional settings, ease the collection and compilation of aggregate data, and aid the production of useful data reports.

The results of the calibration component make it clear that further analyses are necessary to explain the performance of the tool in the assessment of the diet in low-income African American and Hispanic children. The poor results may have been a result of the study methods, and not a reflection on the performance of

the HSFFQ in these populations. The previously reported validity of the HSFFQ can not be disregarded. The validity reported by Suitor et al., Blum et al., and Wei et al. demonstrate that nutrition data for Native American and Caucasian children ages 1 to 5 and multi-ethnic pregnant and postpartum women can be reliably collected and utilized to provide tailored nutrition education. Furthermore, as demonstrated in the state data aggregation component of this project, it is feasible to combine nutrition data at a state level to be utilized by local, state, and national agencies to answer important questions and inform current program practices and policy decisions.

While inconclusive, prospective analysis of the influence of diet on overweight in low-income preschool children demonstrated the ability to utilize aggregate nutrition data to explore important epidemiological hypotheses.

The experiences of the past 3 years have been invaluable in uncovering both the significant administrative issues that must be addressed and those that will facilitate the process of data aggregation and increase the likelihood of successfully sustaining the implemented system. Before any benefits of collecting aggregate nutrition data and potential linkages can be reaped on a local or state level it is essential that the regulations regarding the use of WIC data be clarified to facilitate uniform policy interpretation across states. The following steps will facilitate the data aggregation process and increase the likelihood of a sustained nutrition data aggregation system:

1. Designation of a state WIC Program or Department of Public Health staff member with understanding of nutrition data structure and other state data sources as the official state nutrition data coordinator. The state nutrition data coordinator must be given clear responsibility and have an appropriate amount of their time allocated to nutrition data collection and aggregation to facilitate the use of the nutrition data.

2. Orientation around the diet assessment method and the collection of aggregate nutrition data for state WIC program administrators and providers to become acquainted with the utility of the system.
3. An introductory phase followed with additional orientation and training around the diet assessment tool and aggregation of nutrition data.
4. An approximately six month practice phase of aggregate nutrition data collection to resolve issues before annual data compilation officially begins.
5. Successful annual data compilation by Information Systems and state appointed nutrition data coordinator sent for analysis and report generation.

Once the above steps are taken and the listed supports are put in place will the inherent benefits of these data be reaped by local and state programs and policies.

Future goals should include further calibration of the HSFFQ in Latinos and African Americans using our established criteria and methods. Further work is needed to better understand the assessment of diet in this subgroup of the population.

To support the continued use of these valuable data, it is essential that a funding source and functional body be identified. With expansion to additional states the data collected through WIC may offer a unique window on evolving patterns of diet and child growth. From our experience the management of the compilation and use of these data would be best accomplished by an entity residing within a state system. This will help regulate the many administrative and practical steps that must be completed to successfully link the numerous data sets that various agencies may contribute.

Aim 1: (Nutrition Education)

"Evaluate and improve the output of the HSFFQ to better facilitate nutrition education, food package decisions, and referrals."

Task A: Summary of focus groups

At the initial Advisory Committee Meeting on December 9, 1998 (see Appendix A for list of Advisory Committee members, meeting attendance records, and meeting minutes), focus groups were presented as a method to evaluate the education component and the printout performance of the Harvard Service Food Frequency Questionnaire (HSFFQ). The committee agreed upon this method and discussed what, how, and the direction focus groups should take in the evaluation, including reviewing all proposed questions for both rounds of focus groups.

In March 1999 Jane Gardner went to North Dakota's WIC sites and met with 28 WIC nutritionists over four days to evaluate the printout that was then being used for client education and counseling purposes. North Dakota had been working with the HSFFQ since 1993. (See Appendix B for the original printout, the 4 proposed versions of the client printout, the piloted client printout, and the final version of the client printout).

Specifically, the questions asked were:

- Describe the nutrition education or counseling you currently provide.
- Do you use the HSFFQ printout for nutrition education?
- Focusing on the use of the printout of the diet analysis for nutrition education, what information do you usually use first? Why?
- What information from the diet assessment do you use the most for nutrition education? Why that information? How do you use it?
- Is there currently information on the printout that you do not use for nutrition education? If so, what information? Why is it not used for nutrition education?

- The top two lines provide client information such as the age and for women her status related to pregnancy. Do you use this information when doing nutrition education? If so, how? What, if anything would you want to change in these two lines? Why?
- Do you use the mean servings by food group for nutrition education? If so, how do you use it? What, if anything would you want to change in the mean servings by food group category? Why?
- Do you use the information on the number of food items selected? If so, how do you use this information in nutrition education? What, if anything, would you want to change about the report on number of food items selected? Why?
- Do you use the graph on nutrient density when doing nutrition education? If so, how do you use it? What, if anything would you want to change in the use of nutrient density for nutrition education? Why?
- Do you use the information on estimated calories when doing nutrition education? If so, how do you use this information? What, if anything, would you want to change about this information? Why?
- Do you use the information on mean servings per week by food in your nutrition education? If so, how do you use this information? What, if anything, would you want to change about the listing of mean servings per week by foods? Why?
- Now I would like you to look at the whole format of the printout. What, if anything would you want to change? Is there any information you would like added? Or deleted?
- Do you think it would be helpful to send a printout of some kind home with the participants? (Show some examples)
- What training, if any, would you like to have?
- Present the Missouri printout for comment on the changes that have been made that are not yet on the ND printout. (Nutrient density vs. RDA)
- Are there other comments you would like to make?

Specific responses to all these questions can be found in Appendix C. From the responses we could see that the North Dakota nutritionists used the printout for counseling, personalizing it for individual nutrition education. We took the comments/information from the nutritionists to propose a new printout.

Hank Dart, SM, Health Educator, Morgan Ford, SM, Research Assistant, and Dr. Jane Gardner, Co-Investigator met and designed 4 potential designs for the new client printout (nutrient driven, food group driven (2), and food group and nutrient driven) (see Appendix B). North Dakota WIC selected one of the proposed formats (with some additional alterations) to pilot in their clinics. Helaine Rockett, research nutritionist, and Steve Stuart, programmer, then created the new North Dakota version of the HSFFQ direct enter computer program including the version of the client printout they selected. The new North Dakota version of the HSFFQ was sent to four North Dakota WIC sites to be piloted.

The second set of Focus Groups held in April 2000 and lead by Dr. Jane Gardner was with Providers and Clients to obtain feedback on the new client printout. The new printout had been in use for approximately one month prior to our focus groups. Each part of the client printout was reviewed and the following questions were asked:

<u>Questions for clients</u>:

1. At your last visit to the WIC program did you receive a printout (like this one) of the analysis of the foods you ate?
2. How was that printout used at your visit?
3. Did you take a copy home with you?
4. What did you do with it when you got home?
5. Did you refer to it again at home? If so, what did you look at? How many times, if any, did you refer to it?
6. What information did you find most helpful? Why?
7. What information did you not use? Why?

8. Is there anything on the printout you would like changed?
9. Did the printout help you make any changes in your diet?
10. Do you have any questions for me?

Questions for providers:

1. How frequently do you print out an analysis for the client?
2. How do you use the client printout during the visit?
3. In which parts of the printout are the clients most interested? Least interested?
4. Do you send that copy home with the client? What do you think she does with the printout?
5. Do clients report that they used, or did not use, the printout?
6. Do you think there should be a similar printout for children? Would you expect any differences in how the child's versus the pregnant woman's printout would be used?
7. What problems, or issues, have come up about the client printout?
8. Do you have anything else you would like to say about the client printout?

Based on responses obtained in the focus groups the client printout was updated to reflect their comments. Brief summaries are provided below with complete summaries included in Appendix C. (See Appendix B for all versions of client nutrition counseling printouts, including the final version).

Use of HSFFQ in nutrition counseling in North Dakota:

North Dakota WIC dietitians do both individual and group counseling. They use the HSFFQ printout for individual counseling in conjunction with several nutrition handouts. Some dietitians write or circle items on the handouts to personalize them for WIC clients. They often use the HSFFQ and its printout to clarify dietary intake.

Client printout:

Four sites in North Dakota piloted the client printout for approximately one month prior to the focus group feedback from WIC providers and clients. At all sites the client printout was distributed to the women one month after the completion of the HSFFQ. The month-long time-period between the completion of the HSFFQ and receiving the printout did not concern the clients or the providers. Four of the clients said that the printout was not a good indication of what they usually ate because they filled out the HSFFQ when they were in early pregnancy and had "morning sickness all day". The providers reported that they liked the client printout and would use it for all clients except those with developmental delays or language issues.

Comments and Conclusions:

Again, the one-month time-period between the completion of the FFQ and receiving the printout was not a concern for either the clients or providers. Initially this delay occurred because the North Dakota WIC sites did not have the personnel to enter the food frequency questionnaire immediately at the time of each visit. Now in North Dakota approximately 50% of the WIC sites give the printout to the client at the time of their visit. This low percentage is due to lack of time available during each WIC visit. In North Dakota they do not make the client's certification visit 1-2 hours long, but schedule the client to have nutrition education more frequently (per conversation with Jill Leppert).

The HSFFQ is a calibrated self-administered food frequency questionnaire for use by low-income women and children (see Appendix D for references: Suitor et al. 1989, Wei et al. 1999, and Blum et al. 1999). It is a tool that is designed to evaluate a person's diet in the previous month to evaluate how they *usually* eat. Sometimes our diets change due to sickness or new circumstances. The HSFFQ will not reflect a client's "usual" diet if it is different because of sickness or other circumstances. However, it will still be beneficial because the WIC nutritionist will review it, realize the woman is not eating correctly, and address this immediately. The nutritionist will also review the form the following month with the client and inquire how they are feeling and eating now. Given that the

HSFFQ is sometimes held in the client's WIC folder and available for discussion with the participant albeit 1 month later opens the door for the client and provider to continue their talk about diet.

Now, with the new client printout (a product of the focus groups), many WIC sites enter the HSFFQ immediately so the client can go home with an educational sheet that has been individualized to them.

Task B: Development of Standardized Harvard Service FFQ

The development and use of the Harvard Service Food Frequency Questionnaire (HSFFQ) continues in service settings such as prenatal clinics, Head Start Programs, schools, and WIC programs for both service and research purposes. The food lists and the analyses have been altered for specific projects, each time learning more about the characteristics of this tool. Based on these experiences and current research projects, standardization of the HSFFQ for use in maternal and child health settings was begun as part of this project under the Nutrition Education Aim.

The Harvard Service Food Frequency Questionnaire (HSFFQ) was originally the Prenatal Food Frequency Questionnaire (PFFQ). It was designed as a self-administered tool based on the Nurses' Health Study food frequency questionnaire. The PFFQ was calibrated by Carol Suitor (see reference 1 Suitor, et al. in Appendix D). The prenatal questionnaire was later modified and renamed the Harvard Food Frequency Questionnaire (HFFQ) to assess dietary patterns in children and for use in the WIC program with computerized scoring (10), along with the development of an interactive, self-administered, computerized format (11).

In 1998 the HFFQ became the Harvard Service Food Frequency Questionnaire (HSFFQ) to identify it more accurately. (Figure 1 depicts the progression of the development of the HFFQ previous to the change in name to HSFFQ and the development of the standardized Universal HSFFQ). It has been used in North

Dakota, Missouri and Massachusetts for many years. Within each state, we have made changes (mostly to the fourth page non-food items) that a state might request. A standardized HSFFQ was discussed at the first and second Advisory Committee meetings (see Appendix A for Advisory Committee meeting attendees). It was agreed to standardize the questionnaire (list of foods on first 3 pages and allow for different modules for the fourth page of the standardized questionnaire) to make the HSFFQ appropriate for a larger audience.

Helaine Rockett M.S., R.D., Carol Suitor Sc.D., R.D., and Jane Gardner Sc.D., R.N. met several times and developed the standardized questionnaire. The specifics were presented at an Advisory Committee Meeting on June 30, 1999. The difference between the standardized Universal HSFFQ and the questionnaires at that time being used by the states are the following:

1. Only listing orange juice/grapefruit juice, and other juice
2. Listing the word melon only, not specifying type of melon
3. Including fruit cocktail
4. Separating pasta from pasta and sauce
5. Separating salad dressing and mayonnaise
6. Not including pumpkin pie
7. Combining all beans into one line
8. Rearranging foods on the form so similar foods follow each other on the form (e.g.: tuna, fried fish, other fish)
9. Adding in burritos/tacos

These were based on recommendations from the states and the Advisory Committee. The rest of the foods remained the same.

The fourth page of the standardized HSFFQ included specific questions on food characteristics (i.e. type of fat) as well as modules of questions recommended by the Centers for Disease Control and Prevention that a state could choose from: physical activity, food behavior, and food security/food sufficiency. Previously

the state designed the fourth page with Harvard's supervision. The standardized HSFFQ is offered in English and Spanish, and in a paper or direct-enter computer format.

Appendix E includes copies of the standardized paper HSFFQ for women and children in both English and Spanish. The modules for physical activity and food security are also found in Appendix E. The food security module used is the standardized set of 6 questions developed by USDA (12). This module is treated as a state-specific module, not part of the Centers for Disease Control and Prevention (CDC) core surveillance system.

The CDC does not currently have a standard set of questions on food behaviors. The module that was piloted in Minnesota on parent-child feeding interactions did not prove to be predictive of obesity. Therefore, CDC has not recommended its use in other states. Research in this area at CDC continues, but they are not currently pursuing another set of questions (per communication with Larry Grummer-Strawn on December 18, 2002). A user's manual is included in Appendix E.

***Comments/Conclusions*:**

Approximately 95% of the foods on the standardized Universal HSFFQ are the same (depending on the state 2-6 foods different). The HSFFQ is used in 3 very different areas of the United States and has been flexible to adapt to each area. If a change was requested by a state, the reasons for change were discussed with the WIC liaison to Harvard. The changes to the calibrated HSFFQ included name changes such as Fry Bread for donut in North Dakota, if a food was not eaten in the area such as greens in North Dakota, or a unique food was consumed (e.g. deer, okra). Finally in each of the states they used unique wording for juice and cereal that the clients were familiar with instead of using the words on the original HSFFQ (WIC juice, Orange juice, Other juice and WIC cereal [hot or cold], Other hot cereal, Other cold cereal).

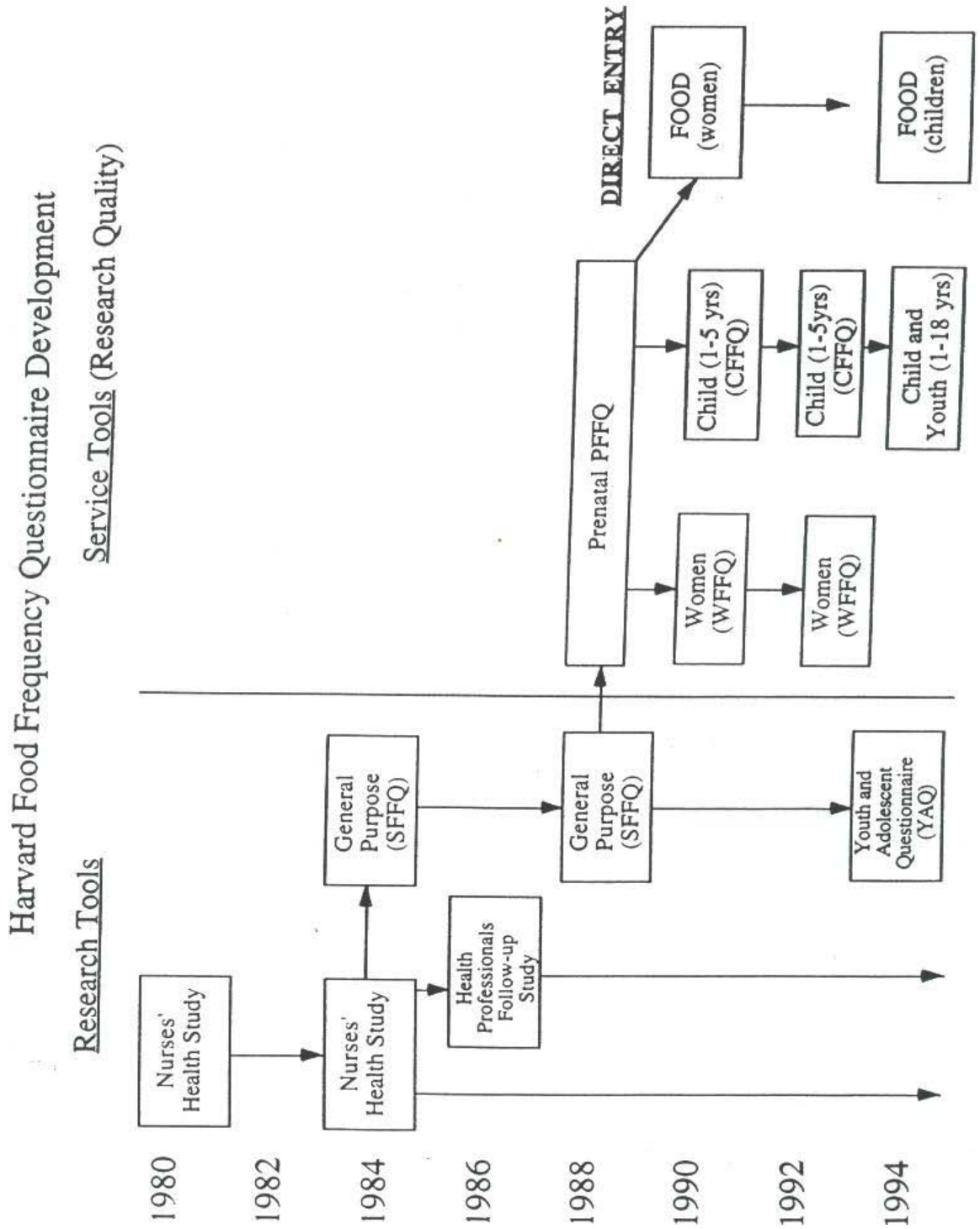
Below is a diagram that catalogs the specific differences in foods included on the different state questionnaires at the time of making the Universal questionnaire. Each row represents a row on the HSFFQ and which food was listed in each state. For example, while Missouri wanted chocolate milk as one of the milk types to choose from, Massachusetts and North Dakota did not have this choice.

Massachusetts	North Dakota	Missouri
-	-	Chocolate Milk
Peaches	Peaches	Peaches or pears
Pear	Pineapple	Pineapple
-	-	Okra
Greens	-	Greens
-	-	Zucchini/yellow squash
-	-	Brussel Sprouts
Ham	Liver	Liver

It should be noted that it would require an enormous study to have the statistical power necessary to detect a difference in validity with one question (i.e. food item) deleted or changed. In particular, if it was an item rarely consumed in the population being evaluated (e.g., okra), this would be impractical and an insufficient reason to repeat a calibration study (per communication with Walter Willett).

The standardized HSFFQ will facilitate the future expansion of the use of the tool to additional settings, ease the collection and compilation of aggregate data, and aid the production of useful data reports.

FIGURE 1. Harvard Food Frequency Development (prior to name change in 1998 to Harvard Service FFQ and development of the Universal HSFFQ).



Aim 2: (Combining Data)

"Design, implement, and evaluate the use of aggregate nutrition data for program planning and evaluation at the state and national levels by aggregating diet assessment and administrative data from WIC programs in collaborating states."

Task C: Development & implementation of aggregate data reports

In 1994 North Dakota and Harvard School of Public Health (HSPH) began a working collaboration. Beginning in January 1995 North Dakota collected aggregate data for the state WIC program and sent the first compiled file to HSPH in 1996. In exchange for the use of the data for research purposes, HSPH agreed to run specific analyses on the data and send an aggregate report back to the state for their use in WIC program planning and policy decision making.

In 1997 the state of Missouri and HSPH began working together to design a version of the Harvard Service FFQ (including a direct enter version of the HSFFQ) to meet the needs of their state. The Harvard Service FFQ (with some adjustments for the state of Missouri) was piloted in 1997, and since then the state and HSPH have worked closely to develop appropriate programs and aggregate reports. HSPH has been running aggregate analysis for Missouri since 1997. Over the years there have been changes to the information provided in order to create an efficient and simple format of data presentation for the individual WIC sites. The state also receives aggregate data analysis for all of Missouri WIC for use in statewide queries.

In order for Harvard to generate aggregate data reports for Massachusetts, the Harvard Service FFQ (HSFFQ) data must be released to Harvard. This has been the primary constraint on Harvard's ability to generate reports. Based on interpretations of the USDA regulations by the legal experts at Massachusetts Department of Public Health, it was not felt that they specify directly the use of WIC participant data for the purposes of either surveillance or research. While the HSFFQ data are not part of the typical WIC certification file, they are defacto WIC participant-data, and thus the legal experts felt they were subject to the

regulations. Although both Harvard and Mass WIC collaborators would like to see the data utilized more fully by generating these reports, Mass WIC's inability to release data has precluded Harvard's ability to do so.

In the meantime, we have met with Mass WIC to identify alternative solutions or mechanisms to surmount this barrier. Any assistance that USDA can provide by clarifying the regulations or releasing new regulations would facilitate the ability of appropriate experts, outside WIC, to provide the expertise and resources needed for the generation of aggregate analyses to WIC that can be used for program planning and evaluation.

The Advisory Board to the ERS/USDA Dietary Intake and Health Outcomes grant has since developed a standard format for the state reports. The standard format for the state aggregate data reports was proposed and discussed at the Advisory Committee meeting on September 13, 1999. The proposed report included the following nutrients: calories, protein, total fat, carbohydrates, calcium, iron, zinc, vitamin C, vitamin B6, folate, vitamin A, vitamin E, saturated fat, monounsaturated fat, polyunsaturated fat, cholesterol, caffeine, and alcohol (see Appendix F). The Advisory Committee felt it would be too confusing to list poly- and monounsaturated fats separately and chose to combine them into one category called "Unsaturated fat". They also chose to delete caffeine from the report. The contents of these reports are summarized in Table 1 and an example report as sent to Missouri for children ages 12 – 18 months is included in Appendix F (please note: this is just an example that presents raw ASCII data that is usually never printed out- the data is meant for statistical analysis and therefore has no headers or labels).

For children we had to make a decision about the cut-point to separate the two age groups (1 - 2 years and 3 - 5 years). Since portion sizes are based on age, the Advisory Committee wanted the cut-off to be as close to the "correct age" as possible. The thought was that 2 years 11 months and 29 days was closer to 3 years than at 2 years 1 day, but there needed to be a cut-point. Given that,

statistically, 0.5 is the cut-off, we decided to go with 2.5 or 30 months to be rounded down to 2 years and greater than 30 months to be round up to 3 years.

In concept, each state receives the exact same information as decided on by the Advisory Board. In practice the states' agendas continue to develop and in response to these changes alterations to the aggregate data reports are implemented. Each state approached the project in a different manner; North Dakota has a data manager and Missouri originally sent raw data.

The states' handling of the data has had a major impact in Harvard's receiving the data, the quality of the data received (any corrupt records removed), and the timeliness of analyzing the data. Over time we have worked out a process that is beneficial to each state and efficient in analyzing the data. In North Dakota, the data manager sent cleaned raw data with all identifiers removed to Harvard. Missouri initially sent just the disks from the individual sites to be analyzed. The data then had to be compiled and cleaned. Over the years, Missouri has modified their approach and sent the data on tape or CD, and has designated a data manager, following North Dakota's model. This has increased the timeliness in the analysis of data (easy to read and accessible). Massachusetts working within the confines of USDA requirements has yet to send data to Harvard for analysis and reports. They have developed a system of centralized compiling of the data from their clinics. We are continuing to work on streamlining this part of the program.

TABLE 1. What is included in an aggregate data report

1. Each report includes the following information:
   - ➔ **Overall nutrition statistics** (1 page).
   - ➔ **Contribute files** (3 pages). Includes the top 10 foods that contribute to a specific nutrient total intake for 17 nutrients.
   - ➔ **Mean food group per day** (1 page). Includes mean consumption per day for 7 food groups and 2 nutrients (meat, bread and cereal, milks, vegetables, fruit, vitamin A, vitamin C, sweets, fats). Also includes a list of what foods contribute to each food group.
   - ➔ **Data-dictionary for the raw nutrient data file** that lists the contents, including the name of the nutrients for the file (1 page).
   - ➔ **Raw nutrient data file** for 18 nutrients as specified in the data dictionary (45 pages).
2. Each report includes the above information for children, pregnant women, and post-partum women (lactating and not lactating) broken down into specific age groups as follows:

   Children

   12 – 18 months, 19 – 30 months, 31 – 66 months

   Women: Pregnant

   Less than 16 years, 16 – 19 years, 20 – 29 years, 30 – 39 years, 40 – 49 years, 50+ years

   Women: Lactating, and Not-pregnant or lactating (post-partum)

   Not broken down by age
3. Reports are produced for each district or county in the state. The data is sent on a CD-ROM.

Implications for other states and the impact of different approaches on WIC costs:

Per communication with Sharmini V. Rogers, Acting Chief, Bureau of Nutrition Research and Surveillance, Missouri Department of Health and Senior Services

Potential implications for other states:

"Using the HFFQ has allowed Missouri to obtain statewide data on the dietary intake of WIC participants. The data obtained are being used to analyze the effect of referrals made on dietary intake and to evaluate the impact of selected interventions, or the WIC program overall, on improving dietary status and related risk factors of WIC participants. Missouri plans to link risk factors, such as overweight, with dietary intake by WIC participant to determine if the risk factor can be ameliorated by improved dietary intake. For example, for overweight children the intake of high sugar drinks, such as cola, may be one of the main "culprits" for children in a particular WIC local agency; the HFFQ will provide data to support changing the intake of that food item to improve the children's weight status. The WIC local agency can then track the impact of their chosen intervention on the intake of high sugar drinks. The advantage of using the HFFQ is that all foods consumed are related to the food groups as defined by the Food Guide Pyramid and over-consumption of food groups can be easily determined, plus the individual foods that are contributing to the over consumption can also be determined easily. Other factors, such as TV/video time and food insecurity, can also be easily compared against risk factor and dietary intake since that TV/video time and food insecurity information is also obtained via the HFFQ. Other states could use the data to evaluate the impact of their efforts in improving the nutritional health of their residents. For states that are automated, obtaining and transmitting the data is fairly easy. The implementation of the HFFQ statewide in Missouri was not effected as smoothly as it could have been. The implication for other states is to plan carefully for this change, assuring that the positive reasons for the change are widely distributed in a number of different ways. Educating WIC local agencies on the background of the tool and the value to them. Technical assistance for each WIC local agency is a must. To use the

HFFQ tool most effectively, many WIC local agencies need to change their clinic flow somewhat; targeted technical assistance would have been very helpful to the WIC local agencies in Missouri when implementing the HFFQ in their clinics."

Costs impacts:

"In relationship to the overall cost of providing the WIC program to the residents of Missouri, the cost of implementing the use of the HFFQ was minimal. The cost of continuing the use of the HFFQ is basically non-existent, and may even be cost-reducing. When the HFFQ was first piloted in Missouri, computers that would have been surplused by the program were used in the pilot. When the HFFQ was implemented statewide, other computers that were to be replaced were used for the HFFQ. For WIC local agencies which needed additional computers, the computers purchased were designed to meet more than one need--implementing the HFFQ and Folio, the electronic version of the WIC Local Agency Operations Manual (policy and procedures manual). No additional staffing was needed to implement the HFFQ. Implementing and maintaining the HFFQ was incorporated into the work expectations of the staff, as appropriate. While incorporating the HFFQ into the work of the program initially may have required additional staff time to be spent on the project, in the long run, staff time on other parts of the program were reduced. For example, when monitoring WIC local agencies, one of the monitoring items was to assure that foods were correctly categorized, by servings, into foods groups. With the HFFQ, the calculation of the servings and assignment into food groups is automatic, thus eliminating that monitoring item. In addition, the monitoring findings of incorrectly calculating serving sizes or incorrectly assigning a food item to a specific food group were eliminated for those WIC agencies using the HFFQ. Thus, the accuracy of assigning inadequate dietary risk factors improved. Using the HFFQ has also resulted in WIC local agency nutritionists being able to spend more time counseling participants, instead of completing dietary intake records. Utilized correctly, the dietary intake data of the participant can be entered by the participant or by staff other than the WIC nutritionist. The time not spent doing

routine determination may then be spent on counseling the participant from the results of the data entered.

The Missouri WIC Program, as well as other organizations seeking funding, has used the data obtained from the HFFQ to support the need for grant funding. In addition, the data are often used to evaluate the impact of various interventions on the health of Missouri WIC participants. Utilized correctly, the HFFQ could result in a lower cost to the program by targeted counseling and interventions. The Missouri WIC Program continues to improve the use of the HFFQ by utilizing the electronic mail system to disseminate reports to the WIC local agencies, as by transmitting "cleaned" records electronically to Harvard University for analysis. Future improvements may include submission of HFFQ records from the WIC local agencies to the state office by electronic mail.”

Uses of aggregate data for program planning and evaluation

To identify counties at higher risk it is possible to use WIC nutrition data (from the HSFFQ) and WIC certification data (from the WIC certification form) to run an analysis of the intake of a specific nutrient(s) in a specified population by county.

As an example (Table 2) we used the North Dakota data (they are the state that currently links WIC nutrition data and WIC certification data) to look at the intake of iron by county in children 3 to 5 years of age. We included the sample size for each county, the percent meeting the RDA of 10 mg, the mean intake for each county, and the standard error around that mean. This information would help program planners in North Dakota identify which counties may be at higher nutritional risk. Based on counties with 10 or more data points there is substantial variation in the percent meeting the RDA of 10 mg from a low of 44% to a high of 90%.

To evaluate the suitability of the WIC food package for different ethnic/racial groups it is possible to use WIC nutrition data (from the HSFFQ) and WIC certification data (from the WIC certification form) to run an analysis of the intake of a specific nutrient(s) in a specified population by race/ethnicity.

As an example (Table 3) we again used the North Dakota data (they are the state that currently links WIC nutrition data and WIC certification data) to look at the intake of iron by race/ethnicity in children 3 to 5 years of age. We included the sample size for each race/ethnicity, the percent meeting the RDA of 10 mg, the mean intake for each race/ethnicity, and the standard error around that mean. This information would help program planners in North Dakota identify whether or not a specific ethnic/racial group was at higher nutritional risk and possibly not receiving the appropriate supplementation for the specified nutrient(s) with the current WIC food package. It appears that there is no substantial variation in percent meeting the RDA of 10 mg by race/ethnicity.

Table 2. Iron (mg) Intake by County for Children 3 to 5 Years of Age Participating in North Dakota WIC from July 1997 to July 1998 (n=3766)

County	n	% Meeting RDA of 10mg	Mean Intake (mg)	Standard Error
Adams	17	82	12.98	0.80
Barnes	41	90	16.39	0.78
Benson	114	75	14.10	0.50
Billings	0	N/A	N/A	N/A
Bottineau	33	85	16.66	1.00
Bowman	19	89	15.48	0.92
Burke	9	89	17.98	2.63
Burleigh	257	68	13.91	0.37
Cass	351	65	13.19	0.31
Cavalier	49	73	15.37	0.94
Dickey	28	68	14.43	1.24
Divide	0	N/A	N/A	N/A
Dunn	16	69	14.60	1.70
Eddy	22	77	15.13	1.21
Emmons	113	77	14.79	0.58
Foster	35	77	14.88	1.00
Golden Valley	14	64	14.31	1.86
Grand Forks	217	66	12.90	0.35
Grant	33	82	14.98	0.93
Griggs	32	66	14.33	1.31
Hettinger	19	79	14.93	1.81
Kidder	21	86	14.38	1.03
LaMoure	18	44	9.94	0.89
Logan	17	88	17.67	2.59
McHenry	20	70	14.79	1.33
McIntosh	0	N/A	N/A	N/A
McKenzie	21	62	11.22	0.85
McLean	36	83	14.77	0.91
Mercer	39	72	12.71	0.75
Morton	162	77	14.99	0.47
Mountrail	13	77	14.39	1.35
Nelson	5	80	16.87	3.18
Oliver	0	N/A	N/A	N/A
Pembina	40	80	16.09	1.20
Pierce	51	84	16.57	0.92
Ramsey	118	74	15.26	0.60
Ransom	43	70	15.43	1.11
Renville	15	80	15.22	1.38
Richland	50	80	14.92	0.91
Rolette	384	79	15.26	0.30
Sargent	0	N/A	N/A	N/A
Sheridan	16	75	16.00	2.61
Sioux	12	83	14.99	1.42
Slope	1	100	17.46	N/A
Stark	225	67	13.88	0.45
Steele	5	80	13.20	1.95
Stutsman	121	75	14.74	0.55
Towner	17	71	15.68	1.99
Traill	36	86	17.77	1.06
Walsh	163	78	15.79	0.63
Ward	521	65	13.24	0.27
Wells	34	71	14.92	1.13
Williams	143	73	14.12	0.56

Table 3. Iron (mg) Intake by Race/Ethnicity for Children 3 to 5 Years of Age Participating in North Dakota WIC from July 1997 to July 1998 (n=3766)

Race/Ethnicity	n	% Meeting RDA (10mg)	Mean Intake (mg)	Standard Error
White	2831	72	14.24	0.12
Native American	667	76	14.73	0.22
Hispanic	166	69	14.66	0.52
Black	70	73	14.01	0.65
Asian/Pacific Islander	32	78	14.40	1.12

State examples

North Dakota

North Dakota and Missouri use the aggregate data reports to ensure that their WIC programs are fulfilling the needs of the populations they serve on an individual site, county, or statewide basis. They have also used the reports and the linked data to examine other patterns of consumption in their clientele. For example, in 1996-1997 North Dakota examined the mean nutrient intake of pregnant women and children 3 to 5 years old by annual family income and family size. They found no significant differences between the different categories for each characteristic. See Tables 1-5 in Appendix F for detailed outcomes of this analysis. This illustrates the ability of the state to use the aggregate data to answer questions deemed important to the state health department.

Missouri

In 1997 Missouri piloted newly developed nutrition education protocols and the distribution of coupons for the local Farmers' Market. They explored the influence of the nutrition education alone, Farmers' Market coupons alone, and the combined nutrition education and Farmers' Market coupons on the fruit and vegetable consumption in a small sample of women and children participating in the Missouri WIC program. The HSFFQ was used to compare changes in dietary intake of the 33 fruit and vegetable food items included in the HSFFQ between baseline and post-intervention (nutrition education and/or Farmers' Market coupons or both).

At the conclusion of the pilot project it was apparent that the nutrition education methods developed for and tested in this evaluation may have contributed to the increase in fruit and vegetable consumption of the participants. Providing Farmers' Market coupons to WIC participants in areas participating in a Farmers' Market Nutrition Program led to increased consumption of fruits and vegetables. Providing Farmers' Market coupons along with intensive nutrition education

appeared to be effective in increasing fruit and vegetable consumption among WIC participants.

In this example, the aggregate data reports would offer Missouri the opportunity to continue to evaluate changes in the fruit and vegetable consumption of women and children participating in WIC, following the more extensive implementation of the piloted intensive nutrition education and Farmer's Market coupon programs.

Massachusetts

Massachusetts has not yet contracted with Harvard to receive the aggregate data reports. If they were receiving the analyzed data, they would be able to use it to evaluate the changing needs of their WIC clients with the current recession. Given tough economic times, they might find that they have a heavier client caseload while at the same time a tighter program budget. Thus, justifying the provision of more targeted services for specific sub-populations (i.e., counties, cities) within their clientele.

Conclusions

While the above examples depict a few of the potential uses of the HSFFQ data and WIC certification data, there are data management issues that must be considered before the data's full potential is reached. Before any benefits of collecting aggregate nutrition data and potential linkages can be reaped on a local or state level it is essential that the regulations regarding the use of WIC data be clarified to facilitate uniform policy interpretation across states. The following further steps will facilitate the data aggregation process and increase the likelihood of a sustained nutrition data aggregation system:

1. Designation of a state WIC Program or Department of Public Health staff member with understanding of nutrition data structure and other state data sources as the official state nutrition data coordinator. The state nutrition data coordinator must be given clear responsibility and have an

appropriate amount of their time allocated to nutrition data collection and aggregation to facilitate the use of the nutrition data.

2. Orientation around the diet assessment method and the collection of aggregate nutrition data for state WIC program administrators and providers to become acquainted with the utility of the system.
3. An introductory phase followed with additional orientation and training around the diet assessment tool and aggregation of nutrition data.
4. An approximately six month practice phase of aggregate nutrition data collection to resolve issues before annual data compilation officially begins.
5. Successful annual data compilation by Information Systems and state appointed nutrition data coordinator sent for analysis and report generation.

Once the above steps are taken and the listed supports are put in place will the inherent benefits of these data be reaped by local and state programs and policies.

Task D: Calibration of the Harvard Service Food Frequency Questionnaire (HSFFQ) in Hispanic and African American children

History of calibration study methods and data collection

We have previously reported on the validity of the Harvard Service Food Frequency Questionnaire (HSFFQ) for use among children 2 to 4 years old (13). This followed the design used by Suitor and colleagues in their evaluation of the HSFFQ (formerly the prenatal food frequency questionnaire (PFFQ)) among low-income pregnant women in Massachusetts (14, 15). Briefly, we conducted a calibration study among 300 children 1 to 4 years of age participating in the North Dakota WIC program (13). We compared the nutrient intake assessed by the HSFFQ over the previous month with the average of 3 24-hour recalls conducted over a month. After statistical adjustment for energy intake and within-person day-to-day variation in diet, we observed an average correlation between 3 24-hour recalls and the HSFFQ of 0.55, which is comparable to the performance of our adult FFQ evaluated by our group in ongoing cohort studies.

We examined the performance of the HSFFQ among Native American and Caucasian children. The average correlation was comparable in each group. We also examined performance in those children 1 to 2 years of age and those 3 to 4 years of age. Again, the average correlation varied little between each of these subgroups.

To expand the use of the HSFFQ this project proposed additional calibration studies of the tool to be conducted among 150 African American and 150 Hispanic participants in WIC programs using our established procedures. The HSFFQ is compared to the average of 3 24-hour diet recalls conducted approximately ten days apart over one month. We aim to have one weekend day included in the three recalls. The HFFQ is administered at the end of the month and compared to the average dietary intake from the three 24-hour recalls that serve as the gold standard for the calibration. (Figure 2 details the time sequence of data collection).

To insure that study sites had overcome the challenges in adopting a new tool and were therefore in "regular practice," we set the following criteria for study site selection: 1) state consultation identified WIC and/or Head Start Programs that would serve as a good location, 2) site regularly using the HSFFQ (for 3 months or longer), and 3) a meeting with specified location assured their willingness and the feasibility of conducting study at the site. Following site selection, local dietitians were trained by our research nutritionist Helaine Rockett to administer the 24-hour dietary recalls. We used existing notebook computers that have the Minnesota diet system loaded for direct entry during the administration of the recall. The study coordinator maintained regular contact with study-site coordinators to monitor progress of implementation and accrual of subjects. Tables 4a through 4e include a detailed chronicle of events during the expansion of the validity. Recruitment and implementation proved to be far harder than our previous experience indicated it would be.

Figure 2. Time sequence of data collection

Table 4a. First Attempt: Truman Medical Center WIC Program

October '98: Funded by ERS/USDA

- ➔ Planned to run calibration study in Missouri WIC sites with at least 3 months experience with HSFFQ
- ➔ Human Subjects approval

December '98: Established relationship with Truman Medical Center WIC Program

- ➔ Study was to begin in spring '98
- ➔ Developed contracts, scopes of work, memoranda of understanding, & Human Subjects application for Truman Medical Center

March '99: Presented study protocol to Truman Medical Center administration

- ➔ Due to administration change (merger) Truman Medical Center decided not to take on additional research project.

Table 4b. Second Attempt: Kansas City Medical Center Head Start Program

April/May '99: Established relationship with Kansas City Medical Center Head Start

- Recruited coordinator
- Prepared documents (study protocol, consent forms, etc.) for Kansas City Medical Center executive board meeting in June '99

June/July '99:

- Recruited and trained 7 nutritionists

Projected timeline:

- July '99: Begin participant recruitment
- August '99 - January '00: Collect data
- February - March '00: Review HSFFQs & diet recalls
- April - June '00: Analyze data and write-up results

August '99:

- Given administrative delays in the implementation of statewide use of the HSFFQ, the study site had not been using HSFFQ for at least 3 months. Therefore, after discussion with the site, it was decided that it was too soon to use this site to complete the study.

Table 4c. Third Attempt: St. Louis Family Health Center WIC Program

November '99:

- ➔ Established relationship with St. Louis Family Health Center WIC Program to do African-American calibration study (150 kids)
- ➔ Recruited on-site coordinator
- ➔ Retained RDs previously trained and collecting data for a different project

December '99 - February '00:

- ➔ Data collection

March '00:

- ➔ Complete clinic staff turnover, not all using HSFFQ for client diet assessment
- ➔ After discussion with site coordinator, decided to pull-out of St. Louis Family Health Center WIC Program

Table 4d. Fourth Attempt: Hispanic Calibration Study

March - April '00:
- ➔ Established relationship with Lynn Community Health Center WIC Program in Lynn, Massachusetts
- ➔ Recruited and trained on-site coordinator and 3 RDs to collect 24-hour recalls

May '00 – September '00:
- ➔ Data collection
- ➔ 75 participants recruited, 20 complete

September '00 – March '01:
- ➔ Continued recruitment and data collection

March '01:
- ➔ Met with health center director, health center nutrition director and on-site study coordinator
- ➔ Given difficulty in retaining study participants, expanded recruitment to a satellite site of Lynn WIC located in the neighboring town of Salem, Massachusetts
- ➔ Set recruitment goal of 8 new participants per week
- ➔ Goal never met; dropped from recruiting on average 3 new participants per week to less than 1 new participant per week

July '01:
- ➔ Given lack of new recruits despite expanded recruitment area, stopped recruitment and data collection
- ➔ 53 participants with complete FFQ1 and 3 complete diet recalls

July '01 to July '02:
- ➔ Data sorted, entered, cleaned, and nutrient analysis run and written-up for small number of participants with usable data

Table 4e. Fifth Attempt: African American Calibration Study

August '00:

- ➔ Established relationship with Blue Hill Corridor Health Center WIC Program in Dorchester, Massachusetts

September '00:

- ➔ Recruited and trained on-site coordinator
- ➔ Recruited and trained RDs to collect 24-hour recalls

October '00 - September '01:

- ➔ Recruitment and data collection:
- ➔ Total recruited, n = 135
- ➔ Total completed, n = 117

June '01 – July '02:

- ➔ Entering and reviewing HSFFQs
- ➔ Printing and reviewing 24-hour recalls
- ➔ Following closure of Lynn Hispanic calibration, discussed possibility of recruiting and following Hispanic clients in Dorchester with clinic
- ➔ Dorchester began recruiting Hispanic participants
- ➔ Ended up with only 2 additional Hispanic participants because there was only 1 dietitian dedicated to recruiting
- ➔ Analyze data and write-up results (see Table 4 for results)

Calibration Study Results

Calibration in low-income Hispanic children 1 to 5 years of age

Study site selection:

As per usual practice, to insure that the study site had overcome the challenges in adopting a new tool and was therefore in "regular practice," we consulted with Massachusetts WIC in our study site selection. They recommended a clinic and we then verified that the site was regularly using the HSFFQ (for 3 months or longer), and met with the clinic director and nutrition education director at the identified site to assure their willingness and the feasibility of conducting the study at that site.

Recruitment and follow-up:

During the summer months recruitment slowed. We were told by the study-site that in the fall recruitment would pick-up again once kids returned from summer vacation. It did not pick-up as expected. There were some underlying issues that caused this. We encountered some obstacles while setting up the subject payment system. The system supported by Harvard University Accounts Payable (AP) (newly installed at the end of the fiscal year 1999) was inflexible in the distribution of subject payments. These unyielding policies are outlined below.

Problem #1:

Initially AP would not pay participants without obtaining a Social Security Number or other Tax ID number. Given the mobility of the study population it was impractical to require these identifiers to pay subjects such a small sum ($20).

Action #1:

AP agreed to accept a mailing address in lieu of a SSN or other Tax ID number.

Problem #2:

Given the check processing and distribution system, AP would mail checks for the $20 study payment to a population with frequently changing addresses.

Action #2:
We proposed sending all participant study payments to the study coordinator at the WIC clinic for distribution there.

Problem #3:
Given the cost of the special processing necessary to complete the payments using this method, AP would not accommodate the special circumstances and mail checks in batches to the study coordinator for distribution at the WIC clinic.

Action #3:
We proposed setting up a petty cash account to distribute cash to the study subjects upon the completion of the study.

Problem #4:
AP would not allow for a petty cash account to be opened for distributing cash payments to study subjects upon completion of their participation.

Study participants who experienced these problems told other WIC participants that it was a hassle to participate and not worth their time. This contributed to the drop-off in recruitment numbers.

Action #4:
After such poor recruitment and follow-up encountered during the calibration in Hispanic children, AP accepted the need to set up a petty cash account. They allowed this to happen for the majority of the duration of the calibration study in African American children.

It was also challenging to follow study participants for the collection of the 24-hour recalls. Given the mobility of this population of WIC participants, (see

Appendix H for the spreadsheet of study participant recruitment and follow-up that includes this information in the 'Comments' column) dietitians had trouble contacting subjects to administer the diet recalls. They would make multiple attempts (e.g., up to 1 call per day for 7 to 10 days) without any success, and therefore the participant would be dropped from the study.

Throughout the study we continued to have regular contact with the study site, and were told that despite the difficulties in recruiting and following study participants, they were dedicated to the project and would continue to do their best to complete the project as it was proposed. It became obvious after almost six months without any new recruits that there were real problems with this calibration study. In March 2001 we met with the clinic director, nutrition education director, and the study-site project coordinator to discuss the future of the Hispanic calibration study. Following the implementation of the tactics agreed upon at that March meeting (including the expansion of recruitment to a satellite clinic and limiting data collection to the 1st HSFFQ & 3 diet recalls) recruitment still did not pick-up by July 2001. At this point in time we decided to stop recruiting and work with the data we had collected thus far (as noted in the timeline of Table 4d).

The spreadsheet of study participant recruitment and follow-up for the calibration study among Hispanic children is included in Appendix G. This information was maintained throughout the time frame of the study. The spreadsheet includes dates for the first HSFFQ, any diet recalls collected, and any completed second HSFFQs for each subject (see the below overview for a summary).

Subject recruitment and follow-up overview for calibration among Hispanic children:

- total number of subjects recruited, n = 98
- subjects that completed the 1st HSFFQ and 3 diet recalls, n = 52

- subjects that completed the 1st HSFFQ, 3 diet recalls, AND the 2nd HSFFQ, n = 20

Sample: The sample on which the analyses were conducted were those subjects who had the first Harvard Service FFQ (HSFFQ) and three 24-hour recalls. 98 caregivers/parents of children receiving WIC and who were of Hispanic origin completed the HSFFQ. The final sample, after exclusions, with completed first HSFFQs and three 24-hour recalls was 45. The following were the reasons why subjects were excluded:

- 2 were siblings
- 44 were missing 1 or more 24-hour recalls.
- 5 subjects had daily energy estimates from the HSFFQ that did not meet the requirement of 500 to 3,500 kcals.
- 2 were missing data for the first HSFFQ.

Results: The results are presented in Table 5. Given the small final sample of Hispanic children who participated in and completed the calibration study (n=45), the correlations, as well as the within and between subject variability, have very wide confidence intervals. Therefore, these results should not be used to draw conclusions about the validity of the Harvard Service FFQ (HSFFQ) among low-income Hispanic children participating in WIC. The correlations for both the macro and micronutrients are generally low. They ranged from -0.32 (for folate) to 0.42 for pyridoxine. Table 6 shows the ratio of the within and between subject variability for each nutrient for the Hispanic children in comparison to the sample of Native American and Caucasian children who participated in a similar calibration study of the HSFFQ in North Dakota. What becomes evident is that the ratio of the within to between subject variability is higher for 12 of the 19 nutrients among the Hispanic children than among the children in North Dakota. This suggests that a greater number of 24-hour diet recalls may have been necessary to accurately estimate "true intake" and to adjust for day-to-day fluctuations in an individual's intake (i.e. within subject variability) for the Hispanic

children who participated in the present calibration study. This may be related to the variety of foods available in an urban area like Greater Boston, as compared to a more rural area like North Dakota. An increased variety could affect the day-to-day differences in food intake for each individual because more choices are available.

Table 5. Results of calibration study in low-income Hispanic children aged 1 to 5: Energy and nutrient intake and Pearson correlation coefficients between one food frequency questionnaire and three 24-hour recalls (n = 45).

	Energy and Nutrient Intake		Correlations 3 recalls and 1st HSFFQ[a]
	Recalls	Harvard Service FFQ	
Nutrients and Energy	**Mean (SD)**	**Mean (SD)**	
Energy (kcal)	1538 (404)	2078 (609)	N/A
Protein (g)	65 (23)	75 (23)	0.04
Carbohydrates (g)	210 (55)	304 (97)	0.16
Total Fat (g)	51 (17)	67 (23)	0.15
Sucrose (g)	26 (15)	45 (20)	-0.25
Dietary fiber (g)	12 (5)	22 (8)	-.12
Calcium (mg)	953 (415)	1148 (485)	0.28
Iron (mg)	11.1 (4.1)	14.2 (5.7)	0.16
Vitamin C (mg)	120 (46)	255 (119)	0.04
Thiamin (mg)	1.4 (.4)	1.8 (.6)	0.02
Riboflavin (mg)	2.0 (.7)	2.2 (.9)	0.18
Pyridoxine (mg)	1.6 (.5)	2.1 (.7)	0.42
Folate (mcg)	298 (89)	331 (131)	-0.32
B12 (mg)	3.7 (1.6)	4.7 (2.0)	0.24
Vitamin A (re)	901 (626)	1228 (584)	0.07
Vitamin E (te)	4.4 (2.0)	9.5 (3.7)	-.12
Cholesterol (mg)	306 (146)	241 (97)	0.39
Magnesium (mg)	241 (78)	333 (111)	0.02
Zinc (mg)	8.2 (2.8)	11.1 (3.8)	0.07
Niacin	14.6 (5.2)	17.8 (5.9)	-0.03

[a]Pearson Correlation Coefficients adjusted for energy intake and within person variation.

Table 6. Comparison of within and between subject variability among low-income Hispanic children aged 1 to 5 participating in a calibration study of the HSFFQ to the variability ratio of low-income children aged 1 to 5 who participated in a calibration study of the HSFFQ in North Dakota.

	Hispanic (n = 45)			North Dakota (n = 233)		
	Within	**Between**	**Ratio**	**Within**	**Between**	**Ratio**
Protein (g)	101.1	49.6	2.04	134.7	41.4	3.25
Carbohydrate (g)	986.9	258.1	3.82	818.0	217.2	3.76
Total Fat (g)	128.1	35.2	3.64	105.8	29.1	3.63
Sucrose (g)	200.0	67.0	2.98	283.2	71.1	3.98
Dietary Fiber (g)	12.4	4.1	3.01	11.0	3.3	3.30
Calcium (mg)	58823.7	47909.8	1.23	80448.1	49735.7	1.62
Iron (mg)	9.70	4.3	2.27	29.6	22.4	1.32
Vitamin C (mg)	5099.4	507.1	10.1	4414.5	2142.2.	2.1
Thiamine (mg)	2.51	0.59	4.32	0.24	0.16	1.54
Riboflavin (mg)	0.13	0.07	1.95	0.31	0.26	1.18
Pyridoxine (mg)	0.22	0.005	46.77	0.37	0.25	1.52
Folate (mg)	12327.9	1273.2	9.68	15259.9	10634.1	1.43
B12 (mg)	1.60	0.4	4.19	7.20	2.8	2.5
Vitamin A (re)	460936.8	22174.4	20.8	446345.0	141471.7	3.16
Vitamin E (te)	6.0	0.26	23.3	25.6	20.0	1.3
Cholesterol (mg)	24043.7	4169.4	5.77	16689.7	3548.5	4.70
Magnesium (mg)	1675.4	639.2	2.62	2362.7	569.5	4.15
Zinc (mg)	4.0	0.3	12.96	42.3	10.9	3.87
Niacin (mg)	16.4	4.1	4.02	39.1	30.1	1.3

Calibration in low-income African American children 1 to 5 years of age

The sample size numbers for the calibration study among African American children reflect an improvement in the subject payment system (petty cash account was established with cash payment at time of study completion) and in having a study-site coordinator dedicate more time to following study participants.

The spreadsheet of study participant recruitment and follow-up for the calibration study among African American children is included in Appendix G. This information was maintained throughout the timeframe of the study. The spreadsheet includes dates for the first HSFFQ, any diet recalls collected, and any completed second HSFFQs for each subject (see the below overview for a summary).

Subject recruitment and follow-up overview:

- total number of subjects recruited, n = 148
- subjects that completed the first HSFFQ and 3 diet recalls, n= 124
- subjects that completed the first HSFFQ, 3 diet recalls, and the second HSFFQ, n = 113

Please note: These numbers are prior to data entry, cleaning, and exclusions.

Sample: One hundred and forty eight children were enrolled in the calibration study via their caregiver/parents' completion of a Harvard Service Food Frequency Questionnaire (HSFFQ). Analyses were conducted on the sample of subjects who had the first HSFFQ and three 24-hour recalls (n = 124). The final sample was 108 children. Subjects were excluded for the following reasons:

- 17 subjects of the 124 with the first HSFFQ and 3 diet recalls had daily energy estimates from the HSFFQ that did not meet the requirement of 500 to 3,500 kcal.

➔ 24 subjects of the 148 recruited were missing one or more 24-hour recalls.

Analyses: Analyses were run on the entire sample and on a sub-sample on which more stringent criterion was applied. In the latter sample, analyses were run only on those subjects in whom not more than 2 months elapsed between the first HSFFQ and the third 24-hour recall (n=96). The results were not substantively different and thus only the former analyses on 108 children are presented here. The correlations presented are adjusted for within and between person variation.

Results: The results are shown in Tables 7 and 8. The correlations ranged from a low of -0.006 for Vitamin E to a high of 0.51 for Cholesterol. The highest correlations were for the following: protein (0.37), carbohydrates (0.38), dietary fiber (0.39), vitamin A (0.45), cholesterol (0.51) and magnesium (0.43).

To assess the basis for lower correlations than those previously observed in other low income children receiving WIC (Blum et al. included in Appendix D), the amount of variation within each subject (as indicated by variability of the three 24-hour recalls for each subject) and between subjects was examined. The ratio of within to between subject variation was compared to that found in a similar calibration study among children participating in North Dakota WIC (Blum et al. included in Appendix D) (See Table 8). The higher the ratio, the greater the within subject (i.e., day-to-day variability in nutrient intake for each individual) to between subject variability, the greater the number of days needed for the gold standard (8). For the African American children used in this calibration research, the ratio of within to between subject variability is greater than that found in the North Dakota calibration for sixteen out of the nineteen dietary nutrients/substances. This implies that a greater number than the three 24-hour recalls that were collected would be necessary to accurately represent the diet of these children. Thus, the fact that these correlations were somewhat low, may not necessarily imply that the Harvard Service FFQ (HSFFQ) has a poorer validity among African American children but may instead reflect the inadequacy

of the three days of diet recalls as the gold standard representing the diet of these children. The increase in this ratio could be due to the generally increased availability of a variety of foods in the greater Boston area as compared to North Dakota.

Table 7. Results of calibration study in low-income African American children aged 1 to 5 years: Energy and nutrient intake and Pearson correlation coefficients between one food frequency questionnaire and three 24-hour recalls (n=108).

	Energy and Nutrient Intake		Correlations 3 recalls and 1st HSFFQ[a]
	Recalls	Harvard Service FFQ	
Nutrients and Energy	**Mean (SD)**	**Mean (SD)**	
Energy (kcal)	1464 (323)	1914 (659)	N/A
Protein (g)	53 (13)	76 (25)	0.37
Carbohydrates (g)	202 (45)	259 (96)	0.38
Total Fat (g)	51 (14)	68 (27)	0.29
Sucrose (g)	30 (13)	35 (19)	-0.16
Dietary fiber (g)	9 (3)	17 (8)	0.39
Calcium (mg)	844 (271)	1212 (482)	0.13
Iron (mg)	11 (4)	16 (7)	0.23
Vitamin C (mg)	114 (53)	211 (111)	0.007
Thiamin (mg)	1.3 (.4)	1.8 (.7)	0.07
Riboflavin (mg)	1.7 (.4)	2.4 (.9)	0.14
Pyridoxine (mg)	1.3 (.4)	2.1 (.7)	0.009
Folate (mcg)	204 (76)	316 (137)	0.27
B12 (mg)	2.9 (2.1)	5.7 (2.1)	0.20
Vitamin A (re)	676 (407)	1345 (692)	0.45
Vitamin E (te)	4.4 (1.9)	8.4 (3.5)	-0.006
Cholesterol (mg)	197 (85)	264 (112)	0.51
Magnesium (mg)	201 (48)	316 (111)	0.43
Zinc (mg)	7 (2.1)	12 (4.3)	0.15
Niacin	14 (4)	19 (7)	0.13

[a]Pearson Correlation Coefficients adjusted for energy intake and within person variation.

Table 8. Comparison of within and between subject variability among low-income African American children aged 1 to 5 years participating in a calibration study of the HSFFQ to the variability ratio among low-income children aged 1 to 5 years who participated in a calibration study of the HSFFQ in North Dakota.

	African American (n = 108)			North Dakota (n = 233)		
	Within	**Between**	**Ratio**	**Within**	**Between**	**Ratio**
Protein (g)	89.6	21.1	4.1	134.7	41.4	3.25
Carbohydrate (g)	574.7	89.7	6.4	818.0	217.2	3.76
Total Fat (g)	69.3	14.8	4.7	105.8	29.1	3.63
Sucrose (g)	126.0	71.1	1.8	283.2	71.1	3.98
Dietary Fiber (g)	9.2	2.5	3.6	11.0	3.3	3.30
Calcium (mg)	51030.0	40027.1	1.3	80448.1	49735.7	1.62
Iron (mg)	22.3	3.7	6.0	29.6	22.4	1.32
Vitamin C (mg)	4018.3	1171.2	3.4	4414.5	2142.2.	2.1
Thiamine (mg)	2.0	0.30	6.8	0.24	0.16	1.54
Riboflavin (mg)	0.12	0.06	1.8	0.31	0.26	1.18
Pyridoxine (mg)	0.13	0.03	4.9	0.37	0.25	1.52
Folate (mg)	6525.5	2045.1	3.2	15259.9	10634.1	1.43
B12 (mg)	3.5	0.76	4.6	7.20	2.8	2.5
Vitamin A (re)	325305.1	48640.2	6.7	446345.0	141471.7	3.16
Vitamin E (te)	2.0	0.83	2.4	25.6	20.0	1.3
Cholesterol (mg)	11588.2	1388.1	8.3	16689.7	3548.5	4.70
Magnesium (mg)	1232.9	780.7	1.6	2362.7	569.5	4.15
Zinc (mg)	2.3	0.54	4.3	42.3	10.9	3.87
Niacin (mg)	13.7	4.5	3.1	39.1	30.1	1.3

Aim 3: (Longitudinal Data)

"Using prospective data collected through the WIC program, examine relations between diet from age 2 to age 4 and childhood obesity as measured by excess adiposity among 4-year-old children. Specifically, we hypothesize that a high-fat diet leads to greater childhood obesity and that a diet high in fruits, vegetables, and fiber is associated with lower levels of obesity. Building on the food pyramid, health outcomes from this study, and other sources, we will define diet quality for this age range."

Task E: Prospective analysis of diet and health

Summary & Abstracts

Prospective analyses looking at dietary composition as well as beverage consumption and changes in body mass index among low-income preschool children using longitudinal aggregate nutrition data from the state of North Dakota was completed. Much of the initial effort included data management and matching of records. The North Dakota Department of Health staff provided invaluable assistance to make this possible. The abstracts included in Appendix H were presented at the April 2001 FASEB meeting as well as at the 2001 Childhood Obesity Conference in San Diego, California. Subsequently, 2 complete manuscripts based on the work presented in these abstracts are under peer review.

Conclusions

The use of the Harvard Service FFQ (HSFFQ) has been successfully implemented and is on-going in all 3 collaborating states. With the input of health communication specialists and WIC practitioners and clients the HSFFQ Client Printout has been tested and refined, and is currently utilized to provide valuable individually tailored nutrition education. The newly developed standardized version of the HSFFQ will facilitate the expansion of its use to additional settings, ease the collection and compilation of aggregate data, and aid the production of useful data reports.

The results of the calibration component make it clear that further analyses are necessary to explain the performance of the tool in the assessment of the diet in African American and Hispanic children participating in WIC. The poor results may have been a result of the study methods, and not a reflection on the performance of the HSFFQ in these populations. The previously reported validity of the HSFFQ can not be disregarded. The validity reported by Suitor et al., Blum et al., and Wei et al. demonstrate that nutrition data for Native American children ages 1 to 5 and multi-ethnic pregnant and postpartum women can be reliably collected, and combined at a state level and utilized to provide tailored nutrition education. Furthermore, as demonstrated in the state data aggregation component of this project, it is feasible to combine nutrition data at a state level to be utilized by local, state, and national agencies to answer important questions and inform current program practices and policy decisions.

While inconclusive, prospective analysis of the influence of diet on overweight in low-income preschool demonstrated the ability to link aggregate nutrition data with vital statistic data to explore important epidemiological hypotheses.

The experiences of the past 3 years have been invaluable in uncovering both the significant administrative issues that must be addressed and those that will facilitate the process of data aggregation and increase the likelihood of successfully sustaining the implemented system. Before any benefits of

collecting aggregate nutrition data and potential linkages can be reaped on a local or state level it is essential that the regulations regarding the use of WIC data be clarified to facilitate uniform policy interpretation across states. The following steps will facilitate the data aggregation process and increase the likelihood of a sustained nutrition data aggregation system:

1. Designation of a state WIC Program or Department of Public Health staff member with understanding of nutrition data structure and other state data sources as the official state nutrition data coordinator. The state nutrition data coordinator must be given clear responsibility and have an appropriate amount of their time allocated to nutrition data collection and aggregation to facilitate the use of the nutrition data.
2. Orientation around the diet assessment method and the collection of aggregate nutrition data for state WIC program administrators and providers to become acquainted with the utility of the system.
3. An introductory phase followed with additional orientation and training around the diet assessment tool and aggregation of nutrition data.
4. An approximately six month practice phase of aggregate nutrition data collection to resolve issues before annual data compilation officially begins.
5. Successful annual data compilation by Information Systems and state appointed nutrition data coordinator sent for analysis and report generation.

Once the above steps are taken and the listed supports are put in place will the inherent benefits of these data be reaped by local and state programs and policies.

Future goals should include further calibration of the HSFFQ in Latinos using our established criteria and methods. Further work is needed to better understand the assessment of diet in this subgroup of the population.

To support the continued use of these valuable data, it is essential that a funding source and functional body be identified. With expansion to additional states the data collected through WIC may offer a unique window on evolving patterns of diet and child growth. From our experience the management of the compilation and use of these data would be best accomplished by an entity residing within a state system. This will help regulate the many administrative and practical steps that must be completed to successfully link the numerous data sets that various agencies may contribute.

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Dietary Intake and Health Outcomes: Final Report
Appendices A – H

Appendices Table of Contents

Appendix A: Advisory Committee

1. Advisory Committee Members & Meeting Attendance

2. Advisory Committee Meeting Minutes

Meeting 1: December 9, 1998, Atlanta Georgia

Meeting 2: June 30, 1999, Boston, Massachusetts

Meeting 3: September 13, 1999, Boston, Massachusetts (Task Force on Data and Program Planning)

Meeting 4: September, 11, 2000, Boston, Massachusetts

ERS/USDA Dietary Intake and Health Outcomes Cooperative Agreement Advisory Committee Meeting Attendance

Name	Title	Organization	Meeting 1: 9/9/98	Meeting 2: 6/30/99	Meeting 3: 9/13/99	Meeting 4: 9/11/00
John Weimer	Project Manager	Economic Research Service-USDA	X	X		X
Deborah Klein Walker, EdD	Assistant Commissioner	Bureau of Family and Community Health, The Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Public Health		X	X	X
Walt Willett, MD, DrPH	Chair	Department of Nutrition, Harvard School of Public Health	X	X		
Graham Colditz, MD, Dr PH	Professor of Medicine	Harvard Medical School, Brigham and Women's Hospital, Channing Laboratory	X	X	X	X
Jane Gardner, ScD	Maternal and Child Health Consultant		X	X	X	X
Elizabeth Barden, PhD	Nutrition Projects Manager	Massachusetts Department of Public Health Office of Statistics and Evaluation				X
William H. Dietz, MD, PhD	Director	Division of Nutrition and Physical Activity, Center for Disease Prevention and Health Promotion		X		
Jan Kallio	Massachusetts WIC Program	The Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Public Health		X	X	X
Mary Kelligrew Kassler	Director	Massachusetts WIC Program, The Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Public Health	X			
Jill Leppert	WIC/MCH Nutrition Coordinator	North Dakota WIC Program	X	X	X	X
Patricia McKinney		Food and Nutrition Service-USDA	X	X	X	X
Kelly Scanlon, PhD	Epidemiologist, Maternal and Child Nutrition Branch, Nutrition and Physical Activity	National Center for Chronic Disease Prevention and Health Promotion	X		X	X
Carol West Suitor, ScD, RD	Nutrition/Maternal and Child Health Consultant		X	X	X	X
Jennifer Tuttelman	Bureau of Family and Community Health	The Commonwealth of Massachusetts, Executive Office of Health and Human Services, Department of Public Health				X
Diane Clark, M.P.H., R.D.	Maternal and Child Nutrition Branch, Division of Nutrition and Physical Activity	National Center for Chronic Disease Prevention and Health Promotion				
Lucy Zahler		Missouri Bureau of Nutrition Services and WIC		X	X	
Donna Mehrle, MPH, RD, LD	Planner	Division of Nutritional Health and Services, Missouri Department of Health and Senior Services	X			
Cathy Berkey, ScD	Lecturer in Biostatistics	Channing Laboratory				

ERS/USDA Dietary Intake and Health Outcomes Cooperative Agreement Advisory Committee Meeting Attendance

Name	Title	Organization	Meeting 1: 9/9/98	Meeting 2: 6/30/99	Meeting 3: 9/13/99	Meeting 4: 9/11/00
Robin Blum, SM	Project Coordinator	Department of Nutrition, Harvard School of Public Health	X	X	X	X
Liz Metallinos-Katsaras, PhD, RD	Assitant Professor of Nutrition	Department of Nutrition, Simmons College			X	X
Helaine Rockett, MS, RD	Research Nutritionist	Channing Laboratory	X	X	X	X

Advisory Committee Dietary Intake (ERS/USDA grant)

Advisory Board Meeting Minutes **December 9, 1998** **Atlanta, GA**

AGENDA:

1. Introductions and review of agenda
2. Project goals and objectives
3. History and current use of the HSFFQ and demonstration
4. Status of use of HSFFQ in the states
5. USDA's interest
6. CDC's interest
7. Methods used to validate FFQs
8. Methods proposed to further develop the HSFFQs use as a teaching tool
9. Work on dietary guidelines and their use in this tool
10. Use of aggregated data
11. Uses in epidemiology

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1) Advisory Committee Members in Attendance:

Walt Willett (advisory board co-chair), Department of Nutrition, Harvard School of Public Health
Jill Leppert, North Dakota WIC
Mary Kassler, Massachusetts WIC
Patricia McKinney, F and Nutrition Service-USDA
John Weimer, Project Manager, Economic Research Service-USDA
Carol Suitor, Nutrition & MCH Consultant
Jane Gardner, Department of MCH, Harvard School of Public Health
Graham Colditz, Harvard Medical School, Brigham & Women's Hospital, Channing Laboratory
Helaine Rockett, Research Nutritionist, Channing Laboratory, Harvard School of Public Health
Robin Blum, Project Coordinator, Harvard School of Public Health
Morgan Ford, Research Assistant, Harvard School of Public Health
Kelly Scanlon, MCH Nutrition, CDC
Donna Mehrle, Missouri WIC

Members unable to attend:

Deborah Klein-Walker, Assistant Commissioner, Massachusetts Department of Public Health
Elizabeth Metallinos Katsaras, Nutrition Projects Manager, Massachusetts Department of Public Health

Guests:

Donna Hynes, USDA
Jan Kalio, Massachusetts WIC

2) Project Goals and Objectives- Graham Colditz:

- Current funding from USDA (2 years)
- Aims:
  - Look at how well FFQ can work in children: further validation in African American & Hispanic children; Native American children's validation done in North Dakota w/funding from Kellogg Foundation
  - How to aggregate data from various states to do surveillance (3 states: ND, MO & MA), summarize data, & provide to states, to determine what is useful at a national level?
  - Relate children's diet to health outcomes: obesity in childhood, explore other outcomes

3) History and Current Use of the Harvard Service Food Frequency Questionnaire (HSFFQ) & Demonstration- Jane Gardner and Helaine Rockett:

*** HFFQ Development handout reviewed at this time.**

- Identify FFQ to serve a number of programs & populations while maintaining research & service quality of FFQ: will it work for epidemiology & service?
- The Prenatal FFQ (PFFQ) served as the basis for the development of the women's and children's tools. The direct entry version was developed with a goal of being usable by low literacy (4^{th} to 6^{th} grade) populations. Adult literacy service agencies gave feedback on the "usability" of the FFQ and observed client behavior while using the system. Rhode Island health department, Brigham & Women's Hospital, and Maternal and Child Health agencies have also been involved.
- The fourth page has been used in different ways by each state, and there is interest in some standardization of this page.
- Tool has the capacity for linkage with Nurses' Health Study database, which makes the epidemiological goals much easier to achieve.

Background of NHS (Nurses' Health Study FFQ)- Walt Willett:

- Interested in relationship of diet and & heart disease outcomes
- Identified foods most predictive of 12 predetermined nutrients → 61 foods on 1st FFQ
- Refined to get more complete picture of diet (fine tuned/simplified items); changes with new hypotheses & food supply changes
- There is documented importance of diet in disease outcomes:
  total fat/total carbohydrates irrelevant
  type of fat/carbohydrates is important
  diabetes & type of carbohydrate

Marjorie Rodan's study:

- Used MA sites and compared MA diet assessment tool with HSFFQ
- Feasible to use HSFFQ; client & provider acceptance was high

Demonstration – Jane Gardner and Helaine Rockett

***Both the paper and direct entry versions were demonstrated**

- Foods between states are slightly different because of differences in diet.
- Either the client or a WIC employee may enter data into the computer.
- USDA asked: how does a new state obtain this? Cost?
  - $8000 to access with technical assistance per year
  - 2 parts of analysis: food nutrient analysis done at Harvard and 4th page data sent in ASCII file format for states to analyze

4) Status of Use in States- Jill Leppert, Donna Mehrle, Donna Kassler:

North Dakota- Jill Leppert:

- Have used HSFFQ 5 years with WIC program.
- Have 27 contracting sites and 100 offices.
- There are 25 travel sites → local agencies, which take a laptop and maybe a printer to another agency where data are entered.
- Working toward using solely direct entry at all sites.
- No **standard** time within certification process for data entry…depends on the site.
- Have found that a very small percentage of people are unable to complete the questionnaire.
- Did a verification study that was a boost for the staff as they previously thought survey wasn't valid. Later did a staff survey that revealed staff view the FFQ positively.
- Consistency from agency to agency is a large reason why FFQ is useful.
- Use tool for eligibility purposes.
- Feel that this form gives them more time to do nutrition education
- Use HSFFQ to determine diet risks; use with other risks for certification; rare to find someone who doesn't "fit" risk requirements
- Children come every 6 months; pregnant women- re-certify at postpartum & again at 6 months postpartum if breastfeeding; high risk mom's get 1 month follow-up
- Sometimes mothers have to fill out more than one questionnaire because of having more than one child.

Missouri- Donna Mehrle:

- Got interested in HSFFQ by seeing the success North Dakota was having.
- Altered food scarcity questions.

- Piloted the HSFFQ in 4 sites and used it to validate the Farmers Market study (with an insert page); grant to look at impact of farmers market vouchers on fresh fruit & vegetable intake (created insert page)
- 123 local agencies are involved...in process of getting the HSFFQ to all of those agencies.
- Found that, within Missouri sites, only 7.8% of children are eating an adequate diet.
- Working on an agreement with schools to do HSFFQ, along with gathering height and weight data.
- Doing direct entry in some places (depends on site- some don't want kids "playing" with computers)
- Direct enter use depends on space & provider comfort (not on client capabilities)

Massachusetts- Mary Kassler:

- Not quite using the tool yet, but have field-tested.
- Have a very diverse population, not only in terms of ethnicity, but also rural vs. urban (i.e. published information in 9 different languages)
- Have 155 sites for 136,000 people; 350 staff = 50% professional, 50% paraprofessional (tend to be bi-lingual)
- Want to improve their nutrition education techniques.
- Getting funding from the CDC to pilot 4th page food scarcity questions.
- Asian and Hispanic populations may need questionnaires designed specifically for their ethnic group because of issues like foods listed and language (i.e. food list sufficient to measure their diet; populations within populations; assimilation; availability of ethnic food choices; portion sizes).

5) USDA's Interest- John Weimer & Patricia McKinney:

- Shift in responsibility for grant from Food and Nutrition Service (FNS) to Economic Research Service (ERS)
- Funding process was extremely competitive, great expectations for this project
- FNS (Patricia McKinney): involved with Block study, personnel turnover
- WIC Dietary Assessment Task Force Recommendations
- Based on these recommendations: FNS collaboration with Harvard (completed July 1991)
- 1992 RFP: Block evaluated 2 FFQs, results in 1994- not good correlations
- Dr. Dennison (NY) looked at child eating behavior NOT foods; validation study of child eating habits assessment tool (NY FFQ compared to HFFQ), involved shelf inventory at home, etc. *not published*, conclusion: FFQ still best estimate of a child's diet
- FNS: is tool sensitive enough to evaluate nutrition education interventions in Food Stamp Programs?
- Overview of WIC tools:
    - 79% FFQ, 79% 24-hr recall (some places use both)

6) CDC's Interest- Kelly Scanlon:

- CDC coordinates two major surveillance systems, one for kids and one for pregnant women in 22 states. These states send in clinic records for children under 5 years and pregnant women.
- Have looked at things like anemia and growth retardation, but are lacking information on diet.
- The CDC is interested in monitoring trends and looking at compliance with recommendations.

- They do their surveillance primarily on a volunteer basis.
- Different states pilot particular questions (about things like iron and anemia).
- Made note that Arizona questionnaire is somewhat different (maybe brief for validation purposes) than the other states. Walt pointed out that this may be okay as long as comparisons can be made between Arizona and the other states.

7) Methods Used to Validate FFQs – Walt Willett:

Approaches:

1. Compare means (this doesn't account for individual data)
2. Proportion total intake accounted for by foods on a questionnaire y (indirect, artificial)
3. Reproducibility
4. Validity (compare our questionnaire with a "gold" standard dietary intake)
5. Correlation with a physiologic response
6. Comparison of biochemical markers
7. Ability to predict disease

- Dietary records are time consuming, so dietary recalls are better.

NHS Design- Walt Willett:

- Questionnaire was completed then dietary records from 200 women for four 1-week periods were completed and a repeat questionnaire was completed at year's end.
- Randomly select 3 days from diet record and correlate with FFQ diet reports to validate.
- Repeated the validation with two 1-week diet records.

What's been Done with HSFFQ– Graham Colditz:

- C. Suitor's study of low-income, pregnant women in MA showed correlations comparable to those found in research setting (Correlations exceeded 0.5 for protein, calcium iron, zinc, vitamin B-6, and C. vitamin A showed lower performance)
- E. Wei has expanded the number of nutrients from C. Suitor's study
- Children in North Dakota (3, 24-hr recalls- most over phone and 2 HSFFQs); compared means between recalls and HSFFQs; correlations; for about 15 nutrients r=>0.50 (Correlations ranged from 0.30 for fiber to 0.65 for sucrose. Carbohydrates, total fat, cholesterol, vitamins A, C, E, B1, B2, niacin, folate, B6, B12, calcium, magnesium, iron all had correlation coefficients > 0.50)
- Performance of HSFFQ by age and race: 1-2 years: 0.57; 3-5 years: 0.55; Native American: 0.56; White 0.52
  - 1 month time period
  - Baseline FFQ → 3 recalls → end FFQ
  - Recruited clients from WIC program

- Currently: validation in Native American pregnant women in North Dakota
  - Recalls early in pregnancy & later in pregnancy (not typical of WIC)

- Some are at 1st visit, others have been certified before

Questions

- What's the learning curve? ~3 months for providers
- Would this be valid to use as ONLY eligibility criteria? No

Future

- Evaluation of performance in African American and Hispanic populations.
- 150 African American and 150 Hispanic children using design parallel to N.D.
- USDA contract allows for a broader understanding of the validity of the FFQs.
- Issues include urban vs. rural Black populations and Mexican vs. Puerto Rican populations.

8) Methods proposed to further develop the HSFFQs use as a teaching tool- Jane Gardner:

***At this time we went over the focus group questions handout**

- Jane will conduct the focus groups in ND in March.
- Suggestions: Add question about what dietitians would like help with.
- Describe the nutrition education you would provide.
- Do we plan to use paraprofessionals? No.
- Instead of posing question about printout in an open-ended fashion, bring in some examples of possible printouts and have people choose their favorite.
- Maybe do focus groups with WIC participants?
- Is there anything else we can do for them on printout?
  - Focus on inadequacy & excesses
  - % of calories coming from what top 1-5 foods
  - Total fat vs. saturated fat; trans fats, etc.
  - Fiber- need to refine tool & could have better assessment
  - Different printouts for client & provider
  - RDAs vs. foods/food groups (pyramids)
  - Too much focus on "bad" things; what about "hey, you're doing' good at this"

Walt Willett brought up other ideas/issues:

- Changes/modifications to FFQ:
- Using format of GUTS questionnaire?
  - Easier of filling out, prevent over reporting?
- Helaine will send copy of GUTS FFQ to everyone
- Ask about alternative format in focus groups
  - Possibly do validation in direct enter format- this is format closest to GUTS format
- Fiber issues
  - Split whole grain bread & white bread

- More of a breakdown of cereals
- ♦ Way to get at different types of fat
- ♦ Utilize 4th page, this implies that there would be some 'standard' questions on all 4th pages

9) Dietary Guidelines- Carol Suitor:

*** Carol distributed a handout.**

- ♦ Sticky time to be making these decisions (what we should use as recommendations on printout)
- ♦ Really need to consider these issues as a group
  - What do we want to recommend?
  - Do we need to have recommendations (e.g. fat)?
  - Do we delete current recommendations on ND & MO printouts?
- ♦ Should stay away from making recommendations in areas not definitive.

10) Use of Aggregate Data- Helaine Rockett:

- ♦ HSFFQ data from WIC sites are sent to Harvard on disk or as compiled ASCII file for analysis.
- ♦ HSFFQ data are then cleaned (test entries are taken out).
- ♦ Contributing states get the following data every 6 months:
  - Mean nutrients
  - Frequency of foods for each food group
  - Top 10 foods contributing to specific nutrients
  - Presented in CDC age groups by status (children by age, pregnant, non-pregnant, lactating) & by site
- ♦ What aggregate info is useful for program planning & evaluation? Do states need more or different information?
  - People just entering vs. those on WIC for a time period
  - Info based on pregnancy trimesters (would have to do 2 FFQs during pregnancy)
  - Frequency of milk by type
  - CDC: % obtaining/reaching 100% of RDA from food (analysis does not include vitamins)
  - Nutrient densities (INQ): take into acct. over & under reporting
  - Vitamin supplement frequency (4^{th} page)
  - Use of quartiles & SD; range: 10th & 90th %tiles
  - Analysis based on risk codes (e.g. under weight, overweight, anemic)

11) Uses in Epidemiology- Graham Colditz:

- ♦ North Dakota Hypothesis – N-3 fatty acid and birth weight, low birth weight and transfatty acid, birth weight and folate, fruits, vegetables.

Diet and Health Effects in Children

A. Obesity → High fat diet at age 5 increase obesity? VS. fruits, vegetables, fiber decrease obesity?
B. Asthma → Wheeze/asthma is leading cause of morbidity in children. Add question about asthma?

C. Other ideas:
- worth looking at what's on birth certificate
- pregnancy & hypertension
- physical activity (MA pilot project questions- working with Patti Freedson to validate; ND has done crude activity survey)
- energy intake vs. energy expenditure
- parent feeding strategies, role in obesity (Minnesota & Boston, M. Gillman, 5 - 7 pilot questions w/CDC funding)
- food scarcity & diet quality beginning to end of month/supplement period

Tasks to be accomplished by June 1999

1. HSFFQ revisions for review
2. Linking of data: decisions in each state
3. Use of data for program planning and evaluation recommendations
4. Obesity study progress report
   1) Epidemiologic study of diet and obesity & study of diet and diabetes during pregnancy

ADVISORY COMMITTEE FOR THE DIETARY INTAKE, ERS/USDA GRANT

Wednesday, June 30, 1999

Chair: Deborah Klein Walker

Agenda

8:30 AM – Continental Breakfast

Food Frequency Questionnaire

Universal FFQ with Revisions	*Helaine Rockett*
Food Groupings	*Carol Suitor*
Printout for Professional and Client	*Jane Gardner*

Progress Reports from Each State

North Dakota	*Jill Leppert*
Missouri	*Lucy Zahler*
Massachusetts	*Jan Kallio*

Program Planning and Evaluation

Uses	*Bill Dietz*
Reports on Each State's Aggregating Data	*Jill Leppert and Lucy Zahler*
Discussion	
Vision – Future Uses	*Bill Dietz*

12:30 PM - Lunch

Validation

Update of Children's FFQ in African American/Hispanic Populations	*Robin Blum*
Eligibility Analysis	*Graham Colditz*

Epidemiology

Analysis Plan – Diet and Obesity	*PK Newby*

Future Plans and Priorities

Financial Considerations	*Graham Colditz*
Fourth Page Considerations	*Bill Dietz*

4:30 PM – Meeting Adjourns

In Attendance:

Deborah Klein Walker (Committee Chair), Assistant Commissioner, Massachusetts DPH
Walt Willett (Committee Co-Chair), Department of Nutrition, Harvard School of Public Health
Bill Deitz, Director, Division of Nutrition and Physical Activity, CDC
John Weimer, Project Manager, ERS-USDA
Carol Suitor, Nutrition & MCH Consultant
Jane Gardner, Department of MCH, Harvard School of Public Health
Graham Colditz, Harvard medical School, Brigham & Women's Hospital, Channing Laboratory
Helaine Rockett, Research Nutritionist, Channing Laboratory, Harvard School of Public Health
Robin Blum, Project Coordinator, Department of Nutrition, Harvard School of Public Health
Morgan Ford, Research Assistant, Harvard School of Public Health
Lucy Zahler, Missouri WIC
Jill Leppert, North Dakota WIC
Kirsten Newby, Doctoral Student, Department of Nutrition, Harvard School of Public Health
Jan Kallio, Massachusetts WIC
Patricia McKinney, FNS-USDA

Food Frequency Questionnaire

Universal FFQ with Revisions – Helaine Rockett

- The foods used on the universal FFQ come from 1) the Nurses' Health Study questionnaire, and 2) the 1985 CSFII list of the 100 most frequently eaten foods.
- The foods on the questionnaire are placed in accordance with how they're typically eaten (for example, breakfast foods are grouped together).
- Although the layout for the universal FFQ is similar to that of each individual state's, there are some differences. These include:
    1. Only listing orange juice, grapefruit juice, and other juice
    2. Listing the word melon only, not specifying type of melon
    3. Including fruit cocktail
    4. Separating pasta from pasta sauce
    5. Separating salad dressing and mayo
    6. Not including pumpkin pie
    7. Combining all beans into one line
    8. Putting all of the entrees together (for example, fish and chicken)
    9. Adding in burritos and tacos
- The fourth page of the universal FFQ includes questions about the type of bread, margarine, and cereal used, vitamins, fried foods and type of fat used to fry, baking.
- Some of the benefits of using the universal questionnaire include having each state using a uniform tool (allowing better comparison between states), and improving nutrition education.
- The universal FFQ will be available in Women's (pregnant, lactating), Children's, English, and Spanish versions.

⇒ **See slides titled Universal FFQ with Revisions for more details.**

DISCUSSION ABOUT UNIVERSAL FFQ

Do we plan to run the universal FFQ by the National Association of WIC Directors? Deborah Walker says we should make sure we check with the states. If we want them to comply, we have to let them know what's going on.

Should we get someone to do an independent evaluation of the tool? Jane Gardner doesn't think this is possible as the tool must be adopted and utilized for at least 3 months before it can be validated.

The universal FFQ must be updated based on fortification changes. Some expressed that because the composition of food continuously changes, we must be prepared to frequently update the nutrient database. The universal FFQ is not the kind of thing we can hope to pay for once.

It is up to the individual states to utilize the universal tool or to continue using their own version of the FFQ.

Food Groupings – Carol Suitor

- The food groupings presented in the handout were suggestions only, nothing is laid in stone.
- Decided to separate out whole and ½ servings, so they can be properly counted.
- Grains – need to decide if things like cookies and cake should be included in this group. Want to avoid a "good food vs. bad food" presentation.
- The printout - Foods listed as excellent sources of vitamin A and C are included on the printout now, but need to decide about adding Folate. Foods to be listed as excellent sources of Folate are beans, spinach, liver, and cold cereal.
- Currently, each state has different nutrient levels. Someone suggested we move toward using the food pyramid as a standard because that's what the general population is familiar with.

DISCUSSION ABOUT FOOD GROUPS

Cakes and cookies could be counted for very small servings within the breads and cereals food group.

May want to focus on saturated fats instead of fats as a whole.

The challenge is making a research tool that is useful for counseling. Participants really like getting the printout, so it is important that the information on that printout is accurate.

North Dakota doesn't give the printout to the clients to take home because they have some questions about the accuracy of some info. Instead they discuss the printout with the client.

Printout for Professional and Client – Jane Gardner

Jane went over her handout summarizing results of the North Dakota dietician focus groups.

See Jane's handout for details.

Progress Reports from Each State

North Dakota – Jill Leppert

- Began using the FFQ 6 years ago for eligibility purposes. Also wanted uniformity across the state.
- Most women begin the program in their 2nd or 3rd trimester of pregnancy.
- The staff in North Dakota like the tool, although there is often discussion about why certain foods are categorized as they are.
- The 4th page was developed out of need for eligibility info. The data from the page are not captured, so no aggregate data is available.

- Will soon be going to a new computer program, and the need for the fourth page may change.
- Would like to add activity because of a Childhood Obesity Study taking place.
- Currently validating FFQ for pregnant moms. Most of the women are white, trying to get more Native American. It's been difficult to get women to come back for the 2nd FFQ.
- There is concern about how validation is done in North Dakota not matching up with how it is done in other states.

Missouri – Lucy Zahler

- Started using FFQ in November of 1997.
- Piloted in 9 agencies.
- In total there are 115 agencies and about 250 clinics.
- Going state wide with the program. Everyone should be converted by October 2000.
- 57 clinics are using the program now. Others will start as soon as they receive new computers and equipment.
- The tool is used for client education and dietary risk evaluations.
- The food insecurity questions on the 4th page come from a longer list of questions from the CDC. The staff didn't like the questions very much (felt they might be demeaning the client). But clients didn't seem to mind the questions.
- Will start piloting the youth FFQ in September.
- Have begun to discuss how they may use their data in a larger way.
- Y2K issues: have 2 programs, 1 for Y2K computers and a 2nd for non-Y2K compliant computers (really old computers).

Massachusetts – Jan Kallio

- Networked systems/LANS (Local Area Networks)
- Have clinics that function as stand alones.
- Have 350 staff people split according to professional level.
- 56% of the participants are non-white.
- Focus is on the participant and how to best present nutritional information.
- Currently have 2 programs running - 1in the Berkshires and another in Franklin. A 3rd program will be starting soon in Fall River.
- Always pilot FFQ to pick up flaws.
- Have found that clients really like the printout. Staff also like printout because it makes analysis much more simple.

- Will be state wide toward the end of summer.
- Developed some nutrition education materials as sort of a trigger for counseling, to get the client involved.

Program Planning and Evaluation

Uses – Bill Dietz

- Plan to use for population-based systemic surveillance.
- Computer problems/complications need to be incorporated into implementation time and cost.
- Have capacity to link nutrient data with client reports.
- Would be nice to have the FFQ work in a Windows environment.
- How much data capacity do state health departments have? Need someone on site to maintain. Have to deal with confidentiality issues.
- What questions need to be asked to capture whether the FFQ is being implemented effectively? Document process and publish?
- Quality improvement vs. time improvement: track time spent on nutrition education vs. collection of diet/risk information from each client (M. Rodan has some information, not published).

Reports from Each State's Aggregating Data: Jill Leppert, Lucy Zahler

⇒ **See the attached slides titled Missouri Aggregate Data & North Dakota Aggregate Data**

Vision of Future Uses – Bill Dietz

- Need to determine what would be useful to include on a standard "core report" that can be generated annually for state surveillance, programming planning, evaluation, and improvement.
- Organize a meeting with state surveillance people and program planners to determine surveillance uses and what to include on a "standard" report.
- Principal elements for success (for "marketing" the tool):

  1. Willing staff
  2. Computers available
  3. Commitment
  4. Data support personnel

- Cost-benefit analysis and "marketing" as a "cost saver": Nutrition counseling saves money in the long run (e.g. folic acid).

- Need to increase visibility of FFQ. The NAWD meeting which takes place in April of 2000 in Philadelphia may be a good forum for this.
- Should develop an email list to talk about some of these things.

Validation

Children's FFQ in African American/Hispanic Populations – Robin Blum

⇒ **See attached slides titled Update on Validation of Children's FFQ in African American & Hispanic Children.**

⇒ **See also attached slides from Graham Colditz's presentation titled Eligibility Analysis.**

Epidemiology

Analysis Plan – Diet and Obesity – PK Newby

⇒ **See the enclosed slides titled Analysis Plan – Diet and Obesity.**

Future Plans and Priorities

Financial Considerations – Graham Colditz

⇒ **See the enclosed slides titled Effort to Support Diet Assessment**

Fourth Page Considerations

- Currently, the fourth page is slightly different in each state.
- Modular pieces (i.e. physical activity questions, food security questions, and parental feeding interactions) need validation.
- It's important that the fourth page be used to document behavior change.

Universal FFQ

Helaine Rockett
Harvard School of Public Health

June 30, 1999

Overview

- Universal FFQ-
- Layout - order of food groups
- Foods within each category & layout

Features & Benefits

- Universal ffq will provide use of a uniform tool for data collection throughout the country
- Short term benefits:
  - federal level-efficiently collect & use data sent from states
  - state level-comparison with other states
  - local level- one tool to easily collect dietary data from their clients

Features & Benefits

- Universal ffq will provide use of a uniform tool for data collection throughout the country:
- Short term benefits:
- Long term benefits:
  - improve nutrition education
  - guide program planning

Applications

- Women's questionnaire
  - pregnant
  - not pregnant(lactating)
- Children's questionnaire (1-5 years old)
- English & Spanish

Specifications

- Paper ffq will be a four page questionnaire with similar layout of what is in packet.
- Computer Program will have:
  - Direct Entry
  - Paper Entry
  - Editing
  - Viewing of analysis
  - Printout of analysis
  - ascii file of frequencies to be sent to Harvard for analysis

Missouri Aggregate Data – Lucy Zahler

Total # participants: 6507 (from log sheets)

Total # qualified for WIC using 24 hour recall: 6354

Did not qualify: 153

Only 2.4% (153/6507) of all participants did not qualify by inadequate diet risk based on 24 hour recall.

Mean servings per day by food group
Summary of all Demonstration Agencies
meets MO WIC Program guidelines

Age/Category	Meat	Bread	Milk	Vegs	Fruits	Vit A	Vit C	[illegible]
12-18 m n=698	1.6	3.7	4.1	2.3	3.2	0.5	0.5	4.5
19-30 m n=1061	2.3	4.3	4.2	2.4	4.0	0.4	0.8	5.2
31-66 m n=1916	2.3	4.1	3.8	2.4	3.5	0.4	0.8	4.7
Pregn n=982	1.8	3.4	2.7	2.2	2.3	0.3	0.9	3.3
Lact n=431	2.0	3.9	3.1	2.5	2.9	0.4	1.0	4.0
Postpar n=616	1.8	3.2	2.5	2.0	2.1	0.3	0.7	3.4

Summary nutrient analysis of FFQs from Demonstration Agencies

(n= 5704)

RDA Mean Intake (SD)

Nutrient	12-18 mo n= 698	19-30 mo n= 1061	31-60 mo n= 1916	Pregnant n= 982	Lactating n= 431	Postpartum n= 616
Protein, g	14 58 (21)	16 70 (24)	24 72 (25)	60 75 (34)	65 85 (33)	46 71 (27)
Calcium, mg	600 1087 (436)	800 1145 (427)	800 1098 (399)	1200 1074 (573)	1200 1273 (515)	1200 1043 (499)
Iron, mg	10 8 (3)	10 9 (4)	10 10 (4)	30 10 (5)	15 11 (5)	15 10 (4)
Zinc, mg	5 7 (3)	10 9 (3)	10 9 (3)	15 10 (5)	19 11 (4)	12 9 (3)
Vit C, mg	35 109 (68)	40 147 (88)	45 149 (92)	70 126 (108)	95 179 (112)	60 130 (93)
Vit B6, mg	0.6 1.5 (.6)	1.0 1.8 (.7)	1.1 2 (.8)	2.2 1.9 (.9)	2.1 2.2 (.9)	1.6 1.8 (.7)
Folate, mcg	35 197 (95)	50 244 (108)	75 282 (123)	400 279 (160)	280 342 (152)	180 263 (124)
Vit A, mcg RE	375 1002 (535)	400 1053 (579)	500 1140 (593)	800 1195 (951)	1300 1531 (900)	800 1121 (595)
Vit E, mg	4 6 (3)	6 7 (3)	7 8 (3)	10 9 (5)	12 10 (4)	8 8 (4)

MO WIC guidelines for certifying women and children

Category	Meat and altern.	Milk	Br/cereal/grains	Vitamin C	Dark green Veg	Other F&V
Children						
-1 thru 3 yo	< 2	<5	<6	<1	<1	<3
-4 yo		<6				
Women						
-pregnant	<3-1/2	<4 (adult)	<6	<1	<1	<3
-BF		<5 (11-24 yo)	<7			
-non-BF	<2	<2 (adult) <3 (11-24 yo)	<6	<1		<3

Folate Intake of Pregnant Women in Pilot Agencies by Age Category

RDA = 400 mcg.

	<16 y n=10	**16-19 y n=220**	**20-29 y n=635**	**30-39 y n=110**	**40-49 y n=7**
Folate, mcg (mean)	275	276	283	264	286
S.D.	(76)	(76)	(157)	(152)	(148)

North Dakota WIC Certification Data & HFFQ Nutrient Data '96 - '97

- We looked at the mean nutrient intakes of pregnant women and children 3 to 5 years old by the following variables and found no significant differences:
  - Family size (<4 & 4 to 15);
  - Annual family income
    - $0 - 10,000
    - $10 - 20,000
    - $21 - 30,000
    - $31 - 40,000

June 29, 1999

North Dakota WIC Certification Data & HFFQ Nutrient Data '96 - '97

Mean Nutrient Intake of Children 3 to 5 Years by Family Size (preliminary analysis)

	Small (<4) N=1289	Large (≥4) N=3188
Calories (kcal)	1825	1840
Calcium (mg)	1083	1099
Iron (mg)	10	10
Zinc (mg)	9	9
Vit A (RE)	1154	1213
Vit B6 (mg)	2	2
Vit C (mg)	137	137
Folate (mg)	275	284
Mean Income ($)	10,034	17,903

June 29, 1999

North Dakota WIC Certification Data & HFFQ Nutrient Data '96 - '97

Mean Nutrient Intake of Pregnant Women by Family Size (preliminary analysis)

	Small (<4) N=1351	Large (≥ 4) N=1343
Calories (kcal)	2088	2099
Calcium (mg)	1218	1220
Iron (mg)	11	11
Zinc (mg)	10	11
Vit A (RE)	1516	1546
Vit B6 (mg)	2	2
Vit C (mg)	146	145
Folate (mg)	304	308
Mean Income ($)	11,724	18,438

June 29, 1999

North Dakota WIC Certification Data & HFFQ Nutrient Data '96 - '97

Mean Nutrient Intake of Children 3 to 5 Years by Annual Family Income (preliminary analysis)

	$0-10k N=1342	$10-20k N=1666	$21-30k N=1291	$31-40k N=168
Calories (kcal)	1858	1846	1809	1764
Calcium (mg)	1091	1101	1085	1120
Iron (mg)	11	11	11	10
Zinc (mg)	9	9	9	9
Vit A (RE)	1224	1185	1186	1166
Vit B6 (mg)	2	2	2	2
Vit C (mg)	135	140	136	138
Folate (mg)	281	284	279	278
Mean Income($)	5,943	15,188	23,805	33,037

June 29, 1999

North Dakota WIC Certification Data & HFFQ Nutrient Data '96 - '97

Mean Nutrient Intake of Pregnant Women by Annual Family Income (preliminary data)

	$0-10k N=827	$10-20k N=1096	$21-30k N=675	$31-40k N=92
Calories (kcal)	2126	2058	2125	1988
Calcium (mg)	1212	1213	1246	1153
Iron (mg)	11	11	11	10
Zinc (mg)	11	10	11	10
Vit A (RE)	1548	1486	1563	1727
Vit B (mg)	2	2	2	2
Vit C (mg)	147	146	144	139
Folate (mg)	306	304	311	289
Mean Income($)	5,754	15,195	23,628	33,116

June 29, 1999

Update of Validation Study in African-American & Hispanic Children

Robin E. Blum
Department of Nutrition
Harvard School of Public Health

June 30, 1999

Study Overview

- **Objective:**
  - To assess the validity of the use of the Harvard Service Food Frequency Questionnaire (HFFQ) in the diet assessment of low income African-American & Hispanic Children 1 to 5 years old.

Study Overview

- **Study Sample:**
  - 150 African American and
  - 150 Hispanic children 1 to 5 years old.
- **Time sequence of data collection:**

First HFFQ<----------1 month----------->Final HFFQ
↑ ↑ ↑
Recall 1 Recall 2 Recall 3

Timeline of Validation Study

- **October '98: Funded by USDA**
  - Planned to run validation study in Missouri WIC sites with @ least 3 months experience with HFFQ;
  - Human Subjects approval.
- **December '98: Established relationship with Truman Medical Center**
  - Study was to begin in spring '98
  - Developed contracts, scopes of work, memoranda of understanding, & Human Subjects application for Truman

Timeline of Validation Study

- **March '99: Presented study protocol to Truman administration**
  - Due to administration change (merger) Truman decided not to take on additional research project.

Timeline of Validation Study

- **April/May '99: Established relationship with KCMC Head Start**
  - Recruited coordinator;
  - Prepared documents (study protocol, consent forms, etc.) for KCMC executive board meeting in June '99.
- **Currently:**
  - Recruited 7 nutritionists;
  - Training scheduled for end of July.

Projected Timeline

- **July '99:**
  - Begin participant recruitment;
- **August '99 - January '00:**
  - Collect data;
- **February - March '00:**
  - Review FFQs & diet recalls;
- **April - June '00:**
  - Analyze data

Eligibility analysis

- Objective:
  - To look at whether or not the HFFQ is a predictor of WIC eligibility based on serving cut-points for different food groups.

June 30, 1999

Eligibility analysis

- Data:
  - Native American and Caucasian children 1 through 2 years old (n=155) and 3 to 5 years old (n = 136) participating in North Dakota WIC;
  - Excluded siblings (only 1 child/family);
  - Used unadjusted nutrient analysis;
  - Compared first recall to first HFFQ based on WIC eligibility cut-points.

June 30, 1999

Eligibility analysis (continued)

- Created nutrient cut-points based on WIC eligibility criteria (# of servings/week) & RDA;
- Selected 8 nutrients based on WIC food groups:
  - Protein
  - Calcium
  - Iron
  - Zinc
  - Folate
  - Vitamin A (RE)
  - Vitamin C
  - Vitamin B6

June 30, 1999

Eligibility analysis (continued)

- Created cut-points based on WIC eligibility serving cut-points (serving sizes different for 1 - 2 and 3 - 5 year olds):

	1 - 2	3 - 5
– Protein	16 g	24 g
– Calcium	800 mg	800 mg
– Iron	10 mg	10 mg
– Zinc	10 mg	10 mg
– Vit A	400 mg	500 mg
– Vit C	40 mg	45 mg
– Vit B6	1.0 mg	1.1 mg
– Folate	50 ug	75 ug

June 30, 1999

Eligibility analysis (continued)

- Ran tables of eligibility with recall by eligibility with HFFQ for each of the 8 nutrients.

June 30, 1999

Eligibility analysis (continued)

Number of 1 through 2 year olds (n=155) eligible by recall or HFFQ based on nutrient cut points.

Targeted Nutrient	Protein	Calcium	VitA	VitC	VitB6	Folate	Iron	Zinc
Recall	1	46	25	20	33	1	48	97
HFFQ	0	41	6	9	14	0	90	95

June 30, 1999

Eligibility analysis (continued)

Number of 3 to 5 year olds (n=136) eligible by recall or HFFQ based on nutrient cut points.

Targeted Nutrient	Protein	Calcium	VitA	VitC	VitB6	Folate	Iron	Zinc
Recall	0	39	7	12	18	0	31	79
HFFQ	0	16	2	1	2	0	59	69

June 30, 1999

PRELIMINARY DATA ANALYSIS PLAN
Advisory Committee Meeting - June 30, 1999
Harvard School of Public Health

What is the relation between dietary composition from ages 2-4 y and obesity at age 5 y among low-income preschool children participating in the North Dakota WIC program?

Study Questions and Hypotheses

1. What is the relation between dietary fat and obesity?

   A diet high in fat as a percentage of energy will lead to greater childhood obesity than a diet lower in fat.

2. What is the relation between dietary carbohydrate and obesity?

   A diet high in glycemic load will lead to greater childhood obesity than a diet low in glycemic load.

Scientific Rationale

What are potential mechanisms through which dietary composition leads to obesity?

1. Fat: lower metabolic efficiency, more palatable, greater energy density, preferred storage
2. Carbohydrate: faster rates of digestion, absorption, and insulin secretion for simple and refined cho

Dietary fat, energy density, or glycemic load?

Study design and population

- Longitudinal study design of low-income preschool children aged 2-5 y enrolled in the North Dakota WIC Program between January 1, 1995 through June 30, 1998 who have repeated anthropometric and dietary measurements.
- Sample size: n=4301, 2135 girls and 2166 boys with ≥2 repeat measures, before exclusions.

Dietary exposure measurement

FAT
a. Nutrient: nutrient density - fat/calories
b. Food: WIC fats food group
c. Behavior: fried foods away from home

ENERGY DENSITY
kcal/g or kJ/g

CARBOHYDRATE
a. Nutrient: nutrient density - fiber/calories
b. Food: WIC fruits & veges, breads & cereals groups

GLYCEMIC INDEX
glycemic load - mJ

Covariates and Exclusions

Covariates: sex, birth weight, race, income/% poverty, calories, mom's BMI, WIC nutritional risk, breast feeding history, supplemental bottle history

Exclusions: LBW, VLBW, IUGR, children with special diets and major congenital anomalies

Outcome measurement

How to measure and define overweight?

There is no universally accepted measurement or definition of overweight or obesity for children.

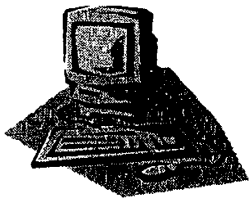
- Weight for height Z scores >2.0?
- BMI at 85th and 95th percentiles?
- What reference population?
- Overweight Grades I and II, obese and superobese?

Statistical Methods

A. *Cross-sectional analysis* using linear and logistic regression models which estimate the probability of obesity at one point in time while accounting for missing and correlated data.

B. *Longitudinal analysis* which models the effect of repeated measurements on *change* in weight and obesity over time.

Repeated measurements



#	Female	Male	Total
2	789	812	1601
3	614	619	1233
4	438	406	844
5	195	230	425
6	70	69	139
>6	29	30	59
	2135	2166	4301

Limitations: the lack of complexity

- No measures of energy expenditure or physical activity.
- Data are limited to Native Americans and Caucasians.
- No measures of environmental and social variables that may modify or shape dietary behavior.

Future research projects I

Nutrition in context

- Social and food environments

  What are the relations between income, food availability, food storage and food preparation, and participation in related social programs and the development of obesity?

- Behavioral environment

  What is the relation between energy expenditure, as estimated by hours of television viewing, and the development of obesity?

Future research projects II

Nutrition in context

- Physical environment

  What are the relations between race, geography, season, and urbanicity and the development of obesity?

- Data analysis

  Are there are additional methods that may further elucidate the relation between dietary intake *and* nutritional context and childhood obesity?

Summary: Points for discussion

- How to measure and define outcome variable?
- Additional covariates and/or exclusions?
- Suggestions for statistical modeling, ie. treatment of earlier anthropometric measurements and total calories?
- Adding complexity: the availability of social nutrition data?

Effort to support diet assessment

Categories of activity

- Creating new paper copy for a state
- Creating new computer version of the program for a state
- Running analysis of the data sent back to Harvard
- Maintaining and updating nutrient database

Creating a new paper copy for a state

- Adding a new food includes:
  - determine frequency of use of food (if possible)
  - determine wording of food
  - determine placement of food
  - translation to Spanish.

New paper copy

- Checking on current English usage for foods is the same in that part of the country (donut vs. fry bread).
- Determining that the Spanish usage for foods -- dialect of Spanish spoken in that part of the country (Mexican vs. Puerto Rican).
- Send changes to printer.

New paper copy

- Printer makes changes on all versions (4-6).
- Review changes and make corrections if needed send copies to state.
- Receive changes from state, incorporate or if approved obtain printer ready copy or velouxes.
- Send velouxes or printer ready copies to state.
- (Cost $2,000)

Creating a new computer version

- Once the paper copy has been okayed, add new foods to program
  - determine the serving size for all ages and sex and the nutrients that must be added
  - new food(s) must be added to all files of the program.

New computer version

- Modify files
  - for entering paper copy, direct entry, nutrient values of the food(s), food grouping of the food(s), analysis of the food(s) in the diet of the client, and printout of the analysis in all 6 versions of the ffq.
  - compile program and check for errors
  - check program for new record, editing old record, looking at analysis on screen, printing analysis in all 6 versions of the ffq.

Distribute computer program

- Send disk to state for their review.
- Discuss any problems or new requests with the computer version.
- Repeat process again.
- (cost $15,000)

Running analysis of the data

- Upload disks to an ASCII file and check raw frequency data for problems.
- Write new data dictionary for new computer version of the program for a state.
- Check the data dictionary and the analysis of the new computer version.

Analysis cont..

- Run analysis of program includes:
  - deleting test FFQs
  - deleting outliers of calories
  - creating reports
- Print reports and send to the state.
- (Cost 7,000)

Maintaining and updating nutrient database

- Research on nutrients
- Update nutrient data files
- Distribute new nutrient data files
- (Cost $1,000)

Effort on diet assessment for WIC projects

- In the last year
  - Helaine Rockett has worked on average 25 hours a week on WIC projects.
  - Morgan/Robin (support staff) has worked on average 5 hours a week on WIC.
  - Steve (programmer) has worked on average 5 hours a week on WIC.

Task Force on Data and Program Planning for the Dietary Intake, ERS/USDA Grant Work Session

Monday, September 13, 1999
8:30 AM – 4:00 PM

Co-Chairpersons: Jane Gardner & Graham Colditz

In Attendance:

Deborah Klein Walker (Committee Chair, Assistant Commissioner, Massachusetts DPH
Carol Suitor, Nutrition & MCH Consultant
Jane Gardner, Department of MCH, Harvard School of Public Health
Graham Colditz, Harvard Medical School, Brigham & Women's Hospital, Channing Laboratory
Helaine Rockett, Research Nutritionist, Channing Laboratory, Harvard School of Public Health
Robin Blum, Project Coordinator, Department of Nutrition, Harvard School of Public Health
Morgan Ford, Research Assistant, Harvard School of Public Health
Lucy Zahler, Missouri WIC
Jill Leppert, North Dakota WIC
Jan Kallio Massachusetts WIC
Patricia McKinney, FNS-USDA
Kelly Scanlon, CDC
Liz Metallinos Katsaras, Nutrition Projects Coordinator, Massachusetts DPH

Welcome & Introduction (Deborah Klein Walker, Graham Colditz & Jane Gardner)

- Programmatic & data people working together
- Research & service world together
- This meeting: what do program people need? What is useful in both "worlds"- research & service?

Worksheet questions & discussion

Question 1

What will we use the "standard report" for?

- Current uses: diet, obesity, trends, program quality assurance (by age, race, WIC criteria, status of women)
- Future uses: potential indicators of risk

What analyses should be in the "standard report"?

- Categories: 1) Pregnant women, 2) Lactating women, 3) Post-partum/not lactating women, 4) Kids (separated into 2 groups)
- Contribution file: include top10 (include totals)

- Statistics Report: define N in label (# of participants), delete N column from table,
  - ✓ Keep the following nutrients: Calories, protein, total fat, carbohydrates, calcium, iron, zinc, vitamin C, vitamin B6, folate, total vitamin A, carotene separate, vit E, saturated fat, total unsaturated fat, cholesterol, alcohol
  - ✓ Delete the following nutrients: caffeine, monounsaturated fat, polyunsaturated fat
  - ✓ Add the following nutrients: fiber, magnesium(?)
  - ✓ Add the real RDA, % not meeting RDA, EARs (estimated average requirements, & % meeting EARs
- Mean Servings Per Week Report- do not send w/ other reports, include it in the data file.
- Mean Group Per Week Report:
  - ✓ rename Mean Group per DAY
  - ✓ include % not meeting individual minimum food group guidelines (food pyramid)- not for vit A or vit C

What is most useful to the States? Which variables best contribute to these analyses?

- Food group/day, nutrient analysis, RDA & % meeting RDA
- What did they eat before & what do they currently eat?
- Separate data into 1st vs. all other certifications
- In future it would be useful to include some of the information from the 4th page on the "Standardized Reports"- need to form working group to standardize 4th page.

How should these be broken down (state, county, group of agencies, etc)?

- 1 or 2 level format/state, depending on size of state and how state system is set up;
- States want larger reports than counties and individual clinics.

How frequently should these be distributed?

- 1st year, 6 month report, and then annually

Does this information get integrated into your current reports?

- Yes.

Question 2

How are the primary data sent to Harvard for analyses?

- Floppy disks
- North Dakota: have data manager (Corey) who links FFQ data w/ WIC certification & vital statistics data. He assigns a unique identifier (deletes name, address, SS, phone #)
- Missouri: send raw data on a disk, NO linkage
- Massachusetts: haven't sent any data yet, but plan is as follows- raw data on disk (in the future the raw nutrient data will be linked to the MIS so will make it easier to link the data)

How are the data cleaned at the state? What protocols are used?

- The data is not cleaned at the state.
- Harvard will assign "practice test identifiers" that states must use to enter "practice FFQs", this way those "practice FFQs" will be removed at Harvard before running analysis
- Currently, Helaine has parameters for when records are thrown out (considered implausible). This will become part of training as will the "practice test identifiers".

Question 3

In what format should the report be transmitted back to the states?

- There is too much information/data in the files to send them on disk or FTP.
- Data tape will probably be best format for sending files to states (will need to make sure that each state can use data tape).
- The data tape will include the "Standard Report" as well as contain the ASCII file of raw data.
- Will also send a printout of general state "Standard Report" and a list of the codes for the variables included in the ASCII file.

Question 4

How are the certification, FFQ, and other large data sets linked at the state?

- Need to designate a data manager in each state (like Corey in North Dakota)
- In Massachusetts a 24-A is needed to link FFQ data with birth certificate data. Eventually the FFQ data will be a part of the Massachusetts Information System & easily be linked with WIC certification data.

What programs are they linked to?

- WIC certification data (minimally)
- Birth files 9defects and certification)
- School health (1st and 3rd graders)
- Head Start
- Early childhood programs
- Lead programs
- In North Dakota they will have the FFQ data as part of the "Health Passport"- each participant will have 1 ID number for all programs (immunization, health programs, Medicaid & insurance, Head Start)

Question 5

What information would be helpful to USDA, CDC, others?
How could this be supported?

Next Steps

- Spread the word!
- Write short, 2 to 3 page summary, including: what we're doing/done, indicators, potential of the FFQ, and what we would advocate for next (something to be handed out at meetings/conferences);
- Showcase FFQ at varying conferences (AMCHP, NAWD);
- Create list of key meetings/conferences and contacts for each:
  - ✓ WIC directors, state/territorial nutrition directors, MCH directors, CSHCN directors, MCH Epidemiology conference, ADA (Public Health Nutrition Meeting), AMCHP, HHS/USDA (National Nutrition Monitoring Act)
- Strategically: create solid cost estimate, political organizing, Nutrition Monitoring Act;
- Write brief reports for MMWR (states w/ help from Harvard & CDC);

ADVISORY COMMITTEE FOR THE DIETARY INTAKE, ERS/USDA GRANT

MEETING MINTUES

Channing Laboratory, 181 Longwood Avenue
5th Floor Conference Room
Boston, MA 02115
8:30 AM - 4:30 PM, Monday, September 11, 2000

ATTENDEES

Graham A. Colditz
Jane Gardner
Helaine Rockett
Robin Blum
Carol West Suitor
Jill Leppert
Jon Weimer
Patricia McKinney
Jen Tuttelman
Beth Barden
Liz Metallinos-Katsaras
Deborah Klein Walker
Jan Kallio
Kellye Scanlon

GRAHAM: INTRODUCTION

Review of the Goals:

1. Evaluate and improve the output of the Harvard Service Food Frequency Questionnaire (HSFFQ) to better facilitate nutrition education, food package decision, and referrals, based on the analysis provided through the HSFFQ for children 2 to 4 years of age. – *Jane Gardner will present.*

2. Design, implement, and evaluate the use of aggregate nutrition for program planning and evaluation at the state and national levels .... *-Helaine has worked on this and will present.*

3. Using prospective data through the WIC program, examine relations between diet from age 2 to 4 and childhood obesity as measured by excess adiposity among 4-year old children. ...*Validation studies in the states. Robin Blum will present.*

See handout outlining goals of the proposal and how the objectives will be achieved.

CAROL SUITOR – IOM COMMITTEE REPORT/SUMMARY OF SYMPOSIUM

Summary of Statement of Task

- Dietary Risk Assessment in WIC Program
- Interim report, prepared and in review if funded for next year
- Framework for assessment of dietary risk diet guidelines as criterion.
- Concerns when diet is incorporated.
- Food based criterion for diet guidelines.
- Approaches for using food based approaches in WIC.
- Cut-off values.
- Research and tools needed.
- IOM has copies of most of the tools currently in use.
- Method for review – conducted by staff of IOM.
  -Instruments

-Procedures

Things Committee is asked to do:

- Framework for assessing risk
- Identification *a priori*
- Criteria for identification are different from criteria for framework

Graham Colditz: If we have emerging findings it would be good idea to send them to the committee
Things that would be useful to send to the Committee are published works and sometimes perspectives.

FFQ AND NUTRITION EDUCATION - JANE GARDNER

Printout for Client to take home
-Emphasize long term value of information
-Used as a record

Servings Per Week

- Providers use this first and most
- Now our Advisory Board has given input as to what goes in each food group
- Providers have tried to personalize the mass produced handout
- One suggestion was to put the food pyramid on there and this has been tried but was not liked
- Currently some draw the pyramid on the take-home report
- Client output could be prioritized
- Number of items were selected (for variability) – Provider rarely used
- Pyramid and serving size difficult issue
- A low variety in number of foods does not necessarily mean a poor diet
- Nutrients are used less than foods

Nutrients as a percentage of RDA

- *Carol* - mgood education tool
  -goal is to improve diet
  -aim for this level
  -recommended intake is designed for this use
- This is used quite like "Servings per week".
- Bar graph on nutrients would be preferred.
- Providers will want to use this more overtime.

Nutrient density vs. RDA

- More difficult to use
- First look at calories and then nutrient density
- They only look at estimated calories only when they use the nutrient density
- But don't take it off the printout because the clients like it as well as the providers
- Would likes distribution of calories on there, but not necessarily in nutrition education

Things to do

- Notes which go into the chart

Page 2

"Mean servings per week" by food

- Not in agreement – it is not highly used but doesn't lower ability to have it
- Maybe there could be a choice to print or not to print (may be a function of technology)
- Can you retrieve the print out later if you choose not to print it right away?

Another use
-Juice fills up fruit category
-Less juice categories on FFQ
-Should this be a counseling issue?
-Jill: Fruit group could have subcategories on fruit juice

Missouri has a lot of information on fruit and food groups

-Would it be useful to have a printout to go with clients?
-All had potential to based on clients' ffq
-Four sites in ND piloted client printout
-Nice message at beginning
-Gives food groups
-What you eat
-What you should eat
-They can request printout by typing yes or no
-Eventually will reflect the pyramid

The printout has been piloted with pregnant and postpartum women and in a focus group of providers
Providers have a problem with the word "should" and suggest wording should be changed to "your goal" or "try to eat".
Clients say "should" is okay.
In a discussion regarding the meaning of fats and sweets, the clients did seem to understand
Clients like the number to aim at

Quotes from Clients
"I can see for myself what I eat"
"Useful because I don't know if I eat right"

Percentage of RDAs

- Providers said clients wouldn't know percentage of RDAs
- Clients want bar graph of RDAs
- Clients understand calories
- How do you present recommended calories?
- Providers want a range

Providers thought 50% of handouts would be thrown out
Most clients when surveyed knew exactly where their printout was

Clients view of printout
-Comments along the lines of "If I had know about the printout, I would have done a better job on the FFQ."

-Change wording from RDA to "recommended intake"
-Providers get documentation on "recommended intake" vs. RDA.
-EAR on reports for state not on computer printout
-We have RDA on printout because there are RDAs on cans and bottles
-Chart that gives percentage of recommended intake to help clients improve diet – appropriate to use recommended intake in a bar chart
-RDAs are useful for certification as well as education
-Labels are based on 1965
-FFQ's RDAs are based on 1989

STATE'S INDIVIDUAL FFQS VS. UNIVERSAL – *HELAINE*

- Maintaining multiple versions of program is a challenge of resources
- Each state has something different
- Most foods are the same on the different state's questionnaires
- Two Universal Questionnaires
  -women
  -children
  -Missouri has a youth questionnaire for 5 to 18 year olds
- ID will be called ID rather than different state codes

Dairy Section remained the same

Fruit Section Changes:

- Juices were limited to two categories
- Fruits were rearranged
- Apples and pears were put together on the same line
- Peaches moved and apricots removed
- Apple sauce has its own line
- Fruit cocktail was added

Vegetable Section

- Salad dressing/mayonnaise were separated onto two lines.

Snacks

- One pie not two

Main Dishes and Bold

- One type of bean
- Simplified to pork or ham

- No deer
- Liver kept for vitamin A content

Page 4

Designed with the American dietary problems in mind

- Lack of fiber – types of fats used
- Carol Suitor wanted to know if all items had been tested in a low-income population?
- The response was no they had only been tested in the NHS.
- Margarine database that would be used for analysis is kept up to date

Four Modules for Fourth Page besides what is shown

1. Food scarcity
2. Activity
3. Mother and child bonding
4. Food and security

Other Types of questions for the fourth page of the Universal FFQ

- Type of fat vs. total fat
- Vitamins
- Exercise

These could be modules

-Deals with mostly fat, fiber, and vitamins.
-So far no states counsel on types of fat.
-These are questions based on WIC state's concerns.

Vitamin Supplementation

- Try to get vitamins from food rather than supplementation.
- Most women are on a prenatal vitamin.
- Folate is all set in PC version of the program.
- All modules should be tested in a low-income population.

FATS

- Can check as many fats as you want.

Which questions are all WIC states interested in?
-The fiber question – Are you getting at whole grain or fibers?

-All states are interested in fiber and whole grain
-Are there "indicator" foods for whole grains?

Carol warns to be careful in testing questions:
-How whole grain is whole grain bread?
-Do people know what a high fiber cereal is?

Suggestion from *Liz Metallinos-Katsaras*

-If you eat any items in this list mark yes or if you eat any cereals in this list mark no

North Dakota wants to do the fiber question

Vitamins

- Calcium supplement or fortified juice?

Do you take a multivitamin pill?

Jill Leppert commented on example should be prenatal vitamin
No one wants vitamin A question.
There should be two questions
1) The multivitamin question
2) Are you taking an additional supplement?

Calcium (vitamin supplementation)
-There are other soy questions, for those who are lactose intolerant
-Some states do not have as many calcium fortified foods

Carol Suitor: What sort of resources do we have to put into the development of these questions?

Keep vitamins on the Universal Questionnaire
Vitamins are not universal
North Dakota does not use the vitamin question yet

Not sure if states have the same health questions
The whole 4th page should be approached as modules

WINDOWS VERSION OF THE FFQ - *HELAINE*

-Note this was not a finished version

Suggestions

- Bigger print
- Truncate choices
- Should client and providers have different screens?
- Concern of Beth Barden: If you offer on paper what can't be offered on computer then the data won't agree
- Are the findings (based on appearance) different than what is seen on screen vs. paper?
- The reason for wanting to go to Universal FFQ is so that there is one and therefore will not have to change five different files
- There is a dichotomy between all WICs and within all WICs
- State need to choose the Universal FFQ or not
- Goal would be to come up with a couple of options for tools

STRENGTHS OF THE FFQ

-ongoing surveillance

-balance

REPORTS

1. **Contribute File**
   Based on the nutrients
   shows top ten foods on the FFQ
2. **Nutrient report**
   Mean %RDA not meeting %EAR
3. **Food Report**
   Mean food groups not meeting % Pyramid

Reports are broken down into the following groups:
-children
-women
-breakdown of pregnant women by age can be broken down per site

Are children less than 12 months of age deleted from the database?
North Dakota says yes

Children are divided into three age categories

Age groups
-Do we use RDA standards?
-Do we use WIC standards?

DIET VALIDATION IN HISPANIC AND AFRICAN AMERICAN CHILDREN – *ROBIN BLUM*

Reminder of third aim
Original goal
150 African-American
150 Hispanic
Many attempts on dataset

1st Attempt in Truman Medical Corridor in Missouri

- Merger occurred
- They decided not to take on the research project

2nd Attempt KCMC

- Trained 7 nutritionists
- Headstart had not been using FFQ for 3 months
- Decided it was too soon

3rd Attempt 11/99 Family Health Center

- Used previously trained RDs
- Started collecting data

- Recruited onsite coordinator
- Complete clinical staff turnover

4th Attempt Massachusetts

- Hispanic validation begun in Lynn Community Health Center
  -Recruited and trained on site coordinator and 3 RDs
  -Feed back from Lynn has been positive
- African American validation begun in Blue Hill Corridor Health Center in Dorchester
  -October 6, 2000 Robin and Jane will go to collect data and meet with the RDs

-Missouri WIC sites not used
-Hispanic populations are different in Missouri and Massachusetts, more Mexican-Americans in Missouri, more African-Americans in Massachusetts
-Hispanic FFQs are in Spanish and have slightly different foods

GRAHAM - SUMMARY ON PROGRESS OF ANALYSIS

-50-55% at 100% power level
-20-25% in other two categories

ND Data
-cross-sectional piece
-see handout

PEDIATRIC/PREGNANCY SURVEILLANCE

-Nutrition data into surveillance system
-Most from WIC in pediatrics to CDC who generates the reports and the states use the data

Systems updated with cross-sectional records now aim to follow children

-Longitudinal cohort
-Table overtime
-Anemia >>>> outcomes
improve
-More states will use the FFQ and include into a report
-CDC will need to accommodate formats but no more than 3
-Include the key indicators: food group intake, nutrients and add to surveillance report
-trends shows no associations between diet and outcomes

Kelly Scanlon (CDC)

- interested in having dietary intake at CDC
- CDC collaborates with states
- Put data into multi-state system for surveillance
- CDC put out reports that look at nutrition status indicators

Changes

- Major changes in new tables will be based on children

- Longitudinal cohort – longitudinal data
- Software is being updated
- More FFQs adopted by states to include in reports
- CDC interested in including key indicators
- Breakdown by demographics for targeting
- 42 states, 7 tribes, DC, Puerto Rico on Peds System
- There are only 20 states for pregnancy data
- Done on voluntary basis
- States would have FFQ capability w/DC
- CDC would work on useful summary items to put out
- Missouri sent data to CDC
- CDC does linkage
- State would send it record data with peds ID

Diet data could be the same sort of system
-the state could do "instant" reports
-If the states want to send data, then CDC would work with it.

For Massachusetts and record linkage
-Link is labor intensive

-Link – Is there any seed money from CDC to do the record linkage?
-CDC has less than a million dollars for grant money to develop this record linkage thing.
-Move the three states together for linkage then expand
-Could link at state level >>>> CDC or Harvard

MASS WIC
-issues in getting data
-linkage is not working well yet
-Noone on staff to do the linkage
-and there is human error b/c it can't be linked therefore poor data

Missouri does not link

We need to find out from Massachusetts and Missouri to find out how to link data.

STATUS OF NUTRITIONAL BILL

-CSFII did not get funding
-NHANES is supposed to pick it up
-Dispute over whom will be in charge of nutritional part
-CSFII has one more year on monetary bill

ADVANTAGES OF THE FFQ

Strength One – Potential for Surveillance

- Saves time collecting data.
- Broader nutrition education than before.
- More accurate and consistent than before.
- Printout makes ??? nutrition of client
- Younger nutritionists love the FFQ.
- Older ones didn't enjoy it, they prefer specificity of 24-hour recall (not limited to Mass)
- Computer aided, i.e. there is no adding etc., it is all automated
- Jen Tuttelman: Training of nutritionists need to be clear on what the FFQ is and what it isn't
- Aggregate level data
  -MASS: Program planning and grant writing
  -Set goals for calcium
  -Missouri: Can compare regions. And can pick up interesting little facts.

Strength Two

- Set goal percent meeting RDA, etc.
- Compare ??? of the state etc., e.g. Missouri

USDA concerned that there is not enough tangible product.
Implicit assumption for funding was show better mousetrap.
-validation not done
-printout not done
-final version not clear
Missouri and MASS responded that it is more efficient and it is drastically changing education.

Note this tool brings change in an area
-tangible product is coming
-no one will move backward

-Jon Weimer conveyed need for a more systematic approach.

Strength 3 – Evidence for Better Counseling

- Aggregate data for planning
- Surveillance but not yet in place
- Time saved at agency level

Systematic approach to certification.
-one size fits all does not work
-guidelines for certification no one for all
-continuity for re-certification

Strength 4 – Reports

- Finally back to certification data for program planning
- Not lots of time to step back
  -This report will facilitate step back and review data etc.

- Give evidence of program planning
  -Use other description, etc., e.g. education
  -Compare within state rather than with other states

Asian population is totally different.

USDA funding for assistance and research.

Targets nutrition education
May change women's lives
Big part of program planning will come from linkage.

What would USDA need for evidence for funding?

WIC community is on hold until the IOM report comes out.

Negatives of System

1. Long in start-up
2. Cost
-huge output initially but later may prove to be cost-efficient
-need to do a cost-benefit analysis
  -9-month implementation over the state
  -State committing staff
  -20/hrs week
  -training, materials, etc. (could be shared with other states)
-basically a volunteer project with few resources
-how do you quantify intangibles?

Survey of director and nutritionists
-12 months after implementation
-Asked if they would go back:

3. Each state will not be happy with something on there
-standardized tool does not satisfy
-possible solution with modules

4. It is a challenge to integrate the tools into the existing system.
-coordination of effort with implementation, i.e. IT/MIS/WIC, etc.

Issue of equipment
-IOM Committee would be

Surveillance
-needs stronger case made
-IOM has said that the FFQ is the preferred approach

BILL DIETZ ET AL. AT CDC

-Ongoing surveillance of the states and how to do this.
-What is the core?
-What do we do to it?
-What is the set of indicators we should be monitoring?

Massachusetts will write this up and do a survey in 12 months.
ND survey for several years back.

Appendix B: Client Nutrition Education

1. **Original Printout for Client Nutrition Education**
2. **4 Proposed Client Printouts**
3. **Piloted Client Printout**
4. **Final Client Printout**

Original HSFFQ Printout Used for Client Education &

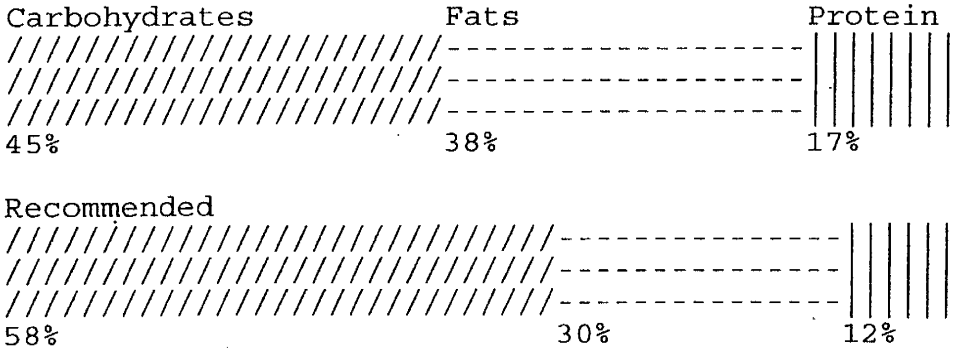
NAME: Test Woman DCN#: 88888888 DATE: 11/30/98
DOB: 09/09/76 AGE: 22.2 Status: Breastfeeding (1st 6 months)

MEAN SERVINGS BY FOOD GROUP

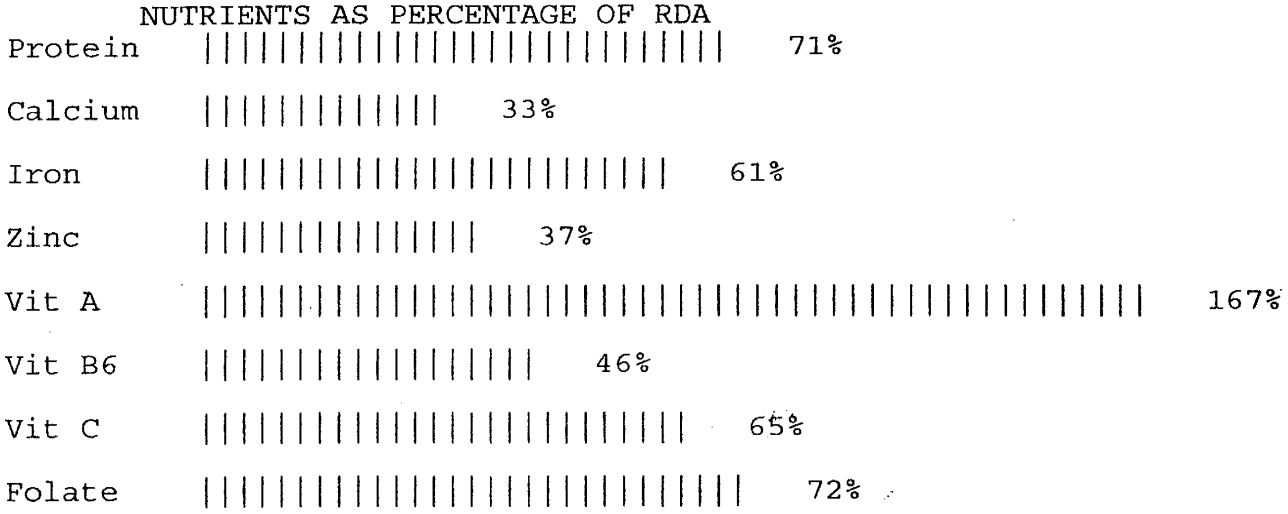
Food Group	Servings per day	Servings per week
Meats and dried peas and beans	1.8	12.8
Milk products	0.9	6.2
Breads and cereals	1.3	9.2
Vegetables	2.3	16.2
Fruits	1.2	8.8
Vitamin A-rich food	0.8	5.8
Vitamin C-rich food	0.5	3.2
Sweets	1.6	11.0
Fats	2.2	15.5

Total estimated calories 1095 Items selected 65

CALORIE SOURCES



NUTRIENTS AS PERCENTAGE OF RDA



Things to do:

Original HSFFQ Printout Used for Client Education

NAME: Test Woman DCN#: 88888888 DATE: 11/30/98
DOB: 09/09/76 AGE: 22.2 Status: Breastfeeding (1st 6 months)

MEAN SERVINGS PER WEEK REPORTED BY FOOD

Food	Selected	Food	Selected
Milk	0.25	Cake	0.25
Hot Chocolate	1.0	Pie	1.0
Cheese	2.0	Jello	2.0
Yogurt	0.0	Chocolate	0.0
Ice Cream	0.25	Candy	0.25
Pudding	1.0	Coffee or Tea	1.0
Orange	0.0	Pop	2.0
Orange Juice	0.25	Sugar-free pop	0.0
Other Juice	1.0	Beer, Wine, Liquor	0.25
Other Fruit Drinks	2.0	Baked Beans	1.0
Banana	0.0	Dried Beans	2.0
Apple	0.25	Rice	0.0
Grapes	1.0	Spaghetti	0.25
Peaches	2.0	Pizza	1.0
Strawberries	0.0	Macaroni	2.0
Cantaloupe	0.25	Hot Dogs	0.0
Water Melon	1.0	Hamburger	0.25
Pineapple	2.0	Tuna	1.0
Raisins	0.0	Cold Cuts	2.0
Corn	0.25	Peanut Butter	0.0
Peas	1.0	Bread	0.25
Tomatoes	2.0	Butter	1.0
Peppers	0.0	Margarine	2.0
Carrots	0.25	Fried Chicken	0.0
Broccoli	1.0	Chicken w Skin	0.25
Green Beans	2.0	Pork	1.0
Spinach	0.0	Beef	2.0
Greens	0.25	Fried Fish	0.0
Mixed Vegetables	1.0	Fish	0.25
Squash	2.0	Liver	1.0
Zucchini	0.0	Vegetable Soup	2.0
French Fries	0.25	Soup	0.0
Potatoes	1.0	Cornbread	0.25
Yams	2.0	Eggs	2.0
Cabbage	0.0	Sausage	1.0
Okra	0.25	Bacon	0.0
Lettuce	1.0	Cooked Cereal	0.25
Mayonnaise	2.0	Cold Cereal	1.0
Potato Chips	0.0	Donut	2.0
Popcorn	0.25	Sweet Rolls	0.0
Crackers	1.0	Pancakes	0.25
Nuts	2.0	Muffins	1.0
Cookies	0.0	Biscuits	2.0

Original HSFFQ Printout Used for Client Education

NAME: Test Woman DCN#: 88888888 DATE: 11/30/98
DOB: 09/09/76 AGE: 22.2 Status: Breastfeeding (1st 6 months)

RESPONSES TO OTHER QUESTIONS

Milk Type	Whl	Meal freq	1
Previtamins	0	Snack freq	0
Vitamins	7/w	Ice	Yes
Ironpill	4-6	Clay	No
Fried foods	1-3	Paint	Yes
Antibiotics	No	Starch	No
Laxative	Yes	Other	Yes
Insulin	No	Fewfoods	ok
Antacid	Yes	Nonbalenc	?
Aspirin	No	Cutsized	Yes
Diabetic	Yes	Oftencut	some mo
Other medications	No	Notenough	N/A

Questionnaire Results—Example 1.

Nutrient driven--low calorie, low iron, low zinc, high fat.

GREAT JOB FINISHING ALL THE QUESTIONS, SUSAN!

Here are your results.

Put this page up where you can see it each day. Check it often to remind yourself what you should be working on.

TO MAKE SURE YOU AND YOUR BABY STAY HEALTHY, YOU SHOULD TRY TO:

EAT MORE

Food in general.

You are not eating enough calories. Getting enough calories is important for your health and the growth of your baby. The easiest way to get more calories is to just eat more food. But make sure it's healthy food that includes a lot of fruits, vegetables, and grains (bread, rice, and cereal).

Green leafy vegetables.

Green leafy vegetables include kale, spinach, and greens. Try to add one serving of green leafy vegetables to what you eat each day. Buying frozen vegetables may be easier than buying and preparing fresh vegetables.

Low fat meat, chicken and fish.

Try to add more low-fat meat, fish, or skinless chicken to what you eat. Grill, bake, or broil. Don't fry foods.

Seeds and nuts.

Add more seeds and nuts to what you eat. Try sunflower seeds or nuts as snacks.

Whole grains.

Add more whole grains (like whole wheat bread and brown rice) to what you eat. Try making sandwiches with whole wheat bread instead of white.

EAT LESS

Fat.

Try to eat fewer fried foods and gooey snacks and desserts. These foods are often filled with the types of fat that are bad for you.

KEEP IT UP

Your doing a great job with the rest of what you eat. Keep up the good work while you make the changes above.

Proposed Client Printout Versio 2

Questionnaire Results—Example 2.

Food group driven.

GREAT JOB FINISHING ALL THE QUESTIONS, SUSAN!

Here are your results.

This chart shows you the foods you eat each day.

To be healthy, you need to get the right amount of foods from the different food groups. The shaded parts show you which food groups you need to work on.

Put this chart up where you can see it each day. Check it often to remind yourself what you should be working on.

The Foods You Eat Each Day.

		Servings per day	
	Food Groups	What you eat	What you <u>should</u> be eating
→	Meats, dried peas, and beans	less than 1	2 – 3
	Milk products	5	5 – 6
	Breads and cereals	7	6 – 11
→	Vegetables	2	3 – 5
	Fruits	3	2 – 3
→	Fats	4	Less than 1
→	Sweets	1	Less than 1

TO MAKE SURE YOU AND YOUR BABY STAY HEALTHY, YOU SHOULD:

<u>EAT MORE from the</u>:

Meats, dried peas, and beans group.
Foods in this group include: peanut butter, kidney beans, navy beans, black-eyed peas, peanuts, lean meat, chicken, turkey, fish, eggs

Vegetables group.
Foods in this group include: spinach, kale, corn, turnips, lima beans, string beans, cabbage, white potatoes, sweet potatoes, broccoli, carrots, okra, squash, collard greens, and mustard greens.

<u>EAT LESS:</u>

Fats and sweets.
Foods in this group include: soda, candy, cake, cookies, and doughnuts.

Proposed Client Printout Version 3

Questionnaire Results—Example 3:

Nutrient driven.

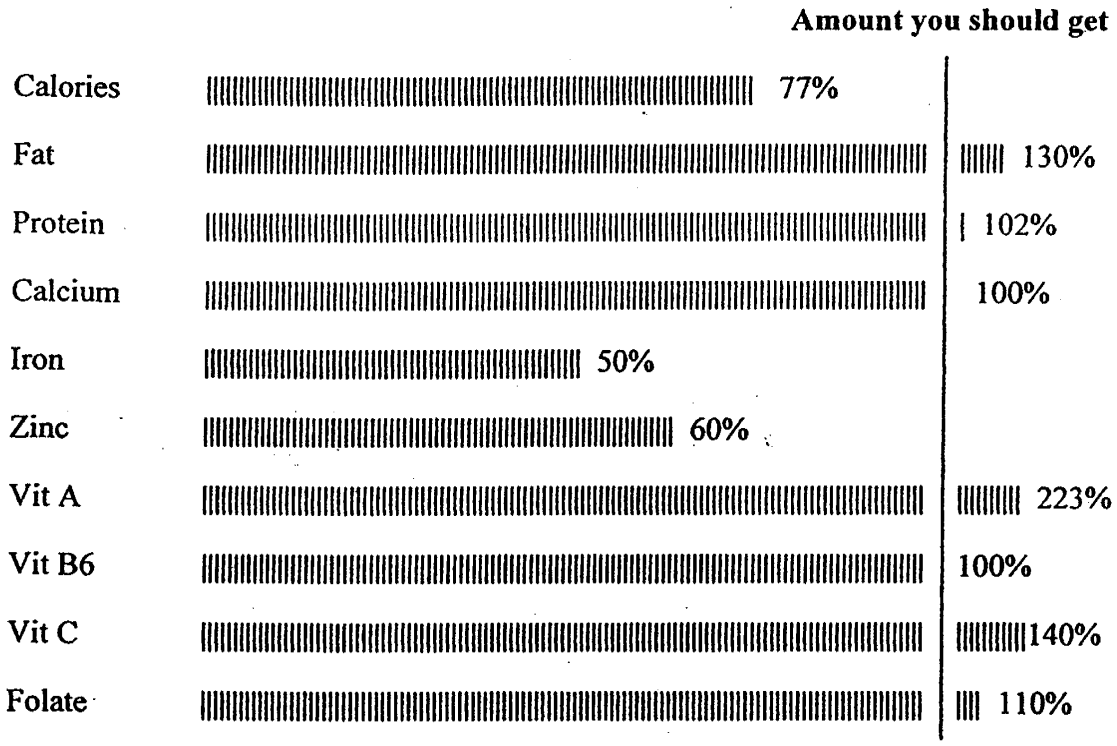
GREAT JOB FINISHING ALL THE QUESTIONS, SUSAN!

Here are your results.

Put this page up where you can see it each day. Check it often to remind yourself what you should be working on.

This chart tells you if the foods you eat are giving you the nutrients you and your baby need to be healthy. Nutrients are the things in food that the body needs to work correctly.

The shaded parts show you which nutrients you need to work on. Look below to see which foods you should add to your diet.



Get more calories.
Getting enough calories is important for your health and the growth of your baby. The easiest way to get more calories is to just eat more food. But make sure it's healthy food that includes a lot of fruits, vegetables, and grains (bread, rice, and cereal).

Get more iron.
Iron helps blood carry oxygen to all parts of the body. To get more iron, try to eat more lean meat, whole-wheat bread, soybeans, spinach, and liver.

Get more zinc.
Zinc helps the body get energy from the food we eat. To get more zinc, try to eat more lean meat, seafood, whole wheat bread, eggs, and liver.

Eat less fat.
Our body needs fat to work normally. But too much fat, especially certain kinds, can be unhealthy. Try to eat fewer fried foods and gooey snacks and desserts. These foods are often filled with the types of fat that are bad for you.

Proposed Client Printout Version 4

Questionnaire Results—Example 4.

Food group and Nutrient driven.

GREAT JOB FINISHING ALL THE QUESTIONS, SUSAN!

Here are your results.

Put this page up where you can see it each day. Check it often to remind yourself what you should be working on.

TO MAKE SURE YOU AND YOUR BABY STAY HEALTHY, YOU SHOULD TRY TO:

EAT MORE

food in general	navy beans	string beans
lean meat	black-eyed peas	cabbage
seafood	peanuts	sweet potatoes
whole wheat bread	lean meat	broccoli
eggs	chicken	carrots
liver	turkey	okra
spinach	fish	squash
chicken	kale	collard greens
fish	corn	mustard greens
peanut butter	turnips	
kidney beans	lima beans	

EAT LESS

soda	cake	doughnuts
candy	cookies	

03/14/2000

GREAT JOB FINISHING ALL THE QUESTIONS, Mary!

Here are your results.

The Foods You Eat Each Day

Food Groups	Servings per day What you eat	You should eat at least
==> Meats, dried peas and beans	1	3
==> Milk products	1/2	2
Breads and cereals	6	6
==> Vegetables	2 1/2	3
==> Fruits	1	2
==> Sweets	3	No more than 2
==> Fats	5	No more than 3

PERCENTAGE OF RDAS

Calories	Protein	Calcium	Iron	Zinc	Vit A	Vit B6	Vit C	Folate
78%	83%	35%	36%	39%	127%	55%	94%	83%

Total estimated calories 1960

CALORIE SOURCES

Carbohydrate	Fats	Protein
57%	31%	10%

Eat more of:

Eat less of:

Current Client Printout

04/25/2002

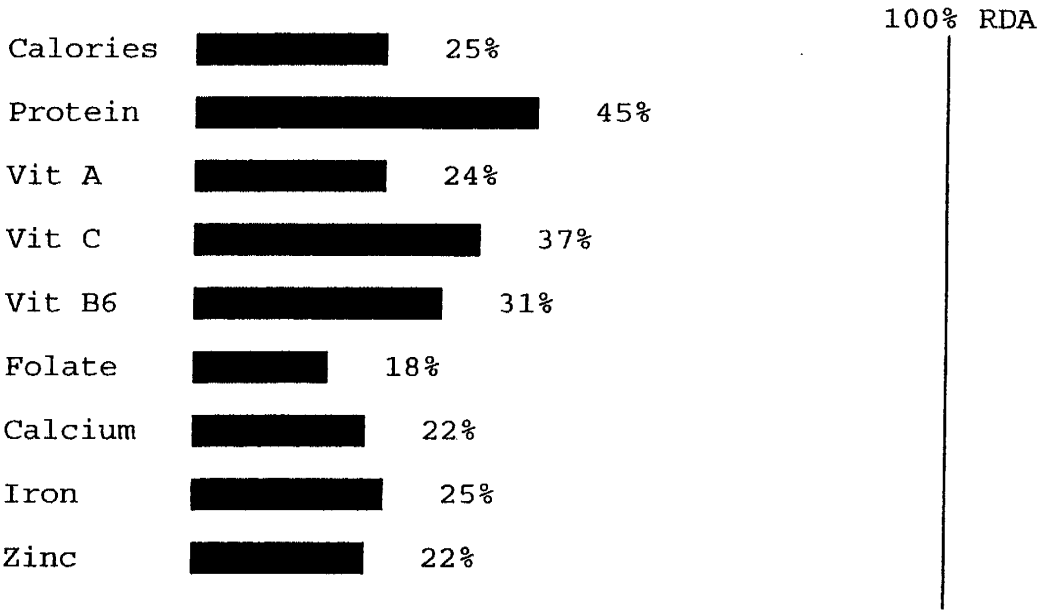
GREAT JOB FINISHING ALL THE QUESTIONS, test!

Here are your results

The Foods You Eat Each Day

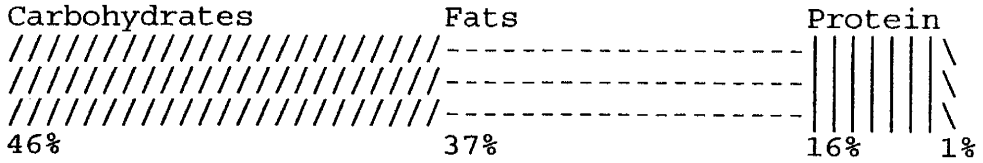
	FOOD GROUP	SERVINGS PER DAY: WHAT YOU EAT	YOU SHOULD EAT
==>	Meats and dried peas	1	at least 2.5
==>	Milk products	½	at least 3
==>	Breads and cereals	1	at least 6
==>	Vegetables	1	at least 3
==>	Fruits	1	at least 2
==>	Vitamin A-rich foods	½	at least 1
==>	Vitamin C-rich foods	½	at least 2
	Sweets	1	no more than 3

NUTRIENTS AS PERCENTAGE OF RDA



Total estimated calories 683

CALORIE SOURCES



Things to do:

Appendix C: Focus Groups

1. Focus Group Questions & Summarized Responses

Summary 1: Summary of North Dakota Nutritionist Focus Groups (March 1999)

Summary 2: Focus Group Q & A for North Dakota Nutritionists (March 1999)

Summary 3: Summary of North Dakota Interviews with Providers and Clients on the Client Printout (April 2000)

Summary 4: Focus Group Q &A for North Dakota Providers and Clients on the Client Printout (April 2000)

Summary of North Dakota Nutritionist Focus Groups

Date	Groups	Numbers
3/15/99	1, Fargo and Grand Forks	7
3/16/99	2, Cooperstown & 7 other counties & towns	8
3/17/99	3, Devils Lake & 5 other towns	3, weather
3/18/99	4, Bismarck & 4 other towns	10

(1) Purpose of the focus groups - - -use of the HSFFQ for nutrition education

- **Describe the nutrition education or counseling you currently provide.**
- **Do you use the HSFFQ printout for nutrition education?**

Summary of focus group responses

ND dieticians do both individual and group counseling. They use the HSFFQ printout for individual counseling, along with several nutrition handouts. Some dieticians write or circle items on the handouts to personalize them. They often use the FFQ and its printout to clarify dietary intake.

(2) Focusing on the use of the printout of the diet analysis for nutrition education, what information do you usually use first? Why?

Summary of focus group responses

Clearly the calculation used first by most of the dieticians is the servings per day by food group. Some first checked the estimated calories to assess if they were in "the right range". Some stated they use the food group servings per day first because it determines some of the risk categories. They also use it first when doing nutrition counseling.

(3) What information from the diet assessment do you use the most for nutrition education? Why that information? How do you use it?

Summary of focus group responses

The calculation used most is also the servings by food group per day. Again, it is used the most because it is used to determine risk categories. It also reinforces the nutrition education that is focused on the food pyramid. One dietician draws the pyramid on the printout and shades in the servings by food group as determined by the FFQ for each client.

(4) Is there currently information on the printout that you do not use for nutrition education? If so, what information? Why is it not used for nutrition education?

Summary of focus group responses

All four groups reported they do not use the 2nd page of the printout as often as the first page and suggested having an option to print it or not. Some use it as an error check for themselves, others use it to review the diet at the next visit (the printout is part of the record). Several of the nutritionists use it to check on the frequency reported on juice as the clients tend to report high juice consumption and this sometimes fills the fruit category. Some use it to identify foods eaten that are high in fat or sugars. Everyone liked having the information from the questions on the fourth page of the FFQ on the printout

Now we will focus specifically on each category of information.

(5) The top two lines provide client information such as the age and for women her status related to pregnancy. Do you use this information when doing nutrition education? If so, how? What, if anything would you want to change in these two lines? Why?

Summary of focus group responses

There was agreement that the age and pregnancy status calculations were particularly helpful. All of the information in this section is used. Some did not realize that this information is necessary to link the nutrition and certification data and therefore were not careful in entering the information.

(6) Do you use the mean servings by food group for nutrition education? If so, how do you use it? What, if anything would you want to change in the mean servings by food group category? Why?

Summary of focus group responses

Several nutritionists suggested that the calculations for the food groups be put in the same sequence as the risk codes (move bread and cereal after Vitamin C)to make data entry easier. Suggestions for other food group calculations were; sodium, cruciferous vegetables, whole grains, folate, amount of protein from milk alone, vitamins D and E, and fiber. Several asked if the recommended number of servings (or the food pyramid) could be on the printout. There was general agreement that the bread and cereal group often come up low and thought it may be because the portion size on pasta was too small and the clients use pasta such as plain noodles, but do not count it when it says "pasta with sauce".

(7) Do you use the information on the number of food items selected? If so, how do you use this information in nutrition education? What, if anything, would you want to change about the report on number of food items selected? Why?

Summary of focus group responses

This calculation is used by a few of the nutritionists to discuss variety in diet, others never or rarely use it. One nutritionist suggested that if the variety in the diet were a risk code it would be used. (This question did not generate any discussion in any of the groups).

(8) Do you use the graph on nutrient density when doing nutrition education? If so, how do you use it? What, if anything would you want to change in the use of nutrient density for nutrition education? Why?

Summary of focus group responses

There were many comments on the bar graph. All agreed they liked having this visual for themselves and some liked it to use with clients ("it really pulls them in"). They said the information was not credible if not in the "correct calorie range" and one suggested it should only be printed if it falls in the correct range. Several said they use the iron, zinc and folate calculations the most. They suggested truncating the percentages so they didn't go so high compared to the recommended. Several said the nutrient density was too hard to use, they would prefer the RDA. Two focus groups had long discussions on the use of nutrient density versus RDA with some supporting each.

(9) Do you use the information on estimated calories when doing nutrition education? If so, how do you use this information? What, if anything, would you want to change about this information? Why?

Summary of focus group responses

The estimation of calories is used primarily as a global check on the "accurate" completion of the FFQ and to determine whether or not to use the bar graph on nutrients. One nutritionist suggested we include recommended number of calories on the printout.

(10) Do you use the information on mean servings per week by food in your nutrition education? If so, how do you use this information? What, if anything, would you want to change about the listing of mean servings per week by foods? Why?

Summary of focus group responses

There was general agreement that the servings per week of individual foods are not used much, but they are necessary in some cases. (see question #4). There was agreement that it would be useful to have the information on page 4 of the FFQ printed (and therefore in the record). They also noted that if they did not have page 2 printed (servings per week by food) they could not tell if counseling worked as they counsel on foods. They do use page 2 if they need to use cruciferous vegetables as the risk code.

(11) Now I would like you to look at the whole format of the printout. What, if anything, would you want to change? Is there any information you would like added? Or deleted?

Several changes were suggested:

- add a third food in the example at the top of the page (cheese per week)
- several nutritionists said they want the bar graph with percent of calories from protein, carbohydrates, and fats as they had before on an earlier version of the printout
- reorder the foods into meals (breakfast, lunch, dinner foods)
- food list changes included, take "with sauce" off pasta, combine the two bean categories, combine bacon and sausage, delete mixed vegetables, add pears, combine pork and beef, combine two candy items, delete "other juice" (too many juice items), move orange below banana or grapes, consider adding Kiwi.
- have questions on family eating together (ask questions on where they eat as some only eat one meal at home), ask where else they eat
- separate the fats by kind
- use "month", not " four weeks", for the time span

(12) Do you think it would be helpful to send a printout of some kind home with the participants?

(Show some examples)

Summary of focus group responses

There were many very useful comments on the four examples of client printout. There was agreement that a personalized client printout would be useful and some sites said they would be glad to pilot this effort. The comments on the four examples were forwarded to Hank Dart, a health educator, to use to develop a client printout to pilot.

(13) What training, if any, would you like to have?

Summary of focus group responses

There was agreement that the FFQ is so easy to use that there is no need for further training on it, but instead they would like opportunities to discuss how the information from the FFQ is currently used and other potential uses.

(14) Present the Missouri printout for comment on the changes that have been made that are not yet on the ND printout.

Nutrient density VS RDA

Summary of focus group responses

There was agreement that the percent of RDA would be useful. An assumed diet for children in day care or Head Start would also be useful. They would like the kind of milk taken into consideration in the analysis and would like the fourth page information on the printout.

(15) Are there other comments you would like to make?

Summary of focus group responses

This question generated discussion on several issues that had come up before on earlier questions. Some of the subjects included in the discussions were: the calorie distribution bar graph, how to get a day care diet assumption, using the direct entry version of the FFQ, use and storing of fourth page information, frequency response reversed (day, week, month), and one agency wanted the number of pregnancies each client had when on WIC.

Focus group Q & A for North Dakota Nutritionists

Date	Groups	Numbers
3/15/99	1, Fargo and Grand Forks	7
3/16/99	2, Cooperstown & 7 other counties & towns	8
3/17/99	3, Devils Lake & 5 other towns	3, weather
3/18/99	4, Bismarck & 4 other towns	10

(1) Purpose of the focus groups - - -use of the HSFFQ for nutrition education

- **Describe the nutrition education or counseling you currently provide.**
- **Do you use the HSFFQ printout for nutrition education?**

Group A:

-do both individual and group education, all nutritionists participate, (Fargo) groups on breast feeding
-use the FFQ and printout for individual education
- "I think just doing the FFQ is nutrition education"
-we use several nutrition handouts as well

(1) **Group A**

- usually individual counseling, some do groups, split it up to do groups
- we usually do only individual
- we use the FFQ and printout when doing the individual
- we use the FFQ to clarify with the parent, especially if the printout doesn't look right
- I go through the back page with the parent

Group B:

- individual & sometimes family, but not usually groups
- "I use the printout to see what they are low in"
- "this shows you are having meat once a week, is that accurate?" - use the FFQ to check intake
-I use the printout and FFQ to review their intake
-" I don't use the whole printout, often fold the bar graph over as it doesn't serve my cause sometimes"
- Would you go back to pre-FFQ?
  - no, it (FFQ) really helps me to talk to the moms
  - often it is the client who is forgetting, it is not the tool - I never show it to the client, I use it for myself. It is good for me.

-" it (ffq) doesn't work for learning disabled persons"
- "I find it difficult for the 1 year old"
- "I use it to show how the 1 year old should include more foods"

Group C

1. we do only 1 on 1 education, use the FFQ for review of diet and nutrition education, talk about good points first then identify what they need to work on, what client would like to work on first
-I do not use the second page very often

(1) **Group D**
nut educ
- do primarily one on one with the FFQ and printout, but do group teaching on specific nutrient

Distribute a printout.

(2) Focusing on the use of the printout of the diet analysis for nutrition education, what information do you usually use first? Why?

(2) **group A**
- I first look at number of servings per day because we use for risk category
- we also use that first for nutrition counseling
- sometimes look at calories first because that flags if it is a good FFQ

Group B:
-I use servings per day
- I first look at calories to see if it is accurate
- I never look at that number, didn't even know it was there
    - if we go over how to fill it out, the information would be more accurate, we send it home and they don't take the time to fill it out, sometimes they just fill it in fast in the office while I ask other questions
- one (out of 8)of the nutritionists used the servings per week, others did not
- it would help if the pyramid was next to the servings per day -"I draw a pyramid for each and shade in what they have done", I would then use only the foods per day

Group C
2. Three said they used the calorie calculation first, to see if calories are in the right range, then looked at the \number of servings per day

(2) **Group D**
first
- calories first to see if in line, then servings/day
- most look at servings/day, but 3/8 looked at calories first
- usually use the FFQ and printout together, but some field sites they do the certification at the 1st visit and diet at the next

(3) What information from the diet assessment do you use the most for nutrition education? Why that information? How do you use it?

(3) **group A**
- servings per day
- don't use servings per week, maybe use for vit A

Group C
3.they don't use the servings per week very much, use the graph a little but not much
- we would probably use it if it were just the RDA
- discussed whether the social security number needs to be on the printout or could it be in computer, but not printed
-

(3) **Group D**
most

- servings/day

(4) Is there currently information on the printout that you do not use for nutrition education? If so, what information? Why is it not used for nutrition education?

(4) group A
- rarely use the back page
- sometimes use for juice, because report
- high sweets and high fat I use back page
- I don't use back page, I go to the green sheet (FFQ)
- I like to go back and show them how to fill out the green sheet (FFQ), use the printout to focus on the data, I keep the printout in the chart
- I would use the 2nd sheet if we had this (4th page data) on the bottom
- to me the 2nd page doesn't add much

Group B
Not use - - -
- one never uses the second page, others use it sometimes
- use to use the second page a lot, but not so much any more
- I use it to see if I made an error
- I use it to review the diet
- no, I use the FFQ then she knows it is what she said
- I guess we use it all at some point
- I would like to have the option to print the second page or not

(4) Group D
don't use
- servings/week, some use servings/week for vitamin A
- don't use 2nd page very much, do use the check on the juices because they report a lot

Now we will focus specifically on each category of information.

(5) The top two lines provide client information such as the age and for women her status related to pregnancy. Do you use this information when doing nutrition education? If so, how? What, if anything would you want to change in these two lines? Why?

(5) group A
- I like all of that
- the age is really helpful
- we don't have ID#, but we have SS#
- many times the mothers don't have the SS# so they need to look it up, this takes time
- I will sit down after a class and enter all the NDakotas, I look them all up as they are useful if I want to look them up again
- I usually rip the social security number off this (FFQ) so they can be discarded

Group B
-the social security number is a problem as we need to look it up, sometimes I just make up a number
- I use all nines, isn't that what we are to do
- it is hard to use the social security number, I tear it off the FFQ to maintain confidentiality

- mothers don't know the number so they leave it blank
- the age is really useful, it is right there, really useful
-this is better than on the certification

(5) Group C
top 2 lines
- the top two lines are really helpful, especially the age
- could leave the social security number off the printout
- the pregnancy status is very helpful

(5) Group D
top 2 lines
- like the age, really use this and the pregnancy status
- we don't have ID number, we use social security
- social security is really not a problem, the drivers license is usually the same
- parents often don't fill it in so I need to go look it up
- it would be handier if I could look up by name instead of social security
- I sometimes don't fill in the last name
- if I can't find the ss# I put 9s in

(6) Do you use the mean servings by food group for nutrition education? If so, how do you use it? What, if anything would you want to change in the mean servings by food group category? Why?

(6) group A
- nice to have the 501, then 502 (put in order of risks)
- maybe sodium, too - can computer calculate the cruciferous vegetables
- maybe also the whole grains
- number of servings of folate would be good too, but with fortified it isn't such an issue
- can the multivit be included on the printout? we gather the fourth page, sometimes I rip it off and put it in the chart
- breads and cereals seems to be a problem, it almost always come up low - clients ask where is just noodles or pasta without sauce
- the breads & cereals are undercounted when we check, it seems they have whole cup of pasta but it is marked as one
- we have to teach servings before they do this, they don't give themselves credit for all they give their child
- they check every vegetable one time a day so its really high
- mixed vegetables would be better left off because they count each vegetable in the mixed vegetables once (others agreed with this)
- pears is really common here, mandarin oranges and fruit cocktail used too
-filling this out is nutrition education itself, the 24 hour recall is the same thing all the time
- I use the actual sheet (FFQ) to counsel to use other vegetables
- they want to know the specific vegetables to eat
- can the pasta be without sauce? we would get those in pasta salad and plain
- why can't the beans all be together? they think of them all together
- could the pork and beef be in one category, most don't eat a lot of this anyway
- can bacon and sausage be together? they eat one or the other
- can the candy be combined?
- there are so many juices on this, the "other juice" is often left blank
- the "other juice "throws me off when entering
- Sunny delight is used a lot

Group B
-I would like them re-ordered to fit the risk categories
- could you specify the amount of protein from milk
-it would be good to indicate + or - if they met the pyramid minimums or not
-I would like the vitamin d and e added to the list

(6) Group C mean servings per group
- there are other risk codes that would be helpful, would like fiber on there
- cruciferous vegetables is a risk code, but only used rarely and may not stay, not that important
- don't use the sodium, don't have codes for vit D or E
- move breads after the vit C in the list

(6) Group D
food group
- reorder so the bread and cereal after the vit C
- folate flagged if possible
- would like the recommended next to the per day
-

(7) Do you use the information on the number of food items selected? If so, how do you use this information in nutrition education? What, if anything, would you want to change about the report on number of food items selected? Why?

(7) group A
- sometimes with pregnant moms who aren't eating very well
- I don't use the a lot
- 3 or 4 never use it

Group B
-I use it for young children especially, to encourage variety, if my message for the month is variety I use it more

(7) Group C
items selected
- one rarely used it
- one uses it if it is a low number, would like a risk code for limited diet, they use what they have a risk code for
- would need to set the number for adequate variety of foods

(7) Group D
Items selected
- rarely use this
- sometimes I use this to reinforce using more foods

(8) Do you use the graph on nutrient density when doing nutrition education? If so, how do you use it? What, if anything would you want to change in the use of nutrient density for nutrition education? Why?

(8) group A
- if calories are in right range I use it
- could it not be printed if not credible because the calories are wrong
- I key in on the iron
- if it could be more accurate I would use it

Group B
- some did not know how to use nutrient density, so they had a discussion about this
- I use the graph especially for iron and zinc, the usual is really helpful
-they discussed the bar graph and how they interpret the percentages
- one didn't like the percentages to go so high, wanted it truncated so as not give the mom a wrong impression
- could the computer print the recommended calories for the age of the child and pregnant woman on the form? The printout has more authority than just saying it sometimes.

(8) Group B
like to use the graph as a visual

(8) Group C
nutrient density
- I don't use it very much because it is linked to the number of calories, it doesn't work if the calories are low or high
- I use it to code for the iron and folate, otherwise I don't use it

(8) Group C
nutrient density
- I like the RDA percentage, the other one doesn't mean anything
- doesn't matter if it is vertical or horizontal
- would prefer for it to look like the one on the client printout example

(8) Group D
nutrient density
- only use if the calories are on, would really be useful if it was
-clients really like the graph, it really pulls hem in, I would really like the actual
-occasionally I use it when the protein is OK but the food groups show little meat I can see that it is from milk

(9) Do you use the information on estimated calories when doing nutrition education? If so, how do you use this information? What, if anything, would you want to change about this information? Why?

(9) Group D
calories
- using this information, could we put the recommended on here too

(10) Do you use the information on mean servings per week by food in your nutrition education? If so, how do you use this information? What, if anything,

would you want to change about the listing of mean servings per week by foods? Why?

(10) group A
- top part is useless, but I would use the bottom (4th page data)
- I do use it to look at the juices selected
- I don't generally use the second page
- we have required care plan so the "things to do" is there, could we use this instead?
- if we don't keep page 2 we don't have anything to see if they changed their eating, if the counseling worked

(10) Group C
2nd page
-servings per week by food is not used much

(10) Group D
2nd page
- if I need to use cruciferous vegetables for a risk code I go to the second page

Now I would like you to look at the whole format of the printout.

(11) What, if anything, would you want to change? Is there any information you would like added? Or deleted?

(11) group A
- can we add another food in the example, add cheese per week as example
- even if they seem to get it, they do it wrong (maybe 25 percent), but they do it right after that
- do we have to use the whole month, would a week be okay - when I was in school we had to keep track for a week and we didn't like doing that
- could we ask where else they were eating when we do the dietary, some only eat one meal at home
- parents just say they eat well if at day care
- I think we need a month because they get food stamps and eat differently
- could we separate the fats? we don't really have time to address the fats, maybe good for you in research
- would like calorie from sources back on the form
- I look at calories from milk and juice versus foods
- the printout carries more credibility with the moms
- calories from sources - moms don't admit to alcohol

(11) group B
- would like the third page by food group, easier to use, to see the foods in group eaten
- put it in order of meals would be better
- bread, butter and peanut butter near each other
- put eggs, sausage, bacon near each other
- spaghetti and noodles are eaten without sauce
- combine the beans, they don't differentiate
- many check the first two columns, would like to see each day, each week, the last month
- I tell them to do it backwards, start with what you eat each day
- use moth, not four weeks
- if mother is breast feeding and using whole milk in the bottle, which do you check?, can we enter both

(12) Do you think it would be helpful to send a printout of some kind home with the participants?

(Show some examples)

(12) **group A**
- client isn't involved when we go over the chart
- it would help to have this information(4th page) on the form
- would the auditors know where to find this information
- if we write the "what to do" with the client it would be a point of education for me and the client
- if clients transferred to other places it would be helpful
- could use to see progress for a client, I suppose we could train the auditors to use this sheet

(12) **group A**
- would be all over our parking lot (handed out examples)
- I'd rather see something for the client instead of the 2nd sheet, put the information from the 4th page on the first page
- this is really nice (looking at examples)
- these are specifically based on the client, we could hand it out or not
- would our computers be able to do this
- I like this for some clients
- don't' think two servings when they have a sandwich, they only think one time
- the pasta serving is a problem because they eat it without sauce
- directions, do we write them
- we have the airbase and college students and I think they do it right
- could we include the day care meal as the moms don't always know, need to know the number of days (discussed daycare and Head Start meals)
- I send two FFQ's and ask mom to get one done at day care (small numbers)
- the assumed food at day care is a great idea
- some families never eat a meal together
- you don't even know where to begin
- it is really difficult when you have teens
- a question on page four would be a good counseling question, have you seen the commercial on this
- if parent wants to do this (eat together) they could, but they just cop out
- we have several other ethnic groups (refugees) so we can't use the FFQ with them
- is venison on there? (yes)

(12) Group B
things to do
- it is like a contract, that would be good, it is like our care plan
-eating habits would be good to address, like "How often do you eat as a family?"

(12) **group B**
- we would find them in the parking lot for some (not many)
- usually send some education card, try to write or circle items on some handouts
- examples, I don't think my women would understand the nutrients, we try to give one message, we could circle the area to work on
- they (women) would like to see the information they gave us used
- example four is straight forward, simple, circle foods for them to work on
- like the first one, too, but it is wordy
- the reinforcer is nice, e3specially for moms who are really trying
-would you do this if mom has three kids

- I'm not sure we should have anything about calories because we need to take into consideration her weight
- could the computer take into consideration her height and weight and adjust this
- I don't like it to say not getting enough calories, it means from good stuff, not just calories
- this really says we did something with the questionnaire they filled out
- I like the option to print out or not

(12) **group B**
- it is like a contract, that would be good, it is like our care plan
- eating habits would be good to address, like "how often do you eat as a family?"

(12) Group B
printout to send home
- we would find them in the parking lot for some (not many)
- usually send some education card, try to write or circle items on some handouts
- examples -- I don't think my women would understand the nutrients, we try to give one message, we could circle the area to work on
- they (women) would like to see the information they gave us used
- example four is straight forward, simple, circle foods for them to work on
-like the first one, too, but it is wordy
- the reinforcer is nice, especially for moms who are really trying
- would you do this if mom has three kids
- I'm not sure we should have anything about calories because we need to take into consideration her weight
- could the computer take into consideration her height and weight and adjust this
- I don't like it to say not getting enough calories, it means from good stuff, not just calories
- this really says we did something with the questionnaire they filled out
- I like the option to print out or not

(12) Group C
<u>client printout</u>
- I like this one that has the foods listed (example 40, the clients need the specific foods, not the other information
- I would highlight the foods they could eat
- we may need to encourage some moms to just eat more, may combine example one and four
- for me I like example three
- don't need the nutrition message up top "to be healthy -----"
- combine page 1 (the groups) and the specific foods
- like the bottom of the second page, we talk about the pyramid, that would be good
- could we combine page 2 (the bottom) but group it like on example 1
-graphics are nicer, some kind of visual is much better, too many wods otherwise
- would use the printout for most clients but need to tell them what foods she should eat
- some depends on if she is gaining appropriate weight or not
- example one has too much writing, it would be in the street
- I like the graph in example 3 for us, it has more things (fat is added), it looks better, for a particular nutrient I would show this to a client
- would like the option of printing one, two or all three pages

(12) Group D
<u>client handout</u>
- we would want to choose which clients to give the handout
- it would be good for children too - we should give them the results of what they did
- they might be more careful with the FFQ

-it may stimulate more questions
- I think the clients read all of the materials we give them
- if we write their name or put circles or checks on the education materials
- first example is too wordy, just give the specific information
- (2nd example) would they know which foods to eat, could we add the foods more clearly, it tells them why they need zinc, this is real visual
- could example 2 be made more visual, put it into a bar graph
- (example 4) too simple, doesn't give enough information, doesn't look like it is personalized. They would all look too much alike -- not useful as the women would see them as alike.
- choose one - 3, 2, 2 with bar, 2, 3, 2 with why & graph, 2, 2 with why
- should we keep a handout for us in the file
- could this be your care plan, you could use this as your nutrition contact

(12) Group D
<u>client handout</u>
-we put information in the care plan, so to fill in the "things to do" would be a duplicate information
- clients go into all the work to fill the FFQ out, it would be nice to give them something back, they think it (FFQ) goes into space

(13) What training, if any, would you like to have?

(13) group A
- I find when we get students they can pick these up and in one day
- its pretty basic
- when I was trained, I filled one out for myself and then it was easy
- the college students think so hard on this to do it right
- it is easy to enter into the computer
- our receptionist did the direct entry for herself, I don't remember how long it took her

(13) Group C
<u>training</u>
- would like a facilitated discussion about these forms, fun to discuss how we use this (other groups did share a lot about how they use this)

(14) Present the Missouri printout for comment on the changes that have been made that are not yet on the ND printout.

(14) group A
- so this is the RDA in their diet
- so they are getting 33% of calcium from what they are eating (discussed the problem of over estimation issue)
- this is what they see on the foods, this is what we teach
- this is like a score card, if getting 71% of folate that isn't too bad
- could you put the standard on the form for each group? so she knows the amount of calcium she is looking for
- I tell her to look at the percentage, not the grams
- can they use this, it is too difficult for some of our high risk clients
- we use the pyramid in counseling

(14) group B

- this (RDA) is what we use, would like the recommended on there
- RDA is the way we think
- Karen doesn't use the nutrient density at all, but would use RDA
- Theresa would like RDA, (All agreed RDA would be better)
- we think everything should be perfect, but we didn't get that before, the moms could not tell us amounts

(14) Group D
nutrient density vs RDA
- I like the RDA as that is our recommended amount
- the bar graph is really helpful, clients would like this
- can it look like the nutrient density graph
- this would validate their check off (FFQ), clients would see we use this
- polled, all but one wanted RDA, two thought both are valuable, the RDA for counseling and the density for me

(15)Are there other comments you would like to make?

Group B Caloric distribution
- some remembered using the calorie distribution bar graph for a short time, liked using it and wondered where it had gone
-I used it for fats especially when that was the focus, now everyone is focused on high protein diets, all over the TV

(15) **group B**
- children in daycare is a problem, mothers don't have a clue
- would like to have an assumed portion for # of days in daycare
- yes, the kids eat what the other kids eat at day care
- would we need to know if the day care is on the food program? would it matter if they were licensed?
- if you don't live in your day care, you can't get food program - or if you are for profit

(15)Group C
calorie sources
- it used to be there, some have it and some don't, we don't know where it went
- I use this information with delivered moms and older children
- I don't think the recommended needs to be there because we know the recommended
- the "other" category - few moms admit to drinking alcohol - discussed the direct entry vs paper form and response rates
- Fargo is looking at the direct entry, but don't have it set up yet
- looking at new computer program for certification where we will document nutrition education
- New Mexico has this, adds a page to the certification file

(15) group C
4th page data
- I really like the fourth page data on the bottom of that page like on this one
- we could highlight the problems and go back to it the next visit

(15) Group C
format
- would like to have the 4th page data on the front page, never reuse the second page
- some questions on the fourth page are narrative, would need to write it in
- less need to write by hand, the better

-some of the questions on the 4th page are really used for the certification data, use this to collect data for certification, now this information goes into the certification data base
- when entering this information switch from certification screen to the FFQ, use a hot key to go back
- we use the 4th page to do our health history
- we always tear the 4th page off and put it in the record because the chart on all the pregnancies can be a lot to enter, we could make this part of the care plan instead

(15) Group D
other
- the clients don't consider the plain noodles or spaghetti because it says sauce
- can we include fiber on this, it is one of our risk codes, too
- move orange below banana or other fruit as is confused with juice
- consider kiwi
- put fresh or canned for fruits and vegetables

(15) Group D
4th page information
- I would really like this because the green (FFQ) is discarded and we loose that information
- I feel guilty when this information is discarded, like stress or special diet - it won't be there for the next person who sees her
- would like this and a comment line
- day care and head start assumed diet would really be useful, mom doesn't know
- my staff would like number of previous pregnancies on WIC

(15) Group D
calorie distribution
- I really like using this, clients like to see this
- nobody admits to using alcohol, we know some use alcohol
- other category doesn't matter one way or other
- one would think it would be a really good tool when alcohol was used
-could we use this for juice, they really use a lot
- separating the fat would be good for the high risk women

15 Group D
(Move to comments on FFQ)
- mail out the FFQ before the appointment, probably 75% come back filled in right
- mailed are probably more accurate as they probably are not as rushed
- we tell them to fill it in backwards, start with per day, then they see how to fill it out
- that's a good idea, I will do that too
- perhaps we should pilot this some where to look for over-estimation
- reinforce - only one X
- could the program let in the kids under 1 year, I put in a false date to get them in
- one Head Start nutritionist also puts in a false birthday for kids 5 years old so she can use the program

Are there any other comments you would like to make?

Summary of North Dakota Interviews with Providers and Clients on the Client Printout, April, 2000

Four sites in North Dakota piloted the client printout for approximately one month prior to the collection of the following feedback from WIC providers and clients. This is a summary of approximately 5 hours of feedback from 12 nutritionist providers and 5 hours of feedback from 16 clients. The interviews were done in small groups at the four sites.

At all sites the client printout was distributed to the women one month after completion of the FFQ. The one month period between completing the FFQ and receiving the printout was not a concern for either the clients or providers. Four of the clients said the printout was not a good indication of what they usually ate because when they did the FFQ they were in early pregnancy and had "morning sickness all day".

The providers reported they liked the client printout and would use it for all clients except those with developmental delays or language issues.

The attached example of a client printout was distributed to the group participants and the attached lists of questions for providers and clients were used to guide the discussions.

Food Group

Most providers said they focus on the food group information on the printout as that is what they use the most in nutrition counseling. A few providers use the nutrients for "some clients", but expressed doubt that most clients would be able to use this information. The clients also reported that the providers mostly used the food group information, one group agreed the providers used "only this section" and two other groups gave examples of how the "low iron" was used at their individual visits. The clients were familiar with the food groups and could appropriately name foods in the specific groups. Client statements about the printout included: "I like this, I can see for myself (what to eat)"; "very useful as I didn't know if I was eating right"; "it helps me, this should be done for my kids, too".

The word "should" on the food group recommendations (per the food pyramid) was pointed out to clients and providers. One provider said the word "should" was "pointing a finger at clients", others looked for words to substitute like "try to eat" or "daily goal". However, none of the clients wanted to change it, although "recommended" and "try to eat" was suggested to them. One client summed up their group discussion with "should is best" and another said "I don't like 'try to' as it sounds like it really doesn't matter".

The number of servings from the pyramid raised questions from the providers about the recommended fat servings, as 7 servings or more is used to indicate a risk code in ND. The client printout currently indicates a recommendation of "no more than 3" servings in response to the recommendation of "sparingly" on the food pyramid. Providers indicated they thought 3 servings seemed "too tight" for pregnant women.

Percentage of RDA

The providers doubted that clients would know about or be able to use this information; the providers said they do not usually use it much to counsel clients but do use it for assigning risk codes. When asked if they thought that information should be deleted from the client printout, some groups said to leave it on as they thought it may be used more over time, while others said "I think clients would be lost with percentages, so leave that line off". Other provider comments in this area were: "I use the RDAs with clients if they are interested", "I fumble when I get to the nutrients as % of RDA", "Clients might use it if looking at fiber, if it were on there, because constipation is so common" and "I don't use that information so much now, but I like having it there so I can use it with some clients".

When asked, several clients reported they did not understand percentage RDA. At two sites clients responded to these statements by explaining RDA (correctly) to the other clients. A client said "(I'm) not sure what the RDA stands for, but it (printout) was helpful because my iron was low". When shown the client printouts with and without the bar graph, all of the clients preferred the bar graph. "(It's) a more visual thing, to see where you are at."

Calories

Providers said "We use calories to see if they are eating enough, everyone knows calories, so keep it on there". Clients also wanted to see estimated calories even if the providers did not focus on this in nutrition counseling. The clients wanted to have the recommended number of calories in pregnancy on the printout.

Calorie Sources

Most clients had little to say about calorie sources. One client said this had the most meaning for her as she was in athletics and the coach told her to eat about 30% in each of carbohydrates, fats and proteins. Others had heard of high protein and high carbohydrate diets on the television and found this interesting, but did not know what percentage they should have. They wanted the recommended amount on the printout. The providers agreed that it would be helpful if recommended percentages were on the printout and suggested that perhaps a range for carbohydrates, fats and proteins could be suggested for the various ages and pregnancy status categories. One provider said "They hear so much in the media about percent of fat in diet, I think we should include this."

Eat more / eat less

Providers and clients were in agreement that it is helpful to have a place to write specific food recommendations. It was suggested to title the section MY PERSONAL GOAL and to move it down on the page.

General Comments

Providers thought perhaps as many as half of the printouts "would go into the garbage", but of the 16 clients interviewed, all but 2 knew exactly where their copy was. Several said their printouts were in a red folder that had been provided by WIC, others reported that their printout was posted on their refrigerator. One printout was still in the car and one was thought to be in a diaper bag. The provider who called clients to ask if they would participate in the feedback group was "surprised" that almost all of the clients knew where their printout was, even though this was the group of clients who had not discussed the printout with a provider as they had received the printout at a group education session or in the mail.

Both the providers and the clients requested a similar individual printout for children and asked how soon that would be available.

In general all providers and clients thought the client printout was helpful. Other client comments included: "when I filled it out (FFQ) I didn't do as good a job as I could have, I didn't know it was really for me - - like this is for me". Another said "when I got the printout I wished I could do it (FFQ) again." Another said " if I had known I would get the printout, I would have been more careful" (on the FFQ). The others in the group nodded their heads in agreement. One client volunteered that she only did the food questionnaire because it was required to get the vouchers.

April 2000 Focus group Q & A with providers and clients in North Dakota

Groups	Numbers
1, Valley City	**3 providers, 5 clients**
2, Fargo	**3 providers, 2 clients**
3, Grand Forks	**5 providers, 8 clients**
4, Harvey	**1 provider, 2 clients**

PART I

Clients:

1. How used printout and where is printout now?

Group 1

- "explained what I should eat or cut down"
- she had another copy
- diaper bag (1)
- folder (3)
- unsure (1)
- looked at it again and questioned if maybe she didn't fill out the FFQ as well as she could – questioned portion sizes as she eats large portions (1).

Group 2

- did FFQ 1 month before the printout, the next visit was fine
- [WIC provider] went through it with me, did not write on it- "more personalized".

Where did the printout go:

- "in the car" never looked at it again (1)
- "drawer at home" yes, did look at it once more (1)
- "more personalized"
- "I have changed a lot what I ate since I came here"

Group 3

- the printouts were sent home from the class or sent home with client, none gone through with nutritionist.

Where did the printout go:

- on the frig (1)
- didn't know, but everything was right on except too much fat (1)
- went into a book on pregnancy (1)
- folder at home (1)
- on the kitchen counter – brought with her to this meeting (1)

- on the frig – husband and cousins make her eat what it says – get "help" from them; "I look at it every day" (1)
- "At my moms- took it to her, we talked about it", neither mom nor client understand it (1)

Group 4

- just did the printout with WIC provider (I watched)
- "Shows me I need to eat more meat although we don't eat much meat"
- "I'll put it in my red folder, it is in the cupboard, I like the recipes so I will go look at it then."

2. Message at top or 1st line

Group 1.

- 1st line- giggles: "I didn't read it on mine" (none did)
- like name on it – "personalizes it"
- could move it to the center, not all caps
- could put it on the bottom
- no problem with the word "should"

Group 2

- personalized by using your name

Group 3

- "good it is personalized"
- "I think great job is good because I don't like filling out the questionnaire"
- "recommend, maybe" [to replace "should"]
- "I don't think 'try to', it sounds like it really doesn't matter"
- "I think 'should' is best"

Group 4

- no preference to use "Thank you"
- no problem with the "should"
- 1st. sentence – motivates you to answer all the questions even the vegetables
- no problem with "should"

3. Percentage of RDA

Group 1

- Easier to use the bar graph, its clearer, useful but I don't know where to get B6.

Group 2

- "not sure what the RDA stands for but it was helpful because my iron was low"
- "my iron was low, but my hemoglobin was fine"

Group 3

- one asked about the % and another client explained it (correctly)
- I showed the graph [Dr. Gardner]: all preferred the graph, "more visual thing, to see where you are at"

Group 4

- % you are supposed to have – she knew the RDA
- preferred the graph to line on nutrients

4. Food group

Group 1

- Mostly looked at the food groups because we were directed there.

Group 2

- Food groups make sense to both

Group 3

- would like to have portion size because I drink a large glass of milk.
- "I like this, I can see for myself"
- no problem knowing the food groups

Group 4

- portion sizes – would like to know what is a serving
- would use the food groups more than the graph, but would like the graph as line

5. Calories

Group 1

Group 2

- I don't now how many calories I should get.

Group 3

- "nutritionists don't talk about it [calories]"

Group 4

- wants the calories as some people would use it although she would not.
- use the line vs. the graph on calorie distribution.
- yes, showed me I need more [calories] now.

6. Calorie sources

Group 1

- calorie sources had no meaning to 3, but one really wanted that and said she would like to do the FFQ again as she would do a better job – she was in sports and was told what % of diet should come from carb & fat (30 % each).
- had heard about the high carb diets or the high protein diet so this is interesting.
- graph did not help unless it said was recommended eat more/eat less
- not used with nutritionist
- would be helpful to have it written on.
- if she or the computer writes it for me I would use that information.

Group 2

- showed the bar graphs [Dr. Gardner]– "I like that a lot better (bar graph) I can understand it when I see that"
- "These are not so useful, what should the numbers be?"
- "I don't like this graph"- not necessary

Group 3

- "don't use it, doesn't mean anything to me"

Group 4

- "yes, I'm high in fat so I need to choose different food"
- preferred single line vs. graph

7. Eat more/eat less

Group 1

Group 2

- these are fine
- "I don't know which foods have vitamin B or folate, but I could write it down."

Group 3

- "they tell us, but it would be good to have it written"

Group 4

- likes the eat more/eat less, better to write in vs. have all printed as too much to read.

8. General comments

Group 1

Will the printout help you change what you eat?
- I would try to change, it would go on the frig.
- might make a difference
- don't need more info

- "When I filled it (FFQ) out I didn't do as good a job as I could have, I didn't know it really was for me"- like this is for me .
- "When I got the printout I wished I could do it again."

Direct entry
- most preferred to do the FFQ at home

Group 2

- "So hard to remember what I ate, I couldn't remember everything."
- "I don't eat very well early in pregnancy, it would be better at 5 or 6 months."
- "I change my diet when I'm pregnant, otherwise I don't drink orange juice."
- "Now that I'm pregnant I get to eat fish even if my husband does not like it."
- "I fill out the questionnaire so I can get the vouchers."

What would you change
- like it like it is (for calorie sources) not the graph.
- what to eat in writing would help.
- "I think it would remind me what to eat."
- "A lot of women think the vitamin pill takes care of all of this."

Group 3

- "I did well, my sweets were low, just fats too high."
- "It helps me."
- "Very useful as I didn't know if I was eating right."
- "Should be done for kids, too."

What would you change?

- take off calorie sources and add the nutrient graph.
- "eat more of/eat less of should include the foods to get more vitamins"
- "It would be good to do this, say in January, and then again in March because in January I couldn't eat very much."

Group 4

Would it change what you ate?

- yes, it is a reminder for me.
- would like it for her children.
- probably, helps remind me, more motivated.

PART II

Providers:

1. How used?

Group 1

- print out for all pregnant women – for the next visit
- some go in garbage some go on the frig.
- "My two client have it on the frig."

Group 2

- have used the client printout for maybe 10-20 clients
- give out to all pregnant women who did the FFQ

Would it be helpful to do more than once?

- if they came in earlier in pregnancy it would be useful
- it is a clinic time factor to do it again, we haven't been great at doing it at 24-28 week, but we casually talk to the client
- it would be confirming for the client

- don't trust the breads because of portion size in spaghetti.
- I trust this tool now after you were here last year and told us about the testing.
- I use it differently, have changed how I use it, it goes back to portion size (no directions with client form)
- I concentrate on "this is the goal" in the diet, focus on food group servings, I use the top part.
- we don't always see the same clients every month
- we really focus on servings per day.

What do clients do with it?

- I don't know.
- "Probably goes in the garbage"

Group 3

- printout for everyone, all get printed at the same time, go in the chart, get given out at the 2nd visit when they are in the "Eating for Two" class.
- go through it and set an eating goal, just like we do with this (provider copy) but this one goes with them
- "When I called and asked them to come, they all had their copy, and I was surprised and that was without having used them at a visit"

- This group was not selected – just those who come to the class.
- Called 15 and 10 said yes; 8 out of 10 came, another called so only 1 no show.

Group 4

- only used for about a month
- "Like it a lot, I wish we had it for the kids, too!"
- would use it for everyone
- it is so easy to use, put in front of us and go through it, focus is on the food groups.
- like the rounded off
- ½ go in garbage, some go on the frig.
- "Last week a really young client was really very interested in this, I'd guess hers went on the frig."

2. Message at top or 1st line

Group 1

- sentence at top is good
- "Comfortable with the way it looks."
- "Should"– pointing your finger word, try to avoid it, "try to eat" (especially good in pregnancies)

Group 2

- "Should"– do the best they can without feeling guilty (see them each month)
- "I like the little personal statement at the top."
- would like it moved to middle of page and larger.

Group 3

- bring this down on the page more and add MY PERSONAL GOAL
- maybe softer then "should"- "try to eat at least"

Group 4

3. Percentage of RDA

Group 1

- I think the clients would be lost with percentages, so leave that line off.

Group 2

- wanted another explanation of the nutrient graphs
- I use the RDA only with some clients

- yes [the bar graph would be better], but we don't know what to do with this information anyway.
- I use the RDAs with the client if they are interested, but I'm not sure I understand it.
- I fumble when I get to the nutrients as % of RDA.
- clients might use it (nutrients) looking at fiber would be helpful because constipation is common.
- "This isn't as attractive as a colored food pyramid."
- keep it simple, maybe a pie chart.
- "This information is really important (nutrients) but it doesn't fit the rules we go by."
- "I think the nutrients are more for me than for the clients."

Group 3

- "% fat is over risk code, fat (on this sheet) seems a little tight for a pregnant woman."
- don't counsel frequently to lower fats.
- "don't think they will know this" [%RDA]
- "don't usually use it to counsel"
- "maybe if test them the goal is 100%"
- (told them the clients wanted the graph) [Dr. Gardner]

Group 4

- likes the nutrients as RDA with the 100% line.
- compared the nutrient graph to those used for school kids
- tests where they score compared to 100%.
- make the "s" on RDAS lower case.

4. Food group

Group 1

- looks good, we round anyway
- need the vitamin A and C rich food for our codes, but not for the clients
- did not see them [arrows], but will use them

Group 2

- would like the pyramid in graphic form
- rearrange the food groups
- food groups here are fine, we would focus on food groups.

Group 3

Group 4

- clients most interested in the food group – really only talk about this area so far.

- she writes the eat/more/less.

5. Calories

Group 1

- use calories to see if they are eating enough, everyone knows calories, so keep it on there.

Group 2

- if underweight this would help.
- "I don't want people counting calories."

Group 3

- "People are calorie conscious, I think it is helpful."
- "People know about calories."

Group 4

- uses calories a lot, write on hi, low, or OK.

6. Calorie Sources

Group 1

- more useful if had the "ideal" on the form.
- one never used this with clients.
- they don't make recommendations on sources.

Group 2

- from all they hear in the media about percent of fat in diet, I think we should include this printout for children.
- "Yes, it is an affirming thing for the mother."
- easier to have the results for them.
- helps us to make goals with clients.

Group 3

- "I like this" but would be good if the recommended was on there.
- "Could it be a range?"

Group 4

7. **Eat more/eat less**

Group 1

- liked the written lists of foods- better in earlier examples, easy to circle the foods.
- less white space, though keep some foods listed.
- if printed there I can just use less time.

Group 2

- "I sometimes write (eat more/eat less) sometimes they write it."

Group 3

- "Clients don't need the vitamin C, Vitamin A rich as they would be told which foods."
- "Recommended" too long- "daily goal".
- "Good to use the lowest number of servings so it is achievable."
- "In the class told them they could take notes here."

Group 4

8. **General comments**

Group 1

- one mom asked if we would have this for the kids.
- (had sheet that said 7 fats/day).
- clients really interested in having this.
- definitely want for the children.
- estimate that 5% can not do the FFQ.

Group 2

- "I like this because it is something to give them for filling out the questionnaire."
- if the mom is there by herself you can get through this better.
- did not see the arrows on the left.
- client said "this is a good reminder."
- "The more I use it, the more I like it."
- no other issues, it is very convenient, it is right in the chart ready to use– the certifier prints it out for us.

Group 3

- suggest other foods than pop.

Children

- Yes.
- Calorie sources range would need to change by age– increase fat for younger child.

Group 4

- Definitely need one for the children.
- Did not pay attention to the arrows.
- Liked the amount of white space, it doesn't look complicated.
- The directors don't use it much
- lets leave it [arrows] on as I think it is useful
- Good idea to show them a printout before they do it.

Appendix D: References

1. **Suitor CJW, Gardner J, and Willett WC.** A comparison of food frequency and diet recall methods in studies of nutrient intake of low-income pregnant women. *J Am Diet Assoc* 89:1786-94, 1989.

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3. **Blum RE, Wei EK, Rockett HRH, Langeliers JD, Leppert J, Gardner JD, and Colditz GA.** Validation of a food frequency questionnaire in Native American and Caucasian children 1 to 5 years of age. *Maternal and Child Health Journal* 3 (3):167-72, 1999.

A comparison of food frequency and diet recall methods in studies of nutrient intake of low-income pregnant women[1]

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Abstract The aim of this study was to develop a self-administered food frequency questionnaire for use with low-income pregnant women and to evaluate its performance in classifying women according to nutrient intake. Index nutrients used were energy, protein, calcium, iron, zinc, and vitamins A, B-6, and C. Two hundred ninety-five Massachusetts women, aged 14 to 43 years, participated in the field test of the questionnaire. A subset of 95 women provided three 24-hour diet recalls for use in comparative studies. Correlation coefficients between questionnaire and diet recall scores were adjusted for measurement error resulting from the limited number of 24-hour recalls per subject, and their confidence intervals were computed. When subjects with implausibly high energy scores (>4,500/day) were removed from the sample, reducing sample size by about 15%, correlation coefficients increased substantially (25% to 64%) for all nutrients except vitamin A. Adjusted correlation coefficients exceeded 0.5, excluding vitamin A ($r \sim 0.15$), and quintile comparisons indicated that the questionnaire would correctly identify a high proportion of the women having low intake of selected nutrients. We conclude that a self-administered questionnaire can provide useful data about individual recent intake of selected nutrients in a majority of English-speaking, low-income pregnant women, but that overestimation of food use may occur among up to 20% of this population. *J Am Diet Assoc 89:1786-1794, 1989.*

In 1985, the Committee on the Prevention of Low Birthweight identified nutrition as one of several areas needing attention in the nationwide effort to prevent low birth weight (1). Methods of dietary data collection that are efficient and valid could contribute to research efforts directed toward investigation of this health problem. The risk for having a low-birth-weight infant is higher among non-white mothers, teens, and mothers of low educational attainment than among the general population (1). Therefore, a dietary data collection method for use in the high-risk population needs to be suitable for a culturally diverse group of women, many of whom have limited literacy skills.

A commonly used dietary method in the assessment of maternal nutrition is a diet recall for a "typical day" or the previous 24-hour period (2-5). Although diet recalls do not require literacy on the part of the subject, they require a highly trained interviewer and can be time consuming. Furthermore, recalls for a single day are unlikely to be representative of the individual's mean daily nutrient intake because of wide day-to-day variations in kind and amount of food (6-11). Self-administered food frequency questionnaires (FFQs) hold potential for obtaining representative food and nutrient intake data in a more cost-effective manner from women who have basic reading skills.

Food frequency questionnaires have been developed and tested mainly for use in epidemiological research, that is, for identifying associations of dietary factors with diseases (12-17). Populations used for validation studies have included moderately to highly literate populations (13,15,17-19). FFQs validated with advantaged groups may not retain their validity when used for low-income pregnant women. However, many low-income women read at a fifth- or sixth-grade level or above (20) and thus should be able to complete a simple questionnaire.

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[2]Current address: Food and Nutrition Board, National Academy of Sciences, Washington, DC 20418.
[3]The authors thank Soroya Diaz Briant, MS, and Lela Silverstein, MS, for translation services; Barbara Polhamus, MPH, RD, for help with arrangements for use of sites; Jelia Witschi, MS, RD, for monitoring of diet recall interviews and for expert guidance and support; Michael L. Feldstein, PhD, for consultation regarding study design and statistical analyses; Richard F. Suitor, PhD, for software development; Kim Paradis, MS, RD, for coding of diet recalls; Micheline Mondestin for assistance with data entry and checking; and the staff and patients at Chelsea-MGH Community Health Center and at Martha Eliot Health Center for their help during pilot testing. We extend special thanks to the staff and patients at Holyoke Prenatal Center, Harvard Street Neighborhood Health Center, and the Prenatal Center at Hyannis for their cooperation during field testing.

A food frequency questionnaire targeted toward pregnant women should collect data about recent intake and perform well in the common situation of changing appetite and food habits. Few studies (21,22) have involved FFQs designed to gather current dietary data, and those tested with prenatal and postnatal populations have been disappointing (22,23), despite use of interviewer-administered rather than self-administered questionnaires.

The purpose of this study was to develop and test a prenatal food frequency questionnaire (PFFQ) that could be self-administered by a majority of low-income patients during routine prenatal visits. We evaluated the PFFQ using the general strategy that follows.

Usability: We identified type and amount of assistance required in completing PFFQs, percent of completed PFFQs, frequency of technical errors, such as doubly marked or unmarked items, and percent of usable PFFQs. These characteristics were examined both during pretesting and field testing for all individuals.

Reproducibility of results after a short period: We correlated results obtained from the original PFFQ with those obtained from an identical PFFQ administered about 2 weeks later to a randomly chosen subsample.

Comparability of results with those obtained using a tested dietary data collection method: We did this for a randomly chosen subsample, in terms both of ranking individuals by nutrient intake and of comparing nutrient intake estimates. The comparison method used was 24-hour diet recalls for 3 nonconsecutive days.

The basic comparisons that were made are depicted in Figure 1; Figure 2 depicts the total study and highlights data sets and sample sizes used in this report.

Materials and method

The Prenatal Food Frequency Questionnaire

The study instrument was an adaptation of a semi-quantitative food frequency questionnaire developed and tested by Willett et al. (13). The PFFQ was designed to categorize pregnant women by intake, over the past 4 weeks, of energy and selected nutrients of special concern during pregnancy. These nutrients included protein, calcium, iron, zinc, total vitamin A (from both plant and animal sources), and vitamins B-6 and C.

The PFFQ was pretested in two phases at prenatal clinics serving culturally diverse, low-income populations. During the second phase, we tested whether the women would be able to complete the PFFQ following simple written rather than oral directions. This was not well accepted by the participants and was quickly judged to be an unworkable approach. The entire pretest sample included 73 women.

After results of the pretests were analyzed, further adjustments were made in food items, wording, and format. A major change was the decision to delete most portion size information. Indicating portion size to the right of the food item appeared to increase reading time required by a substantial number of subjects who were reading word by word. Post-test questioning had revealed that such portion size information was not generally being used. We retained three items that did elicit responses, namely, asking whether usual portion size of milk, juice, and meat was small, medium, or large.

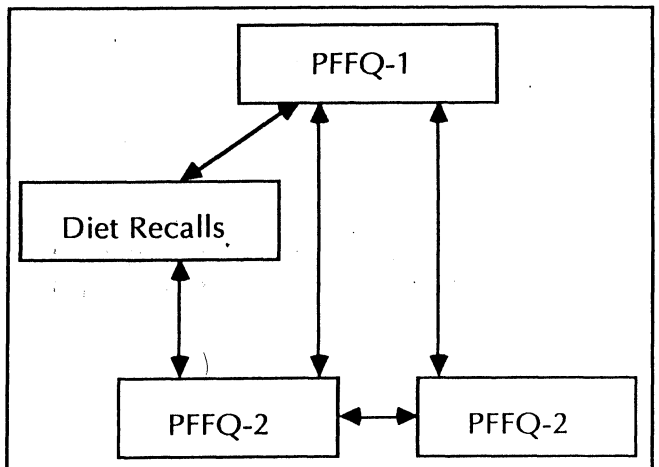

FIG. 1. *Comparisons made in evaluating the performance of the Prenatal Food Frequency Questionnaire, as denoted by the arrows. PFFQ-1 represents nutrient estimates made using the initial Prenatal Food Frequency Questionnaire, and PFFQ-2 represents those made using the identical follow-up questionnaire.*

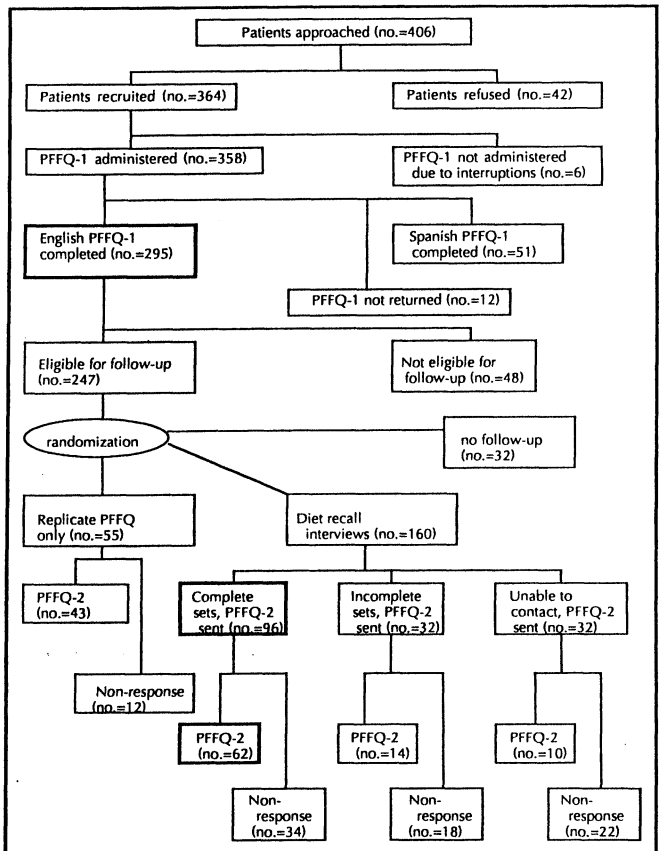

FIG. 2. *Elements of the total study and sample size. Data sets included in this report are enclosed in heavy black lines. PFFQ-1: initial Prenatal Food Frequency Questionnaire; PFFQ-2: PFFQ after an interval of about two weeks. Note: All women who provided diet recall interviews spoke English, but four completed Spanish PFFQs, and one did not return a PFFQ in either language.*

The only open-ended questions retained on the final PFFQ were for usual type of cold cereal and type of supplement, if any, used prior to pregnancy. The PFFQ included 90 foods and a total of 111 items.

For calculation purposes, portion sizes were assigned to each food item primarily on the basis of median portion size in grams reported for women 19 to 29 years of age in the Second National Health and Nutrition Examination Survey (24), as discussed by Block et al. (12). The same data set was used to assign gram weights for small and large portions of meat and fish (as a main dish) and juices. For milk, the gram weights of 4-, 8-, and 12-fl-oz portions were assigned to small, medium, and large portions. These were arbitrary decisions as it was impossible to determine median portion sizes prior to field testing.

The United States Department of Agriculture Nutrient Data Base for Standard Reference, Microcomputer Version, Release 5 (25), was used to obtain nutrient data per 100-gm portion for the food items on the PFFQ. Other data sources were used as necessary to supplement data on zinc, vitamin B-6, and a few ethnic foods (26-35). If the subject identified a brand name of cereal, the USDA food code was assigned; the default was Kellogg's® Corn Flakes.[4] Daily nutrient intakes from the PFFQ were computed by converting the midpoint of the frequency interval chosen to a mean daily frequency for each food item, multiplying this by the nutrient content for the assigned weight, and summing the value for all foods. The contributions of vitamin/mineral supplements are not included in this report.

The study population

The three sites used for recruiting subjects were receiving state funds for the delivery of prenatal services. This assured that the majority of subjects were from low-income populations. The site selection process was not random. Rather, consideration was given to the number of deliveries in the previous year, location, language barriers, willingness of the health center to serve as a site, and other factors related to the practicality of recruiting subjects. Sites differed in terms of census, routine procedures, and the ethnic groups served. Recruitment methods were designed to avoid selection bias and were tailored to the requirements of each site.

All pregnant women were eligible to provide baseline data unless they spoke neither English nor Spanish. After giving signed consent, women were asked orally to answer questions pertaining to demographics and selected behaviors, such as smoking. Women were eligible for follow-up if they spoke English and were no more than 8 months pregnant. These women were asked for information about how (i.e., by telephone or home visit) and when they were willing to be contacted. Those reporting that they had telephones in their homes were given a "2-D Food Portion Visual" (36) and were asked to keep it available in case they were contacted.

Medical record data regarding method of payment were used to estimate income. This made it possible to distinguish between women with family incomes ≤100% of the federal poverty level (Medicaid), women with family incomes between 100% and 200% of poverty (Healthy Start), and "other" women, including many without any insurance.

PFFQ administration

The recruiter explained and demonstrated how to complete the PFFQ, obtained feedback, and offered help in completing the questionnaire as needed. The usual time required for this process was 1½ to 3 minutes. It was generally impossible to measure the time required to complete the PFFQs because of constraints within the clinic setting, but it was estimated that most women completed it in less than 16 minutes.

With the use of subject lists and a system of random numbers, two follow-up groups were selected. The no recalls group was asked to complete the PFFQ a second time, about 2 weeks after the first. The recalls group was asked to provide three diet recall interviews and complete a duplicate PFFQ. Members of the recalls group were asked to complete a duplicate PFFQ regardless of the number of diet recall interviews actually completed.

Follow-up PFFQs (PFFQ-2) were mailed along with a short letter, a stamped return envelope, and a pencil; two were interviewer administered in the subject's home. In an attempt to improve PFFQ-2 response rates during the second half of the study, a token payment of $5 was offered at two of the sites to eligible participants. Payments were to be made after return of PFFQ-2.

Diet recall interviews

All diet recall interviews were conducted by CJWS using a slightly modified version of the method of Posner and Morgan (36). This method uses a standard procedure for asking subjects to name all foods, beverages, and supplements eaten the previous day (midnight to midnight), uses a tested visual aid (the 2-D Food Portion Visual) depicting food portion sizes in two dimensions, and probes for omitted items.

In general, subjects did not know in advance on what days the investigator would call. Telephone interviews were postponed if the subject needed a replacement of the visual aid since it was essential to the collection of standardized portion size data. The investigator brought the visual along on home visits. Interview quality was monitored periodically by a nutritionist experienced in dietary methodology. She reviewed a sample of diet recall forms as well as interviews taped with the subjects' permission.

When necessary, at least seven attempts were made to reach each interviewee for each of three rounds, unless the subject became ineligible because of premature delivery or otherwise unavailable for further follow-up.

Mean daily nutrient intake was estimated from sets of three 24-hour diet recalls using a Lotus 123 (37) worksheet that accessed the USDA Nutrient Data Base (the same database used for the PFFQ) by means of a developmental version of Blueprint.[5] Because the database was missing values for vitamin B-6 and zinc for approximately one-third of the food items, values from a number of sources (26-35) were used to supplement the missing data and to provide complete nutrient data for a number of commercial foods for which there were no comparable items in the USDA database. The few remaining missing values were inputed using values from similar foods.

[4]Kellogg Co., Battle Creek, MI.
[5]Lotus Development Corp., Cambridge, MA.

Statistical analyses

To minimize errors in coding and data entry, a series of steps were taken to independently verify and correct the data used.

Pearson product-moment and Spearman rank order coefficients were used to evaluate the reproducibility of PFFQ measurements. The same types of correlations were used in comparing nutrient intakes from PFFQs with those from diet recalls. Since both nutrient density (nutrient intake per 1,000 kcal) and absolute nutrient intake are of interest during the prenatal period, correlations were computed for both of these types of nutrient estimates.

Log base(e) transformed values were used in computations of correlation coefficients and variance components because most nutrient intake values were skewed to the right. Transformed values for a few nutrients retained some departure from normal distributions; therefore, Spearman rank order correlation coefficients were compared with Pearson coefficients. Since the results were essentially the same, only the latter are presented.

Mean nutrient intake estimates from a set of only three 24-hour diet recalls are known to include considerable measurement error resulting from high within-person day-to-day variation in food and nutrient intake. Sequence of interviews and day of the week effects are also potential sources of variation (6,38). Variance components were estimated for subject, interview sequence, day of the week effect (weekend vs. weekday), and error (within-person variation) using the PROC VARCOMP procedure of the Statistical Analysis System. The method described by Beaton et al. (6) and values obtained from the previously described analysis for within- and between-person variation were used to correct Pearson correlation coefficients for within-person variation. Ninety-five percent confidence limits for these corrected values were computed using formulas developed by Rosner and Willett (39). The size of the adjustment in the correlation coefficient depends on the relationship between within-person and between-person variation, as reflected by the intraclass correlation coefficients between days of 24-hour recalls. The higher the intraclass correlation, the higher the consistency in nutrient intake for the 3-day period and the smaller the adjustment made in the Pearson correlation between food frequency and diet recall intakes.

We used two methods to estimate percent agreement between PFFQ and diet recall intakes. In the first approach, the subjects' intakes from each dietary data collection method were grouped according to quintile. Percent agreement equalled the number jointly classified divided by the total number of diet recall scores in the quintile. We also determined agreement for the first quintile of the diet recall versus the first and second quintile of the PFFQ. Because of measurement error in the reference (diet recall sets), this first approach is likely to give spuriously low results.

In the second approach, we used correlation coefficients, adjusted for within-person variation in the 24-hour recalls, in conjunction with bivariate normal probability functions (40) to calculate joint classification by quintile. The functions were calculated using the approach suggested by Wang (41). In this case, percent agreement equalled the probability of the joint classification divided by 0.2.

Table 1. Demographic characteristics of women completing diet recalls and remainder of subjects eligible for follow-up

variable	*provided 3 diet recalls*	*remainder of eligible sample*	*total*
	← no. →		
sample size[a]	93 to 95	172 to 180	265 to 275
	← % →		
method of payment			
Medicaid[b]	61.3	59.3	60.0
Healthy Start[c]	24.7	28.5	27.2
other[d]	14.0	12.2	12.8
age group			
<18 years	13.7	13.3	13.5
education			
<10th grade	16.8	19.2	18.4
grades 10-11	18.9	24.3	22.4
high school graduate	50.5	39.5	43.4
>high school	13.7	16.9	15.8
race			
white	58.5	42.9	48.3
black	21.3	30.9	27.5
other (>99% Hispanic)	20.2	26.3	24.2
marital status			
single	49.5	60.0	56.4
married	35.8	28.9	31.3
other[e]	14.7	11.1	12.4
trimester			
first	10.5	14.2	12.9
second	42.1	39.2	40.2
third	47.4	46.6	46.9

[a]Because of missing data, the number of subjects in each group varies as indicated.
[b]Income ≤100% of federal poverty level.
[c]Income between 100% and 200% of federal poverty level.
[d]Self-pay or insurance through work.
[e]Separated, widowed, or divorced.

Results

Of the 406 women approached, 364 (90%) consented to take part in the study; 346 (85%) of the original sample responded to the initial PFFQ. This report concerns the 295 who completed the English version.

Eighty-four percent of the subjects who completed the English PFFQ were eligible for follow-up contacts. Of the 160 women randomly selected to provide diet recalls, 96 (60%) provided complete sets of three recalls. One or two diet recalls were obtained from an additional 31 women, leaving 20% completely lost to follow-up by interview. Sixteen subjects became unavailable during the follow-up period because of disconnected telephones, telephone to be used for messages only, travel, whereabouts unknown, or illness. One subject each refused to be interviewed a first, second, or third time.

The overall return rate for the second questionnaire (with or without intervening recalls) was 60%, having doubled from 40% to 80% for the no recalls group after arrangements were made for token payments.

Table 1 gives demographic characteristics for the

Table 2. Median and mean nutrient scores and standard deviations for diet recall sets and Prenatal Food Frequency Questionnaires (PFFQs)

nutrient	total sample				values when caloric intake score less than 4,500		
	diet recalls (no. = 95)	PFFQ-1[a] (no. = 291)	PFFQ-2 only[b] (no. = 43)	PFFQ-2 with recalls[c] (no. = 76)	PFFQ-1 (no. = 240)	PFFQ-2 only (no. = 36)	PFFQ-2 with recalls (no. = 70)
energy (kcal)							
median	2,125	2,695	2,052	2,317	2,386	1,736	2,274
mean	2,226 ± 709[d]	3,416 ± 2,711	3,010 ± 4,388	2,613 ± 1,429	2,518 ± 921	1,951 ± 1,050	2,269 ± 770
protein (gm)							
median	91	102	71	94	90	67	88
mean	91 ± 30	127 ± 105	117 ± 191	101 ± 50	95 ± 40	77 ± 51	90 ± 31
calcium (mg)							
median	1,169	1,498	1,018	1,300	1,247	887	1,247
mean	1,195 ± 495	1,663 ± 1,027	1,330 ± 1,176	1,393 ± 716	1,285 ± 733	1,017 ± 782	1,285 ± 619
iron (mg)							
median	13.7	16.9	13.5	14.4	14.9	12.01	13.98
mean	16.5 ± 9.2	21.8 ± 17.7	21.8 ± 29.6	18.0 ± 12.5	16.5 ± 9.0	13.90 ± 8.9	16.25 ± 11.0
zinc (mg)							
median	11.5	12.9	9.3	11.6	11.3	7.8	11.0
mean	12.0 ± 4.6	16.2 ± 13.6	14.6 ± 22.3	13.1 ± 6.7	12.1 ± 5.2	9.8 ± 6.4	11.8 ± 4.2
vitamin A (IU)							
median	4,769	11,738	9,246	9,900	9,887	7,591	9,497
mean	6,555 ± 5,461	17,492 ± 20,930	17,234 ± 23,897	12,062 ± 8,640	13,232 ± 12,419	10,925 ± 10,561	10,952 ± 7,100
vitamin B-6 (mg)							
median	1.75	2.51	1.83	2.04	2.24	1.55	2.01
mean	2.06 ± 1.16	3.21 ± 2.52	3.00 ± 4.47	2.46 ± 1.49	2.45 ± 1.25	1.91 ± 1.25	2.25 ± 1.31
vitamin C (mg)							
median	108	197	126	148	160	113	140
mean	134 ± 109	279 ± 245	230 ± 318	183 ± 147	211 ± 155	140 ± 110	158 ± 104

[a]PFFQ-1: Initial PFFQ, in English.
[b]PFFQ-2 only: Second PFFQ without any intervening diet recall interviews.
[c]PFFQ-2 with recalls: Second PFFQ after at least one diet recall interview.
[d]Mean ± standard deviation.

women completing the set of three diet recalls and for the total eligible sample. Women selected for follow-up but providing less than three recalls tended to be young, less educated, and more frequently non-white than those who provided complete data. Nonetheless, the sample included a very high proportion (86%) of women whose income was low, many of whom were non-white, unmarried, and had limited education. Group means for nutrient intakes did not differ significantly by the number of days of diet recalls provided. One of the diet recall sets was excluded because of implausible data and serious inconsistencies in reporting.

Women providing three diet recalls were compared on the basis of whether they had returned the second PFFQ. Those returning PFFQ-2 were unrepresentative of the original sample, being mainly white adults, high school graduates, and above the federal poverty level.

Usability

Missing responses or more than one response to a food item occurred infrequently. The mean number of these technical errors per questionnaire was 0.4; the median was zero. No PFFQs had to be excluded because of excess technical errors. About 93% of the PFFQs were completed independently. A priori, it was expected that a substantial percentage of the population would have difficulty with reading or interpreting the PFFQ and that caloric intakes in excess of 4,500 kcal per day would distinguish most of these individuals. Nearly 18% of the women completing initial PFFQs had estimated caloric intakes in excess of 4,500 kcal per day. These PFFQs were considered unusable, but we examined correlations with and without these suspect data.

Reproducibility

Mean and median absolute nutrient intakes and densities were higher for PFFQ-1 than for PFFQ-2 (Table 2). Absolute nutrient intakes for the PFFQs were greatly skewed toward higher values; therefore, the median was more representative than the mean as a measure of central tendency.

Correlation coefficients between absolute nutrient intakes estimated from PFFQ-1 and PFFQ-2 ranged between 0.6 and 0.9, with the lower values occurring among the recalls group (Table 3). When nutrient densities were

Table 3. Pearson product-moment correlation coefficients as an indicator of reproducibility of the PFFQ and of the comparability of results from the PFFQ with those from diet recall sets

nutrient log base (e)	reproducibility				comparability with a standard method					
	absolute value		nutrient density		absolute nutrient value			nutrient density		
	recalls group PFFQ-1[a] vs. PFFQ-2[b] (no. = 75)	no recalls group PFFQ-1 vs. PFFQ-2 (no. = 43)	recalls group PFFQ-1[a] vs. PFFQ-2[b] (no. = 75)	no recalls group PFFQ-1 vs. PFFQ-2 (no. = 43)	PFFQ-2 vs. DR[c] (no. = 62)	PFFQ-1[d] vs. DR (no. = 87)	PFFQ-1[e] vs. DR (no. = 74)	PFFQ-2 vs. DR (no. = 62)	PFFQ-1 vs. DR (no. = 87)	PFFQ-1[e] vs. DR (no. = 74)
energy	0.71	0.92	NA[f]	NA	0.41	0.23	0.47	NA	NA	NA
protein	0.56	0.87	0.41	0.49	0.33	0.22	0.44	0.32	0.44	0.47
calcium	0.68	0.80	0.64	0.52	0.52	0.46	0.60	0.52	0.57	0.51
iron	0.60	0.94	0.48	0.86	0.25	0.22	0.43	0.35	0.27	0.27
zinc	0.59	0.86	0.56	0.45	0.31	0.22	0.46	0.41	0.39	0.48
vitamin A	0.82	0.89	0.77	0.72	0.12	0.00	0.12	0.18	0.00	−0.02
vitamin B-6	0.65	0.91	0.59	0.82	0.30	0.21	0.42	0.36	0.36	0.35
vitamin C	0.65	0.83	0.63	0.61	0.34	0.42	0.56	0.40	0.51	0.53

[a]Initial administration of the Prenatal Food Frequency Questionnaire.
[b]Follow-up administration of the Prenatal Food Frequency Questionnaire, approximately 2 weeks after the first.
[c]DR: Mean nutrient estimates from set of 3 diet recalls.
[d]Values obtained using only subjects who completed PFFQ-2 are similar to those shown.
[e]Caloric intake estimated from PFFQ<4,500.
[f]NA = not applicable.

Table 4. Intraclass correlations (rI), observed Pearson correlations, adjusted correlations, and 95% confidence intervals (C.I.) between the first Prenatal Food Frequency Questionnaire and diet recall scores: Absolute values and nutrient densities (no. = 74)

energy and nutrients	absolute nutrient scores				nutrient density scores			
	rI	observed correlation	adjusted correlation	95% C.I.	rI	observed correlation	adjusted correlation	95% C.I.
energy	0.51	0.47	0.54	0.30, 0.71	NA[a]	NA	NA	
protein	0.41	0.44	0.54	0.27, 0.73	0.27	0.47	0.65	0.30, 0.84
calcium	0.48	0.60	0.71	0.48, 0.84	0.18	0.51	0.82	0.10, 0.97
iron	0.33	0.43	0.55	0.26, 0.76	0.11	0.27	0.53	−0.08, 0.85
zinc	0.41	0.46	0.56	0.30, 0.74	0.21	0.48	0.72	0.26, 0.92
vitamin A	0.36	0.12	0.15	−0.14, 0.42	0.21	−0.02	−0.03	−0.36, 0.30
vitamin B-6	0.43	0.42	0.50	0.24, 0.70	0.11	0.35	0.67	−0.07, 0.93
vitamin C	0.44	0.56	0.67	0.43, 0.82	0.33	0.53	0.69	0.39, 0.86

[a]NA = not applicable.

similarly compared, the two groups were more similar, and in some cases reproducibility was higher for the recalls group than for the no recalls group. Absolute nutrient intake was generally more reproducible than was nutrient density.

Comparability of PFFQ and diet recall results

Estimated total nutrient intakes were consistently higher for PFFQs than for diet recalls, as shown in Table 2. Observed correlation coefficients were relatively low (≤0.5) when subjects whose caloric intake exceeded 4,500 were included in the sample (Table 3). Correlation coefficients were generally higher between diet recalls and PFFQ-2, which covered the period that included the diet recalls, than between diet recalls and PFFQ-1. However, we used results from PFFQ-1 in further comparisons with diet recall intakes because we wanted to examine the food frequency questionnaire results using the least biased sample possible. We viewed this approach as a conservative one, which would tend to underestimate the PFFQ's performance.

When subjects whose caloric intakes exceeded 4,500 on PFFQ-1 were excluded, correlations of absolute nutrient intakes between PFFQ-1 and the diet recalls increased markedly (Table 3). Nutrient density estimates changed little when subjects with high caloric intakes were excluded. All correlations for vitamin A remained low.

Adjustments for measurement error due to within-person variation in 24-hour recalls

Random effects analysis of variance revealed no significant effect of weekday vs. weekend day or of the sequence of the diet recalls for any of the nutrients. Therefore, no adjustment was made for those variables. Intraclass correlation coefficients, which reflect agreement among diet recall days, are presented in Table 4, along with observed and adjusted Pearson correlation coefficients and 95% confidence limits for the latter. The relative adjustments

Table 5. Percent of individuals in the first or first and second quintile of the first Prenatal Food Frequency Questionnaire[a] who are in the first quintile for diet recalls: Observed and adjusted for measurement error

nutrient	absolute nutrient intake						nutrient density					
	observed				adjusted[b]		observed				adjusted	
	quintile 1		quintiles 1 and 2		quintile 1	quintiles 1 and 2	quintile 1		quintiles 1 and 2		quintile 1	quintiles 1 and 2
	no.	%	no.	← % →			no.	%	no.	← % →		
energy	5/14[c]	36	7/14	50	46	71	NA[d]		NA		NA	NA
protein	4/14	29	6/14	43	45	73	4/14	29	10/14	71	53	79
calcium	7/13	54	10/13	77	57	83	6/14	43	11/14	79	66	91
iron	3/11	27	7/11	64	46	72	3/16	37	8/16	50	45	71
zinc	5/11	45	6/11	55	47	73	4/15	27	7/15	47	58	84
vitamin A	4/13	31	6/13	46	26	48	3/14	21	5/14	36	21	42
vitamin B-6	4/13	31	8/13	62	43	69	2/15	13	8/15	53	54	80
vitamin C	6/14	43	8/14	57	53	79	7/15	47	12/15	80	57	81

[a]Caloric score <4,500.
[b]Estimates made using bivariate normal distribution functions using the approach of Wang (41), with rho equal to adjusted correlation coefficients shown in Table 4.
[c]Denominators differ because of subjects who scored >4,500 kcal on PFFQ-1.
[d]NA = not applicable.

were greatest for iron and vitamin A, nutrients with considerable day-to-day variation as determined from our data.

We next calculated agreement for quintiles between the PFFQ and diet recalls, with and without correction for measurement error, excluding PFFQs with caloric intakes in excess of 4,500 (Table 5). The adjustment, which used the corrected rather than the observed correlation between the two methods, increased agreement by a range of 5% to 61%. Calcium was least and iron most affected. The highest agreement between PFFQ and diet recall methods was seen for calcium when adjusted values were used; more than 56% of the women in the lowest quintile for calcium according to the PFFQ were also in the lowest quintile according to the diet recalls; more than 82% of the women in the first quintile according to the diet recalls were in the lowest two quintiles according to the PFFQ.

Discussion

In choosing our dietary data collection comparison method, we ruled out the use of the diet history, a method which is similar in many ways to food frequency questionnaires and thus poses a problem of correlated errors. Furthermore, we found insufficient evidence that a diet history method has been satisfactorily validated with a low-income pregnant population. Although diet records would be least likely to be subject to the same errors as the PFFQ, diet recalls were considered more valid and practical in this case. Diet recalls require no reading or writing skills and minimal self-disciplined activity on the part of the subject. Although diet recalls have the disadvantage of dependence on memory, in common with the PFFQ, this effect may have been lessened somewhat by collection of data over time in the subjects' homes. Other household members were sometimes called upon or volunteered to help the subject make a complete recall. On the second or third interview, a few subjects provided additional information pertaining to the previous recall. That information was included in calculations of nutrient intake.

Methods for quantification of portion size were different for the diet recalls vs. the PFFQ, reducing the problem of correlated errors. Correlated errors, if present, are expected to increase observed correlation coefficients over actual values. If errors on PFFQs with implausibly high caloric intakes were correlated with errors on the diet recalls, discarding the implausible results would be expected to decrease correlation coefficients. In contrast, the opposite occurred.

Reasonably high correlations between two consecutive administrations of the PFFQ suggest that results are generally reproducible over a 2-week period. We expected results from the two questionnaires to be similar even if eating behaviors changed in the 2 weeks between the PFFQs because there was a 2-week overlap in the time covered. While it is possible that memory may have contributed to the reproducibility, this problem may have been reduced by the large number of items on the questionnaire, the 2-week interval, and the wording of the request for completion of the second PFFQ. (Subjects were told that we wanted to know whether what they had been eating was the same or different.) However, the relatively low response rate to the second PFFQ raises the possibility of bias. Furthermore, a tendency to overestimate or underestimate frequency of food use is likely to persist over this period and could have a major influence on correlations. Further testing of reproducibility alone would not eliminate the latter possibility.

The correlation for vitamin A between PFFQ-1 and PFFQ-2 illustrates the limits of reproducibility as a measure of questionnaire performance. Agreement between successive PFFQs for vitamin A was quite high ($r>.8$); however, correspondence between the PFFQ and diet recalls was negligible.

Correlation coefficients between the PFFQ and 3 days of diet recalls, unadjusted for within-person variation in recall data, were consistently lower than comparable values reported by Willett et al. (13), who used 28 days of diet recording per subject. Our unadjusted values suggested that the PFFQ did not perform at an acceptable level. Adjustment for measurement error narrowed the difference between the two studies. For example, the widely used and validated FFQ developed by Willett et al. reported correlations for absolute nutrient intakes for protein and for vitamins A, B-6, and C (without supplements) of 0.33, 0.26, 0.43, and 0.63, respectively. Our comparable corrected values were 0.54, 0.15, 0.50, and 0.66. Confidence intervals are wide, suggesting that a study with more subjects and more days of diet recall data would be desirable to confirm the results. The logistics and cost of such a study with a low-income pregnant population are, however, formidable.

Support for the validity of the adjustments made in this study comes from the work of Rosner and Willett (39). They used data from the Nurses Health Study to demonstrate that correlations based on small numbers of days of dietary intake are comparable to correlations based on 28 days' intake, after the former is adjusted for measurement error due to within-person variation in the recall data.

Poor correspondence between PFFQ and diet recall vitamin A intakes is not unexpected in view of the high day-to-day variation in vitamin A intake reported by other investigators (6,8,9). We noted that many women checked relatively frequent use (2 to 4 times per week) of a number of vitamin A-rich vegetables and several checked weekly use of liver, while relatively few women mentioned those foods during diet recall interviews. Mean vitamin A intake from our diet recalls (6,555 IU) is somewhat higher than that reported recently for non-pregnant 19- to 34-year-old women participating in the Food Stamp Program (42). The PFFQ appears to greatly overestimate vitamin A intake in general.

A high percentage of implausibly high caloric intakes has not been reported for other FFQs or populations. The high intakes resulted from checking high frequency of many food items rather than from problems with just a few items. This suggests a problem with questionnaire interpretation. Low literacy may have been closely linked to the questionable intakes but was not equivalent to educational attainment. Forty-nine percent of those with suspect data were high school graduates. Although single, very low-income, minority women were overrepresented among those having high estimated caloric intake, those were not distinguishing characteristics. Six of the 13 women who completed three diet recalls and scored >4,500 calories on PFFQ-1 fell in the lowest diet recall quintile for at least one nutrient. Thus a sizable percentage of the women for whom PFFQs were not usable were women whose nutrient intake was of particular interest.

Implications

Although the PFFQ used in this study needs some further simplification, it appears that this food frequency questionnaire can be useful in the collection of dietary intake data of low-income pregnant women. However, estimation of vitamin A intake appears to pose special problems with this population. We do not consider the PFFQ practical for interviewer administration in the clinic situation because of the amount of staff time that would be required. We have not tested whether respondents' answers would differ if the PFFQ were being used as a part of routine care (e.g., in the process of certification for the Supplemental Food Program for Women, Infants, and Children) rather than as part of a research project. Our results suggest that women who greatly overestimate their food intake on such a questionnaire may actually be at increased risk of having low nutrient intake. This result merits further investigation.

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Methodological Note

Validity of a Food Frequency Questionnaire in Assessing Nutrient Intakes of Low-Income Pregnant Women

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Objective: In 1989, a validation study of eight nutrients was performed on a modified food frequency questionnaire (FFQ) specifically designed for low-income pregnant women. The purpose of this study was to broaden the scope of the previous study by assessing the validity of the FFQ for 17 additional nutrients. *Methods:* The Pregnancy Food Frequency Questionnaire (PFFQ) was administered to a sample of 295 low-income, pregnant women aged 14–43 years living in Massachusetts. A randomly selected subsample of 101 women who provided at least one diet recall and reported intake of less than 4,500 calories were included in this analysis. *Results:* Mean intake of 25 nutrients as assessed by one administration of the PFFQ and up to three diet recalls collected over 1 month were similar. Unadjusted correlation coefficients between nutrient intake measured by diet recalls and the questionnaire ranged from .28 (carotene) to .61 (folate). After adjusting for energy intake the correlations ranged from .03 (B12) to .46 (folate). The correlations corrected for day-to-day variation were higher, ranging from .07 (B12) to .90 (zinc). The mean correlation was .47 and there were 54% over .40. *Conclusions:* A food frequency questionnaire for English-speaking, low-income, pregnant women can provide maternal and child health practitioners and researchers a valid estimate of diet across a wide range of nutrients.

KEY WORDS: Diet; pregnancy; low-income; diet assessment; validation; food frequency questionnaire.

INTRODUCTION

Several studies have looked at the use of a food frequency questionnaire (FFQ) in the context of pregnancy and/or among lower socioeconomic status women and found a reasonable degree of reproducibility and validity (1–4). For example, in 1994, Block presented the results of a validation of the Harvard FFQ tool among pregnant WIC participants (5) and in 1997, Kristal *et al.* validated their FFQ in low-income minority women (3). However, each author only reported the validity of their FFQ for six nutrients. In 1996, Brown *et al.* looked at the validity of a modified FFQ to assess pregnancy-related changes in intake of energy and 16 nutrients among primarily White and middle and upper income women (2).

In 1989, Suitor *et al.* (4) validated a version of the Harvard Service Food Frequency Questionnaire modified for low-income, pregnant women (PFFQ). It was designed to reflect recent intake and also validly assess any changes in appetite and/or food habits that can accompany pregnancy (4). With the exception of vitamin A, correlation coefficients between nutrients assessed by the PFFQ versus 24-hr recalls exceeded .50. That study limited its focus to energy

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WHAT HAVE YOU BEEN EATING LATELY?
DURING THE PAST 4 WEEKS, HOW OFTEN ON AVERAGE DID YOU EAT A SERVING OF EACH OF THE FOODS LISTED HERE?

PLEASE MARK ONLY ONE X FOR EACH FOOD	Never	per month	Per week			Per day			
		1-3	1	2-4	5-6	1	2-3	4-5	6+
Milk, any kind		X							
Ice cream or ice milk						X			
Yogurt, plain or flavored	X								
Cheese, plain or in sandwiches or casseroles									X
Pudding or custard				X					

Fig. 1. Sample of questions and layout of Pregnancy Food Frequency Questionnaire.

and seven nutrients: protein, calcium, iron, zinc, and vitamins A, B6, and C. Since many nutrients during pregnancy affect a woman's health and the health of her child, maternal and child health practitioners and researchers need a valid and comprehensive method for assessing diet for nutrition education, understanding predictors of diet during pregnancy, studying changes in diet during pregnancy, and characterizing associations between diet and pregnancy outcomes.

We extend the study by Suitor *et al.* by assessing the validity of the PFFQ for measuring intakes of energy, protein, total fat, saturated fat, polyunsaturated fat, monounsaturated fat, carbohydrate, calcium, iron, zinc, vitamin B6, vitamin C, vitamin E, vitamin B1, vitamin B2, vitamin B12, folate, sodium, potassium, magnesium, phosphorus, cholesterol, retinol, carotene, and vitamin A. Establishing the validity of the PFFQ across this wide range of nutrients increases its service and research applications for maternal and child health professionals.

METHODS

Study Population

Three sites in Massachusetts that received state funds to deliver prenatal services served as the recruitment sites. Of the 406 women approached, 364 agreed to participate, and 247 completed the English PFFQ and were eligible for follow-up. Of these 247, 160 were randomly selected to provide sets of three diet recalls. Of these 160 women, 118 completed at least one diet recall and the first PFFQ. Seventeen women who had implausibly high caloric values on the PFFQ (above 4,500) were excluded, leaving a total sample size of 101 for this analysis. Further detail regarding the study population has been described (4).

Prenatal Food Frequency Questionnaire

The prenatal food frequency questionnaire (PFFQ; see Fig. 1) is an adaptation of the food frequency questionnaire developed and evaluated by Willett *et al.* (6, 7). Unlike the original Willett FFQ, which is designed to measure intake over the last year, the PFFQ was designed to categorize pregnant women by intake over the past 4 weeks. Nutrients derived from the FFQ are estimated using the Harvard nutrient database. Intakes from vitamin and/or mineral supplements are not included in this report.

Diet Recall Interviews

One of the authors (C.W.S.), a registered dietitian, conducted all diet recall interviews. A modified version of the Posner and Morgan method was used to probe for food items and portions and includes a tested visual aid (the 2-D Food Portion Visual) (8). The nutrient calculations for the 24-hr recalls were performed with the Minnesota Nutrition Data System software, developed by the Nutrition Coordinating Center (NCC), University of Minnesota (Minne-

apolis, MN), Food Database Version 6A, Nutrient Database Version S21, as well as the USDA's Handbook No. 8, system release 11.

Statistical Analysis

All statistical analyses were performed using the Statistical Analysis System (Release 6.09; SAS Institute, Cary, NC). All nutrient intakes were log-transformed prior to analysis. Unadjusted and energy-adjusted Pearson correlations were calculated to compare nutrient intakes as assessed by the PFFQ and the diet recalls. Nutrient intakes from the diet recalls were calculated by averaging over the total number of diet recalls a woman completed. We also adjusted for energy intake and corrected for measurement error due to within-person and between-person variability (9–11). The energy-adjusted correlations were calculated from the residuals obtained by regressing each nutrient on the total calories (on the log scale) as measured by the PFFQ or diet recalls (10).

Unlike the statistical analyses used by Suitor *et al.* to correct for measurement error, we used a new pairwise estimator (12). This new method allowed us to include women who completed less than three diet recalls.

Intakes as measured by the two methods were divided into quartiles and then cross-classified. Comparing extreme quartiles gives an estimate of the degree of misclassification (i.e., highest quartile by diet recalls misclassified into lowest quartile by PFFQ).

RESULTS

Table I presents demographic characteristics on the sample of women used in this analysis. No significant differences existed between our study population and the original study population. Table II shows means and medians for average daily nutrient intakes from the diet recalls and from the PFFQ for the 101 women included in this analysis. Except for saturated fat, cholesterol, and sodium, intake as measured by the PFFQ tended to be higher than that measured by the diet recalls. Overall, 17 of 26 median values for the unadjusted nutrients as measured by the PFFQ were within 10% of the diet recall values.

The Pearson correlations between the two dietary assessment methods are shown in Table III. After adjustment for energy intake and measurement error, the correlations ranged from .07 to .90. The mean correlation across all of the nutrients was .47.

Table I. Demographic Characteristics of Total Sample of Low-Income Pregnant Women (N = 101)

	%
Method of payment	
Medicaid[a]	54.4
Healthy start[b]	33.3
Other[c]	12.2
Age group	
<18 years	12.9
≥18 years	87.1
Education	
<10th grade	11
Grades 10–11	24.8
High school graduate	47.5
>High school	16.7
Race	
White	63.4
Black	18.8
Hispanic	17.8
Marital status	
Single	46.5
Married	39.6
Other[d]	13.9
Trimester[e]	
First	54.4
Second	26.5
Third	19.1

[a]Income less than or equal to 100% of federal poverty level.
[b]Income between 100% and 200% of federal poverty level.
[c]Self-pay or insurance through work.
[d]Separated, widowed, or divorced.
[e]Due to missing data, the sample size for trimester is n = 90.

Based on our cross-classification of nutrient intakes as measured by the two methods (data not shown), the highest agreement for being in the lowest quartile by both instruments was 55% (vitamin B2). The highest percentage agreement for being in the highest quartile by both instruments was 45% (vitamins C, B12 and folate). Saturated and polyunsaturated fat were the most misclassified. Twenty-five percent of individuals classified in the highest quintile by the diet records for these two fat types were in the lowest quintile according to the PFFQ.

DISCUSSION

After correcting for energy intake and measurement error, the mean correlation of .47 between the

Table II. Mean ± SD, Median, and Median Difference of Daily Intakes Estimated by the Average of One, Two, or Three Diet Recalls and the Prenatal Food Frequency Questionnaire ($N = 101$)*

Nutrient	24-Hr recall		PFFQ		Median difference
	Mean ± SD	Median	Mean ± SD	Median	
Calories	2276.6 ± 782.2	2267.8	2561.5 ± 893.9	2448.7	138.98
Total fat (g)	95.2 ± 40.0	93.8	96.2 ± 35.8	95.3	2.39
Saturated fat (g)	38.9 ± 18.6	36.0	35.0 ± 14.1	33.4	−1.37
Polyunsaturated fat (g)	14.9 ± 7.0	15.4	17.8 ± 7.6	17.4	1.30
Monounsaturated fat (g)	34.3 ± 14.3	32.9	35.9 ± 13.5	35.1	2.26
Carbohydrate (g)	268.6 ± 99.5	262.1	335.6 ± 134.4	308.6	41.63
Protein (g)	92.6 ± 34.7	91.6	99.5 ± 38.3	98.0	10.66
Vitamin C (mg)	138.6 ± 122.9	97.9	244.9 ± 162.3	192.8	86.26
Vitamin E (mg)	10.2 ± 11.5	7.1	11.6 ± 13.4	8.3	0.22
Vitamin B1 (mg)	2.0 ± 1.0	1.8	2.3 ± 1.1	2.2	0.16
Vitamin B2 (mg)	2.7 ± 1.3	2.6	3.2 ± 1.5	2.9	0.50
Vitamin B6 (mg)	2.0 ± 1.1	1.7	2.8 ± 1.4	2.5	0.58
Vitamin B12 (mcg),	7.5 ± 6.2	5.8	12.1 ± 12.4	8.6	2.02
Folate (mcg)	317.8 ± 219.9	246.0	461.9 ± 296.2	366.1	112.77
Zinc (mg)	13.1 ± 7.5	11.2	15.2 ± 8.3	14.0	1.87
Sodium (mg)	3704.9 ± 1466.9	3481.6	3357.5 ± 1402.1	3265.2	−217.90
Potassium (mg)	3191.9 ± 1404.2	2952.4	4124.6 ± 2004.8	3898.6	759.63
Calcium (mg)	1268.0 ± 643.1	1251.4	1559.0 ± 810.8	1524.7	239.95
Iron (mg)	16.9 ± 11.0	13.6	17.1 ± 9.4	15.2	1.39
Magnesium (mg)	304.9 ± 125.6	289.8	354.1 ± 153.6	339.2	43.88
Phosphorous (mg)	1646.2 ± 665.2	1678.9	1946.7 ± 816.1	1802.8	297.81
Cholesterol (mg)	411.2 ± 228.2	364.5	337.5 ± 152.2	309.8	−47.78
Retinol (IU)	2452.4 ± 1947.5	1935.4	5040.6 ± 4217.6	3988.2	1838.91
Carotene (IU)	3852.7 ± 5009.8	2076.4	7423.1 ± 6195.4	5825.8	3119.10
Vitamin A (IU)	6305.2 ± 5708.4	4653.9	12463.7 ± 8668.4	10591.3	4876.85

*All subjects who reported >4,500 calories on the PFFQ were excluded from this analysis.

PFFQ and diet recalls was similar to the mean correlations found in validations of widely used FFQs and other epidemiologic measurements in populations (5–7, 9, 13–16). For example, the Nurses' Health Study and the Health Professionals Follow-up Study reported mean correlations of .44 (6) and .60 (7), respectively.

Several nutrients (saturated fat, polyunsaturated fat, folate, zinc, sodium, and iron) had wide correlation coefficient confidence intervals. These wide confidence intervals, which occasionally crossed zero, are consistent with at least one other study in a low-income population and likely reflect high day-to-day variability due to factors such as chronic or sporadic food insufficiencies (17). These results suggest that more subjects and more days of diet recall information would be required to confirm the precision of our estimates for these particular nutrients. Although the correlation estimates for these few nutrients were imprecise, the PFFQ provides a reasonably accurate measure for the majority of the nutrients investigated.

When we compared correlations between our study and the original study across the original eight nutrients, our correlations were noticeably higher for protein (.63 vs. .44), iron (.68 vs. .43), zinc (.90 vs. .46), and vitamin B6 (.620 vs. .42). Our correlations were very slightly lower than those reported by Suitor *et al.* for calcium (.55 vs. .60), vitamin C (.54 vs. .56) and energy (.42 vs. .47). For vitamin A the correlation was exactly the same (.12). With the exception of zinc, iron, and vitamin A, which had extremely wide confidence intervals, our results confirm the previous results of Suitor *et al.* in five of the original eight nutrients.

A potential limitation of the PFFQ is that is does not give absolute or exact intakes due to the short list of food items. The results of our cross-classification showed that extreme misclassification of nutrient intakes was rare. This suggests that the PFFQ can appropriately rank individuals relative to one another even if absolute intakes may not be precise. This should be adequate in settings that only require the ability to detect extreme nutrient intakes or to estimate intake on a population level.

Another limitation of the PFFQ was its ability

Table III. Pearson Correlation Coefficients between PFFQ and Average of One, Two, or Three 24-Hr Recalls: Unadjusted, Energy-Adjusted, and Corrected for Measurement Error (N = 101)

Energy and nutrients	Unadjusted r	Adjusted r	Deattenuated r	95% CI for deattenuated r
Calories	0.42			
Total fat (g)	0.33	0.24	0.30	(0.02, 0.54)
Saturated fat (g)	0.32	0.14	0.27	(−0.01, 0.52)
Polyunsaturated fat (g)	0.35	0.21	0.20	(−0.09, 0.45)
Monounsaturated fat (g)	0.30	0.28	0.40	(0.07, 0.66)
Carbohydrate (g)	0.44	0.28	0.30	(0.03, 0.53)
Protein (g)	0.49	0.44	0.63	(0.26, 0.84)
Vitamin C (mg)	0.41	0.36	0.54	(0.26, 0.73)
Vitamin E (mg)	0.46	0.39	0.80	(−0.45, 0.99)
Vitamin B1 (mg)	0.46	0.44	0.76	(0.08, 0.96)
Vitamin B2 (mg)	0.49	0.38	0.60	(0.20, 0.83)
Vitamin B6 (mg)	0.46	0.35	0.62	(0.25, 0.83)
Vitamin B12 (mcg)	0.35	0.03	0.07	(−0.42, 0.53)
Folate (mcg)	0.61	0.46	0.86	(−0.16, 0.99)
Zinc (mg)	0.50	0.45	0.90	(−0.91, 1.00)
Sodium (mg)	0.37	0.09	0.35	(−0.09, 0.68)
Potassium (mg)	0.58	0.27	0.38	(0.13, 0.59)
Calcium (mg)	0.57	0.39	0.55	(0.26, 0.75)
Iron (mg)	0.37	0.36	0.68	(−0.03, 0.93)
Magnesium (mg)	0.60	0.33	0.46	(0.20, 0.66)
Phosphorous (mg)	0.56	0.43	0.57	(0.28, 0.77)
Cholesterol (mg)	0.30	0.32	0.48	(0.11, 0.73)
Retinol (IU)	0.41	0.19	0.31	(0.03, 0.54)
Carotene (IU)	0.28	0.08	0.15	(−0.27, 0.52)
Vitamin A (IU)	0.38	0.07	0.12	(−0.25, 0.46)

to assess vitamin A intake. However, low correlations for vitamin A are commonly observed in nonpregnant adult populations (9). As previously reported by Suitor *et al.*, the low correlation for vitamin A might be explained by the inconsistency of reporting between vitamin A-rich vegetables and liver on the PFFQ and relatively infrequent reports of these foods in the diet recalls (4). Thus, any results for intakes of vitamin A assessed by the PFFQ should be scrutinized before conclusions are drawn.

Although vitamins and supplements were not included in both this study and the original study, the high number of supplement users among WIC participants suggests that future research should investigate their contribution to nutrient intakes.

The exclusion of 14% of our sample due to PFFQ caloric intake estimates above 4,500 suggests that a fairly significant proportion of the women were unable to complete the PFFQ accurately. Similarly in the original work by Suitor *et al.*, nearly 18% of women reported caloric intakes above 4,500. Future work should investigate methods to identify women who are unable to complete the PFFQ adequately.

This work supports the results of a previous validation of the PFFQ. However, we were able to establish the usefulness of the PFFQ for assessing a wider range of nutrients, thereby increasing its potential applications in current and future maternal and child health research and service settings. The PFFQ is a valuable tool for maternal and child health researchers' investigations, including the effects of diet during pregnancy on birth outcomes and the health outcomes of the child. Expanded uses also include service program planning, nutrition education and interventions, and nutritional surveillance.

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Methodological Note

Validation of a Food Frequency Questionnaire in Native American and Caucasian Children 1 to 5 Years of Age

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Objective: To assess the validity of the Harvard Service Food Frequency Questionnaire (HFFQ) in the diet assessment of Native American and Caucasian children 1 to 5 years of age participating in the North Dakota WIC program. *Methods:* The 84-item HFFQ was administered twice to the parent or guardian of 131 Native American and 102 Caucasian children ages 1 to 5 years (total n = 233), first at the child's routine WIC visit and then following the completion of three 24-hr dietary recalls taken over approximately 1 month. Average nutrient intakes from the three 24-hr dietary recalls were compared to average nutrient intakes from the HFFQs by calculating Pearson correlation coefficients and adjusting for energy intake and within person variation. *Results:* Correlation coefficients ranged from 0.26 for dietary fiber to 0.63 for magnesium. The average correlation was 0.52, similar to that found in validation studies among adolescents and adults. The following nutrients had correlations of 0.50 or greater: carbohydrate, sucrose, total fat, vitamin C, vitamin E, vitamin B1, vitamin B2, niacin, folate, vitamin B6, calcium, magnesium, and iron. *Conclusions:* The HFFQ is a simple self-administered questionnaire completed by the child's parent or guardian and is useful in assessing the diets of Native American and Caucasian children. It may also provide important nutritional information about this age group for future program planning, research, education, and intervention purposes.

KEY WORDS: Nutrition; diet assessment; children; low-income; validation; Harvard Service Food Frequency Questionnaire.

INTRODUCTION

Very few studies have measured the validity and/or reliability of food frequency questionnaires in assessing the dietary patterns of children ages 1 to 5 years. Two studies examined the performance of modified versions of the Willett food frequency questionnaire (1) against a number of 24-hr dietary recalls. Trieber and colleagues reported a mean correlation of 0.67 (range = 0.42 to 0.83) (2) among children aged 3 to 5 years, while Stein and colleagues reported an average correlation between 0.30 and 0.40 for preschool children (ages 44 to 60 months at baseline) (3).

In 1994 Block presented the results from a USDA funded study to validate two food frequency tools: one developed by Block and colleagues and the Women's and Children's versions of the Harvard Service Food Frequency Questionnaire (HFFQ) (4). The performance of the Children's HFFQ was compared to "true" dietary intake as assessed by three 24-hr dietary recalls administered by telephone. After

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excluding outliers, the average correlation for children aged 12 months through 4.9 years was 0.25 for both the HFFQ and the Block FFQ. One of the limitations of this study was that dietary intake was measured over two different time periods. The HFFQ asks about food intake over the past 4 weeks while the 24-hr dietary recalls were collected over a time period ranging from 2 to 5 weeks. The current study provides a more comparable estimate of dietary intake over a 4-week period because the 24-hr dietary recalls were consistently collected over the 4 weeks following the first HFFQ.

The HFFQ has been validated for use in Maternal and Child Health clinics to assess the diets of low-income pregnant, lactating and nonpregnant or nonlactating women (5, 6). The present study compliments past and recent research on the reproducibility and validity of the Willett and Harvard Service Food Frequency questionnaires. In addition, due to the lack of available validated diet assessment tools for use in assessing the diet of multi-cultural, low-income children aged 1 to 5 years old, the current study adds to the search for useful methods of diet assessment for use in service settings targeting child nutrition. Nutritional information about this age group would be invaluable for local, state, or national program planning, research, education, and intervention purposes. The aim of the current study was to address the validity of the 84 item HFFQ in the diet assessment of Native American and Caucasian children ages 1 to 5 years participating in the North Dakota WIC program. Validity is assessed by comparing the nutrient values from the HFFQ against the average nutrient values of three 24-hr diet recalls.

METHODS

Development of the HFFQ

The Harvard Service Food Frequency Questionnaire was developed to assess the diets of low-income women and was subsequently modified in 1991 (7) as a dietary assessment tool for children and youth. The 1991 adaptation for children (The Children's HFFQ) is a modified version of a semi-quantitative food frequency questionnaire developed and validated for use among adults by Willett *et al.* (1). It is a total of 103 items, including 84 foods and 19 questions about food habits, supplements, and services. (See Fig. 1 for sample questions and layout). It is completed by the child's parent or guardian and is available in both a paper and computer direct entry format. The paper format was used in this study. Portion sizes used with the HFFQ for calculation of nutrient intake are derived from national data (CSFII) and are age appropriate.

Recruitment of Children for the Validation Study

We sequentially recruited a sample of parents and guardians (n = 277) with children ages 1 to 5 years (n = 450) appearing in North Dakota WIC clinics who agreed to participate in the project after reviewing an invitation letter that described the study. Each parent or guardian signed a consent form at the child's routine WIC visit, confirming their willingness to participate. 189 parents had 1 child in the study and 50 parents had 2 or more children participating (2 children, n = 44; 3 children, n = 6). At the completion of the data collection our sample included a total of 300 children ages 1 to 5 years. There were 172 Native American (57%) and 128 Caucasian (43%) children. Approximately one half of the children were 1 through 2 years old (12 through 35 months; n = 158, 53%) and one half were 3 to 5 years old (36 to 60 months; n = 142, 47%).

Collection of HFFQs and 24-hr Dietary Recalls

The HFFQ was completed by the child's parent or guardian for the first time at a routine WIC visit. Following the visit, three 24-hr dietary recalls were completed over the subsequent month. The three recalls were completed approximately every 7 to 10 days. In general, two recalls were taken on weekdays and one recall on the weekend to capture differences in eating habits by day of the week. The exact schedule was not known by the parent participants, only that there would be three recalls. The HFFQ was then administered a second time after completion of the three 24-hr recalls.

The recalls were administered by telephone or in person (some of the participants did not have telephones, so the dietitians traveled to their homes). Each child's intake was entered directly into the computer by a registered dietitian working for North Dakota WIC and familiar with this population. The dietitians participated in a one-half day training session led by a research nutritionist to become familiar with the Minnesota Nutrient Data System (MNDS). The

Children's Nutrition Questionnaire
What Has Your Child Been Eating Lately?
During the past 4 weeks, how often did your child eat a serving of each of the foods listed here?
Mark only one X for each food

	Last 4 weeks		Each week			Each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Milk						X			
Hot Chocolate	X								
Cheese, plain or in sandwiches				X					
Yogurt	X								
Ice cream		X							
	0	1	2	3	4	5	6	7	8

Fig. 1. Sample of questions and layout of Harvard Service Food Frequency Questionnaire.

average dietary recall of the preceding 24 hr took about 20 min to record.

Data were checked by a local study coordinator, also a registered dietitian, in North Dakota and then sent to our offices in Boston where they were again checked for plausible intake by the supervising research nutritionist. Nutrient values were derived from each of the 3 days of recall and the average calculated. Nutrients derived from the HFFQ are estimated using the Harvard nutrient database. The foundation of the database is the U.S. Department of Agriculture Nutrient Database for Standard Reference. Release 10 and 11, Washington DC 1993 (8) and 1996 (9), with additional information from McCance and Widdowson's *The Composition of Foods* (4th and 5th editions) (10, 11), journals, and manufacturers.

The nutrients calculations for the 24-hr recalls were performed with the Minnesota Nutrition Data System software, developed by the Nutrition Coordinating Center (NCC), University of Minnesota (Minneapolis, MN), Food Database Version 6A, Nutrient Database Version S21. If an analytic value is not available for a nutrient in a food, NCC calculates the value on the basis of the nutrient content of other nutrients in the foods. A missing value is allowed in the following cases: if the value is believed to be negligible, the food is usually eaten in a very small amount, it is not known whether the nutrient exists in the food at all, or there is no way to estimate the value because the food is unlike any other.

Statistical Analysis

All statistical analyses were performed with the Statistical Analysis System (Release 6.09; SAS Institute, Cary, NC). Average nutrient intake from the three 24-hr dietary recalls was compared to average nutrient intake of the combined HFFQs. We calculated Pearson correlation coefficients and adjusted for energy intake and within-person variation as assessed from the 24-hr recalls (12, 13). We excluded children who consumed more than 3,500 calories per day or less than 500 calories per day (14 children) and randomly selected one child from each family with more than one child participating in the study from the analysis, leaving 233 children in the data set for evaluation of validity. The data presented includes multivitamin supplements in the nutrient analysis (26% of children reported using multivitamin supplements).

RESULTS

Of the 277 parents who agreed to have their child(ren) participate (2 parents invited to participate declined due to plans to move), 239 (86%) completed

both HFFQs and all three dietary recalls about their child(ren)'s eating habits. Reasons for nonparticipation included moving, disconnected phone, client unavailable to participate (never home and/or unreachable), and refusal to participate after first 24-hr recall. The sample, before exclusions, included a total of 300 of the 450 (67%) children originally invited to join the study. After excluding children who consumed more than 3,500 calories per day or less than 500 calories per day and multiple siblings in the same family our final sample included 233 children aged 1 to 5 years. We examined data for 131 (56%) Native American and 102 (44%) Caucasian children and 129 children aged 1 through 2 years (55%) and 104 children aged 3 to 5 years (45%).

We examined 20 nutrients defined *a priori* including, protein, carbohydrate, total fat, sucrose, dietary fiber, calcium, iron, vitamin C, vitamin B1, vitamin B2, niacin, vitamin B6, folate, vitamin B12, vitamin A, vitamin E, magnesium, zinc, cholesterol, and total energy intake. When we compared the HFFQ to the 24-hr recalls the mean nutrient intakes estimated by each tool varied by less than 10% (see Table I). For example, the mean intake of calcium was 1016 mg when estimated by the HFFQ and 1087 mg when estimated by the 24-hr diet recalls. These values are strikingly similar given the possibility of over- and underestimation of food intakes when using a food frequency questionnaire (12).

Correlation coefficients between the dietary intake assessed by the two methods ranged from 0.26 for fiber to 0.63 for magnesium. All but three nutrients (protein, dietary fiber and zinc) had correlations of 0.47 or higher. After adjusting for energy intake and within-person variation the average correlation was 0.52 (see Table I).

DISCUSSION

These data show strong evidence that the HFFQ for children has validity comparable to that observed among adults reporting their own diet over the preceding year. We have observed average correlations of 0.47 in our studies of the HFFQ for pregnant women (5, 6), 0.54 in our studies of the Youth Adolescent Questionnaire (14), 0.60 in our studies among health professionals (15), and 0.44 and 0.61 in our studies of the Nurses' Health Study Food Frequency Questionnaire (16, 17).

The current study strengthens the existing research, demonstrating that past dietary intake of children aged 1 to 5 years can be measured reasonably well with a food frequency questionnaire completed by the child's parent or guardian. Moreover, two of the previous similar studies of diet assessment in children under age 5 years estimated the validity of modified versions of the Willett FFQ while the Block study examined the validity of the HFFQ for children which was also derived from the Willett FFQ. The HFFQ for children has since been modified and implemented in three state WIC programs for dietary assessment of clients in Massachusetts, Missouri, and North Dakota. The North Dakota WIC program has been using the HFFQ since 1993, therefore the providers are very familiar with the form and its administration. This familiarity makes data collection run more smoothly than if the providers had to familiarize themselves with a new tool while recruiting participants and collecting data. The forms used by Treiber *et al.* and Stein *et al.* were modified and administered especially for the purpose of their study (2, 3).

Our participation rate was good with 86% of the parents recruited to participate completing the entire study. This high participation rate reduces the potential for bias in our estimates of validity. Of the 38 parents who left the study, 29% ($n = 11$) had more than 1 child participating in the study; however, 50 women (20%) with more than one child completed the study through to the end. To eliminate the potential bias created by parent's completing forms for more than one child we excluded siblings from the analysis.

The current study is limited because parental report of their child's diet may not be as accurate as possible due to the limited ability of adults to know what their child(ren) eat while away from home (i.e. at daycare or a friends house). The study is also limited in its generalizability. The study population consisted of Caucasian and Native American children, and therefore needs to be validated in other populations to improve the generalizability of the HFFQ. Although, it should be noted that this analysis demonstrates that there is no difference between the reliability of the HFFQ in estimating the dietary intake of two very different populations. Research might also evaluate the contribution of meals consumed while a child is not under parental supervision (e.g., in day care) on total diet intake and diet quality.

In conclusion, the Harvard Service Food Frequency Questionnaire is a simple, self-administered

Table I. Energy and Nutrient Intake and Pearson Correlation Coefficients Quantitated During the Administration of Two Food Frequency Questionnaires and Three 24-hr Dietary Recalls in a Sample of 233 Children Aged 1 to 5 Years

	Energy & Nutrient Intake		Correlations 3 recalls and average of 1st and 2nd FFQs[a]
	Recalls	Harvard Service FFQ	
Nutrients and energy	Mean (*SD*)[b]	Mean (*SD*)	N/A
Energy (kcal)	1684 (467)	1688 (482)	N/A
Protein (g)	63 (17)	69 (20)	0.43
Carbohydrate (g)	217 (66)	204 (60)	0.52
Sucrose (g)	36 (17)	23 (10)	0.59
% Fat	34 (5)	37 (4)	N/A
Total fat (g)	65 (21)	69 (23)	0.62
Cholesterol (mg)	222 (107)	250 (99)	0.48
Dietary fiber (g)	11 (4)	12 (4)	0.26
Vitamin A (RE)	1035 (569)	1176 (449)	0.49
Vitamin E (mg)	8 (5)	10 (7)	0.56
Vitamin C (mg)	117 (66)	114 (49)	0.58
Vitamin B1 (mg)	2 (1)	2 (1)	0.57
Vitamin B2 (mg)	2 (1)	3 (1)	0.56
Niacin (mg)	19 (8)	21 (8)	0.55
Folate (ug)	274 (133)	307 (147)	0.55
Vitamin B6 (mg)	2 (1)	2 (1)	0.58
Vitamin B12 (ug)	5 (3)	6 (2)	0.47
Calcium (mg)	1016 (328)	1087 (319)	0.60
Zinc (mg)	10 (7)	11 (5)	0.31
Magnesium (mg)	225 (69)	220 (60)	0.63
Iron (mg)	14 (6)	12 (6)	0.51
	Average correlations		
All childen (n = 233)			0.52
1 through 2 year olds (n = 129)			0.51
3 to 5 year olds (n = 104)			0.49
Native American (n = 131)			0.51
Caucasian (n = 102)			0.49

[a]Pearson Correlation coefficients adjusted for energy intake and within person variation.
[b]*SD*, standard deviation.

questionnaire completed by the child's parent or guardian that is useful in assessing the diets of Native American and Caucasian children. It may also provide important nutritional information about this age group for future program planning, research, education, and intervention purposes.

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Appendix E: Standardized HSFFQ

1. **Standardized HSFFQ:** Women & children's in English & Spanish
2. **4th Page Modules:** Physical Activity & Food Security
3. **Users Manual**

Nutrition Questionnaire

Name _____

ID # _____

Date ___/___/___

DOB ___/___/___

Check One:

☐ Pregnant - 0
Due Date_____

☐ Breastfeeding - 1
1st 6 months

☐ Breastfeeding - 2
2nd 6 months

☐ Not Breastfeeding - 3

What Have You Been Eating Lately?

During the past 4 weeks, how often did you eat a serving of each of the foods listed here?
Mark only one X for each food

Example:

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Milk				X					
Hot chocolate	X								

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Milk									
Hot chocolate									
Cheese, plain or in sandwiches									
Yogurt									
Ice cream (cones, sandwiches, sundaes)									
Pudding									
	0	1	2	3	4	5	6	7	8

What kind of milk do you usually drink? (Check one)

3 ☐ whole 5 ☐ 1% 7 ☐ chocolate milk

4 ☐ 2% 6 ☐ skim 8 ☐ other _____

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Orange juice or grapefruit juice									
Other juice									
Fruit drinks (Hi-C, Kool-aid, lemonade, sportsdrink)									
Banana									
Peaches									
Fruit cocktail, mixed fruit									
Orange or grapefruit									
Apple or pear									
Applesauce									
Grapes									
Strawberries									
Melon									
Pineapple									
Raisins or prunes									
	0	1	2	3	4	5	6	7	8

Continued next page

Mark only one X for each food

How often did you eat a serving of these foods during the past 4 weeks?

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Corn									
Peas									
Tomatoes tomato sauce, salsa									
Peppers (green, red or hot)									
Carrots									
Broccoli									
Green beans									
Spinach									
Greens (mustard, turnip, kale)									
Mixed vegetables									
Squash, orange or winter									
Zucchini, yellow squash									
French fries, fried potatoes, tater tots									
Potatoes (baked, boiled, or mashed)									
Sweet potatoes or yams									
Cabbage, coleslaw or cauliflower									
Lettuce salad									
Salad dressing									
Mayonnaise									
	0	1	2	3	4	5	6	7	8

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Chips (potato, corn or others)									
Popcorn or pretzels									
Crackers									
Nuts									
Cookies or brownies									
Cake or cupcake									
Pie									
Jello									
Chocolate or candy bar									
Other candy (not chocolate)									
Coffee or tea									
Soda , soft drink, pop (not sugar free)									
Soda , soft drink, pop (sugar free)									
Beer, wine, wine cooler, mixed drink or liquor									
	0	1	2	3	4	5	6	7	8

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Beans (baked, chili or other)									
Rice									
Spaghetti or other pasta									
Pizza									
Tacos, burritos									
Macaroni and cheese									
Hot dogs									
Sausage									
Hamburger, (prepared any way)									
Canned tuna									
Fried fish, fish sticks									
Other fish									
Cold cuts (bologna, ham, salami)									
Fried chicken, chicken nuggets									
Other chicken or turkey									
Pork or ham									
Roast beef or steak									
Liver, organ meats									
Peanut butter									
Bread (slice) toast, roll, or pita									
Butter (not margarine)									
Margarine									
	0	1	2	3	4	5	6	7	8

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Vegetable soup									
Other soup									
Cornbread or tortilla									
Eggs									
Bacon									
Hot cereal, grits									
Cold cereal									
Donut									
Sweet roll or muffin									
Pancake, waffle, or french toast									
English muffin or bagel									
Biscuit									
	0	1	2	3	4	5	6	7	8

1. What type of bread do you usually eat:

☐ white bread (1) ☐ whole wheat or dark bread (2) ☐ about half and half (3) ☐ DON'T EAT BREAD (4)

2. What type of margarine do you usually use:

☐ stick (1) ☐ tub (2) ☐ squeeze (3) ☐ DON'T USE MARGARINE (4)

Is this margarine:

☐ corn oil (1) ☐ nonfat (2) ☐ other (3)

3. If you eat cold breakfast cereal, what type:

☐ high fiber (eg. All Bran) (1) ☐ other (eg. Corn Flakes) (2)

4. Do you take a multi-vitamin pill (Centrum, One-A-Day):

☐ no (0) ☐ yes (1)

If yes, how often:

☐ Every day (1) ☐ 4-6 times a week (2) ☐ 1-3 times a week (3) ☐ Less than one time a week (4)

5. Do you take a separate iron pill (not in the multi-vitamin pill above):

☐ no (0) ☐ yes (1)

6. Do you take a separate vitamin A supplement (not in the multi-vitamin pill above):

☐ no (0) ☐ yes (1)

7. Do you take a separate calcium supplement (not in the multi-vitamin pill above):

☐ no (0) ☐ yes (1)

8. Do you eat fried food at home:

☐ no (0) ☐ yes (1)

If yes, how often:

☐ Every day (1) ☐ 4-6 times a week (2) ☐ 1-3 times a week (3) ☐ Less than one time a week (4)

If yes, what type of fat do you use to fry at home:

☐ butter (1) ☐ margarine (2) ☐ crisco (3) ☐ corn oil (4) ☐ canola oil (5) ☐ olive oil (6) ☐ other vegetable oil (7)

9. Do you bake cookies, cake or pies at home:

☐ no (0) ☐ yes (1)

If yes, how often:

☐ Every day (1) ☐ 4-6 times a week (2) ☐ 1-3 times a week (3) ☐ Less than one time a week (4)

If yes, what type of fat do you use to bake at home:

☐ butter (1) ☐ margarine (2) ☐ crisco (3) ☐ corn oil (4) ☐ canola oil (5) ☐ olive oil (6) ☐ other vegetable oil (7)

Cuestionario de Nutrición

¿Qué ha estado comiendo últimamente?

¿Durante las últimas 4 semanas, qué tan seguido comió una porción de cada alimento en la siguiente lista? **Marque solamente una X para cada alimento.**

Nombre _____

ID # _____

Fecha ____/____/____ (mes / día / año)

Fecha de Nacimiento ____/____/____ (mes / día / año)

Marque uno:

☐ Embarazada-0

Fecha probable de parto _____

☐ Amamantó-1
los primeros 6 meses

☐ Amamantó-2
los segundos 6 meses

☐ No Amamantó-3

Por ejemplo:

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Leche				X					
Chocolate caliente	X								

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Leche									
Chocolate caliente									
Queso, solo o en sándwich									
Yogurt									
Helado, nieve									
Pudín									
	0	1	2	3	4	5	6	7	8

¿Qué tipo de leche bebe normalmente? (marque uno)

[3] ☐ leche entera

[4] ☐ leche parcialmente descremada (2%)

[5] ☐ leche parcialmente descremada (1%)

[6] ☐ leche descremada o desnatada (nonfat)

[7] ☐ otro tipo de leche _____

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Jugo de naranja o jugo de toronja									
Otros jugos									
Hi-C, Kool-aid, o limonada									
Plátano o banano									
Melocotones, durazno									
Ensalada de fruta									
Naranja o toronja									
Manzana o pera									
Puré de manzana									
Uvas									
Fresas									
Melón, mango									
Piña									
Pasas o ciruelas									
	0	1	2	3	4	5	6	7	8

Próxima página

Marque solamente una X por cada alimento.

¿Qué tan seguido comió usted una porción de estos alimentos en las últimas 4 semanas?

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Maíz, elote									
Guisantes, chícharos									
Tomates, puré de tomate, salsa									
Pimientos (verde, rojo, o picante)									
Zanahoria									
Brócoli o brécol									
Habichuelas verdes, ejotes									
Espinacas									
Verduras (nabo o acelga)									
Verduras mixtas									
Calabaza									
Zucchini, calabaza amarilla, calabacitas									
Papas fritas									
Papas (al horno, hervidas, o en puré)									
Batata o ñame, camote									
Repollo, ensalada de col, o coliflor, col									
Ensalada de lechuga									
Aderezo para ensalada									
Mayonesa									
	0	1	2	3	4	5	6	7	8

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Papitas fritas, doraditas, chips de maíz u otras									
Galletas saladas									
Galletas									
Nueces									
Bizcocho, bizcochito redondo									
Pastel o cupcake, panqué									
Empanada									
Gelatina									
Chocolates									
Otros dulces									
Café o té									
Refrescos (con azúcar)									
Refrescos (de dieta)									
	0	1	2	3	4	5	6	7	8

Próxima página

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Frijoles (al horno, de chili, u otro)									
Arroz									
Espaguetti u otra pasta									
Pizza									
Tacos, burritos									
Macarrones con queso									
Hot dog									
Salchicha, embutidos, chorizo									
Hamburguesa (preparada cualquier manera)									
Atún de lata									
Pescado frito									
Otro tipo de pescado									
Carnes frías (bologna, salami, jamón)									
Pollo frito, pepitas de pollo									
Otro tipo de pollo o pavo									
Puerco o jamón									
Bistec o rosbif									
Hígado, carne de órganos									
Mantequilla de cacahuate									
Pan (rebanado), tostado, pita, bolillo									
Mantequilla (no margarina)									
Margarina									
	0	1	2	3	4	5	6	7	8

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Sopa de verdura									
Otra sopa o caldos									
Pan de maíz o tortilla									
Huevos									
Tocino									
Cereal caliente, cereal de maíz molido									
Cereal frío									
Donas									
Pan dulce									
Panqué, hotcakes, o pan a la francesa, waffles									
English muffin o bagel									
Bizcocho, bisquete, o bollo									
	0	1	2	3	4	5	6	7	8

  Próxima página

1. **Por lo general, ¿qué tipo de pan come?**
☐ pan blanco ☐ trigo entero o pan oscuro ☐ alternados ☐ no come pan
1 2 3 4

2. **¿Qué tipo de margarina utiliza generalmente?**
☐ en barra ☐ envasada ☐ líquida ☐ no utilizo margarina
1 2 3 4

Esta margarina es de:
☐ aceite de maíz ☐ sin grasa ☐ otro
1 2 3

3. **Si come cereal en el desayuno, ¿qué tipo de cereal es?**
☐ cereal alto en fibra (All Bran) ☐ cereal sin azúcar (Corn Flakes)
1 2

---

4. **¿Toma algún multivitamínico? (Centrum, One-A-Day)**
☐ no ☐ sí
1 2

Si su respuesta es sí, ¿con qué frecuencia?
☐ diario ☐ 4-6 veces por semana ☐ 1-3 veces por semana ☐ menos de una vez por semana
1 2 3 4

5. **¿Toma algún suplemento de hierro (no incluido en el multivitamínico)?**
☐ no ☐ sí
1 2

6. **¿Toma algún suplemento de vitamina A (no incluido en el multivitamínico)?**
☐ no ☐ sí
1 2

7. **¿Toma algún suplemento de calcio (no incluido en el multivitamínico)?**
☐ no ☐ sí
1 2

8. **¿Come alimentos fritos en casa?**
☐ no ☐ sí
1 2

Si su respuesta es sí, ¿con qué frecuencia?
☐ diario ☐ 4-6 veces por semana ☐ 1-3 veces por semana ☐ menos de una vez por semana
1 2 3 4

Si su respuesta es sí, ¿qué tipo de grasa utiliza para freír alimentos en casa?
☐ mantequilla ☐ margarina ☐ Crisco ☐ aceite de maíz ☐ aceite de canola ☐ aceite de oliva ☐ otro tipo de grasa
1 2 3 4 5 6 7

9. **¿Hornea galletas, pasteles, o pays en casa?**
☐ no ☐ sí
1 2

Si su respuesta es sí, ¿con qué frecuencia?
☐ diario ☐ 4-6 veces por semana ☐ 1-3 veces por semana ☐ menos de una vez por semana
1 2 3 4

Si su respuesta es sí, ¿qué tipo de grasa utiliza al hornear?
☐ mantequilla ☐ margarina ☐ Crisco ☐ aceite de maíz ☐ aceite de canola ☐ aceite de oliva ☐ otro tipo de grasa
1 2 3 4 5 6 7

Children's Nutrition Questionnaire

Name_____

ID #_____

Date ___/___/___

DOB ___/___/___

Age_____

Respondent: *(please check)*

☐ Mother

☐ Other_____

What Have You Been Eating Lately?

During the past 4 weeks, how often did you eat a serving of each of the foods listed here?

Mark only one X for each food

Example:

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Milk				X					
Hot chocolate	X								

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Milk									
Hot chocolate									
Cheese, plain or in sandwiches									
Yogurt									
Ice cream (cones, sandwiches, sundaes)									
Pudding									
	0	1	2	3	4	5	6	7	8

What kind of milk does your child usually drink? (Check one)

1 ☐ breastmilk 3 ☐ whole 5 ☐ 1% ☐ other _____

2 ☐ formula 4 ☐ 2% 6 ☐ skim

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Orange juice or grapefruit juice									
Other juice									
Fruit drinks (Hi-C, Kool-aid, lemonade, sportsdrink)									
Banana									
Peaches									
Fruit cocktail, mixed fruit									
Orange or grapefruit									
Apple or pear									
Applesauce									
Grapes									
Strawberries									
Melon									
Pineapple									
Raisins or prunes									
	0	1	2	3	4	5	6	7	8

Continued next page

Mark only one X for each food

How often did you eat a serving of these foods during the past 4 weeks?

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Corn									
Peas									
Tomatoes tomato sauce, salsa									
Peppers (green, red or hot)									
Carrots									
Broccoli									
Green beans									
Spinach									
Greens (mustard, turnip, kale)									
Mixed vegetables									
Squash, orange or winter									
Zucchini, yellow squash									
French fries, fried potatoes, tater tots									
Potatoes (baked, boiled, or mashed)									
Sweet potatoes or yams									
Cabbage, coleslaw or cauliflower									
Lettuce salad									
Salad dressing									
Mayonnaise									
	0	1	2	3	4	5	6	7	8

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Chips (potato, corn or others)									
Popcorn or pretzels									
Crackers									
Nuts									
Cookies or brownies									
Cake or cupcake									
Pie									
Jello									
Chocolate or candy bar									
Other candy (not chocolate)									
Coffee or tea									
Soda , soft drink, pop (not sugar free)									
Soda , soft drink, pop (sugar free)									
	0	1	2	3	4	5	6	7	8

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Beans (baked, chili or other)									
Rice									
Spaghetti or other pasta									
Pizza									
Tacos, burritos									
Macaroni and cheese									
Hot dogs									
Sausage									
Hamburger, (prepared any way)									
Canned tuna									
Fried fish, fish sticks									
Other fish									
Cold cuts (bologna, ham, salami)									
Fried chicken, chicken nuggets									
Other chicken or turkey									
Pork or ham									
Roast beef or steak									
Liver, organ meats									
Peanut butter									
Bread (slice) toast, roll, or pita									
Butter (not margarine)									
Margarine									
	0	1	2	3	4	5	6	7	8

	last 4 weeks		each week			each day			
Number of times	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Vegetable soup									
Other soup									
Cornbread or tortilla									
Eggs									
Bacon									
Hot cereal, grits									
Cold cereal									
Donut									
Sweet roll or muffin									
Pancake, waffle, or french toast									
English muffin or bagel									
Biscuit									
	0	1	2	3	4	5	6	7	8

1. What type of bread does your child usually eat:

☐ white bread (1) ☐ whole wheat or dark bread (2) ☐ about half and half (3) ☐ DON'T EAT BREAD (4)

2. What type of margarine does your child usually use:

☐ stick (1) ☐ tub (2) ☐ squeeze (3) ☐ DON'T USE MARGARINE (4)

Is this margarine:

☐ corn oil (1) ☐ nonfat (2) ☐ other (3)

3. If your child eats cold breakfast cereal, what type:

☐ high fiber (eg. All Bran) (1) ☐ unsweetened (eg. Corn Flakes) (2) ☐ sweetened (eg. Cap'n Crunch) (3)

4. Does your child take a multi-vitamin pill (Flintstones, TriViFlor):

☐ no (0) ☐ yes (1)

If yes, how often:

☐ Every day (1) ☐ 4-6 times a week (2) ☐ 1-3 times a week (3) ☐ Less than one time a week (4)

5. Does your child take a separate iron pill (not in the multi-vitamin pill above):

☐ no (0) ☐ yes (1)

6. Does your child take a separate fluoride supplement (not in the multi-vitamin pill above):

☐ no (0) ☐ yes (1)

7. Does your child eat fried food at home:

☐ no (0) ☐ yes (1)

If yes, how often:

☐ Every day (1) ☐ 4-6 times a week (2) ☐ 1-3 times a week (3) ☐ Less than one time a week (4)

If yes, what type of fat do you use to fry at home:

☐ butter (1) ☐ margarine (2) ☐ crisco (3) ☐ corn oil (4) ☐ canola oil (5) ☐ olive oil (6) ☐ other vegetable oil (7)

9. Do you bake cookies, cake or pies at home:

☐ no (0) ☐ yes (1)

If yes, how often:

☐ Every day (1) ☐ 4-6 times a week (2) ☐ 1-3 times a week (3) ☐ Less than one time a week (4)

If yes, what type of fat do you use to bake at home:

☐ butter (1) ☐ margarine (2) ☐ crisco (3) ☐ corn oil (4) ☐ canola oil (5) ☐ olive oil (6) ☐ other vegetable oil (7)

Cuestionario de Nutrición para Niños

¿Qué ha estado comiendo su hijo(a) últimamente?

Nombre _____

ID # _____

Fecha ____/____/____ (mes / día / año)

Fecha de Nacimiento ____/____/____ (mes / día / año)

EDAD _____

Entrevistado

☐ Madre

☐ Otro _____

¿Durante las últimas 4 semanas, qué tan seguido comió su hijo(a) una porción de cada alimento en la siguiente lista?
Marque solamente una X para cada alimento

Por ejemplo:

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Leche				X					
Chocolate caliente	X								

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Leche									
Chocolate caliente									
Queso, solo o en sándwich									
Yogurt									
Helado, nieve									
Pudín									
	0	1	2	3	4	5	6	7	8

¿Qué tipo de leche bebe su niño normalmente? (marque uno)

1 ☐ leche materna

2 ☐ fórmula

3 ☐ leche entera

4 ☐ leche parcialmente descremada (2%)

5 ☐ leche parcialmente descremada (1%)

6 ☐ leche descremada o desnatada (nonfat)

7 ☐ otro tipo de leche _____

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Jugo de naranja o jugo de toronja									
Otros jugos									
Hi-C, Kool-aid, o limonada									
Plátano o banano									
Melocotones, durazno									
Ensalada de fruta									
Naranja o toronja									
Manzana o pera									
Puré de manzana									
Uvas									
Fresas									
Melón, mango									
Piña									
Pasas o ciruelas									
	0	1	2	3	4	5	6	7	8

Próxima página

Marque solamente una X para cada alimento

¿Qué tan a menudo comió su hijo(a) una porción de estos alimentos en las últimas 4 semanas?

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Maíz, elote									
Guisantes, chícharos									
Tomates, puré de tomate, salsa									
Pimientos (verde, rojo, o picante)									
Zanahoria									
Brócoli o brécol									
Habichuelas verdes, ejotes									
Espinaca									
Verduras (nabo o acelga)									
Verduras mixtas									
Calabaza									
Zucchini, calabaza amarilla, calabacita									
Papas fritas									
Papas (al horno, hervidas, o en puré)									
Batata o ñame, camote									
Repollo, ensalada de col, o coliflor, col									
Ensalada de lechuga									
Aderezo para ensalada									
Mayonesa									
	0	1	2	3	4	5	6	7	8

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Papitas fritas, doraditas, chips de maíz u otras									
Galletas saladas									
Galletas									
Nueces									
Bizcocho, bizcochito redondo									
Pastel o cupcake, panqué									
Empanada									
Gelatina									
Chocolates									
Otros dulces									
Café o té									
Refrescos (con azúcar)									
Refrescos (de dicta)									
	0	1	2	3	4	5	6	7	8

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Frijoles (al horno, de chili, u otro)									
Arroz									
Espaguetti u otra pasta									
Pizza									
Tacos, burritos									
Macarrones con queso									
Hot dog									
Salchicha, embutidos, chorizo									
Hamburguesa (preparada calquier manera)									
Atún de lata									
Pescado frito									
Otro tipo de pescado									
Carnes frías (bologna, salami, jamón)									
Pollo frito, pepitas de pollo									
Otro tipo de pollo o pavo									
Puerco o jamón									
Bistec o rosbif									
Hígado, carne de órganos									
Mantequilla de cacahuate									
Pan (rebanado), tostado, o pita, bolillo									
Mantequilla (no margarina)									
Margarina									
	0	1	2	3	4	5	6	7	8

	últimas 4 semanas		cada semana			cada día			
Número de veces	0	1-3	1	2-4	5-6	1	2-3	4-5	6+
Sopa de verdura									
Otra sopa o caldos									
Pan de maíz o tortilla									
Huevos									
Tocino									
Cereal caliente, cereal de maíz molido									
Cereal frío									
Donas									
Pan dulce									
Panqué, hotcakes, o pan a la francesa, waffles									
English muffin o bagel									
Bizcocho, bisquete, o bollo									
	0	1	2	3	4	5	6	7	8

1. **Por lo general, ¿qué tipo de pan come su niño/a?**
☐ pan blanco ☐ pan integral o pan negro ☐ alternados ☐ no come pan
1 2 3 4

2. **¿Qué tipo de margarina utiliza su niño/a generalmente?**
☐ en barra ☐ envasada ☐ líquida ☐ no utiliza margarina
1 2 3 4

Esta margarina es de:
☐ aceite de maíz ☐ sin grasa ☐ otro
1 2 3

3. **Si su niño/a come cereal en el desayuno, ¿qué tipo de cereal es?**
☐ cereal alto en fibra (All Bran) ☐ cereal sin azúcar (Corn Flakes) ☐ cereal azucarado (Cap'n Crunch)
1 2 3

---

4. **¿Toma su niño/a algún multivitamínico (Flintstones, TriViFlor)?**
☐ no ☐ sí
1 2

Si su respuesta es sí, ¿con qué frecuencia?
☐ diario ☐ 4-6 veces por semana ☐ 1-3 veces por semana ☐ menos de una vez por semana
1 2 3 4

5. **¿Toma su niño/a alguna suplemento de hierro (no incluido en el multivitamínico)?**
☐ no ☐ sí
1 2

6. **¿Toma su niño/a algún suplemento de fluoruro (no incluido en el multivitamínico)?**
☐ no ☐ sí
1 2

7. **¿Su niño/a come comida frita en casa?**
☐ no ☐ sí
1 2

Si su respuesta es sí, ¿con qué frecuencia?
☐ diario ☐ 4-6 veces por semana ☐ 1-3 veces por semana ☐ menos de una vez por semana
1 2 3 4

Si su respuesta es sí, ¿qué tipo de grasa utiliza para freír alimentos en casa?
☐ mantequilla ☐ margarina ☐ Crisco ☐ aceite de maíz ☐ aceite de canola ☐ aceite de oliva ☐ otro tipo de grasa
1 2 3 4 5 6 7

8. **¿Hornea galletas, pasteles, o pays en casa?**
☐ no ☐ sí
1 2

Si su respuesta es sí, ¿con qué frecuencia?
☐ diario ☐ 4-6 veces por semana ☐ 1-3 veces por semana ☐ menos de una vez por semana
1 2 3 4

Si su respuesta es sí, ¿qué tipo de grasa utiliza al hornear?
☐ mantequilla ☐ Crisco ☐ aceite de maíz ☐ aceite de canola ☐ aceite de oliva ☐ otro tipo de grasa
1 2 3 4 5 6

STANDARDIZED HARVARD SERVICE FFQ PHYSICAL ACTIVITY MODULE:

Compared to other children of the same age and sex, would you say your child is (please check one):

☐ much more active ☐ more active ☐ just as active ☐ somewhat less active ☐ much less active

STANDARDIZED HARVARD SERVICE FFQ FOOD SECURITY MODULE:

6 Item Scale Currently Promoted to Assess Household Hunger in Adults[1]
(Per communication with Larry Grummer-Strawn and Bettylou Sherry, Division of Nutrition and Physical Activity, National Center for Chronic Disease Control and Prevention).

"Now I'm going to read you several statements that people have made about their food situation. For these statements, please tell me whether the statement was often true, sometimes true, or never true for (you/your household) in the last 12 months, that is, since last (name of current month)."

1. (Q3) The first statement is: "The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more." Was that often, sometimes, or never true for (you/your household) in the last 12 months?
   [ ] Often true
   [ ] Sometimes true
   [ ] Never true
   [ ] DK or Refused

2. (Q4) "(I/we) couldn't afford to eat balanced meals." Was that often, sometimes, or never true for (you/your household) in the last 12 months?
   [ ] Often true
   [ ] Sometimes true
   [ ] Never true
   [ ] DK or Refused

3. (Q8) In the last 12 months, since last (name of current month), did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?
   [ ] Yes
   [ ] No (SKIP 8a)
   [ ] DK or R (SKIP 8a)

Optional Screener: If any of the first 3 questions are answered affirmatively (i.e., if either Q3 or Q4 are "often true" or "sometimes true" or Q8 is "yes"), proceed to the next question. Otherwise, skip to the end.

[1] Bickel G, Nord M, Price C, Hamilton W, Cook J. Guide to Measuring Household Food Security: Revised 2000. Measuring Food Security in the United States. USDA, FNS, Office of Analysis, Nutrition, and Evaluation. http://www.fns.usda.gov/oane

Last 3 Items of 6 Item Scale Currently Promoted to Assess Household Hunger in Adults[1]

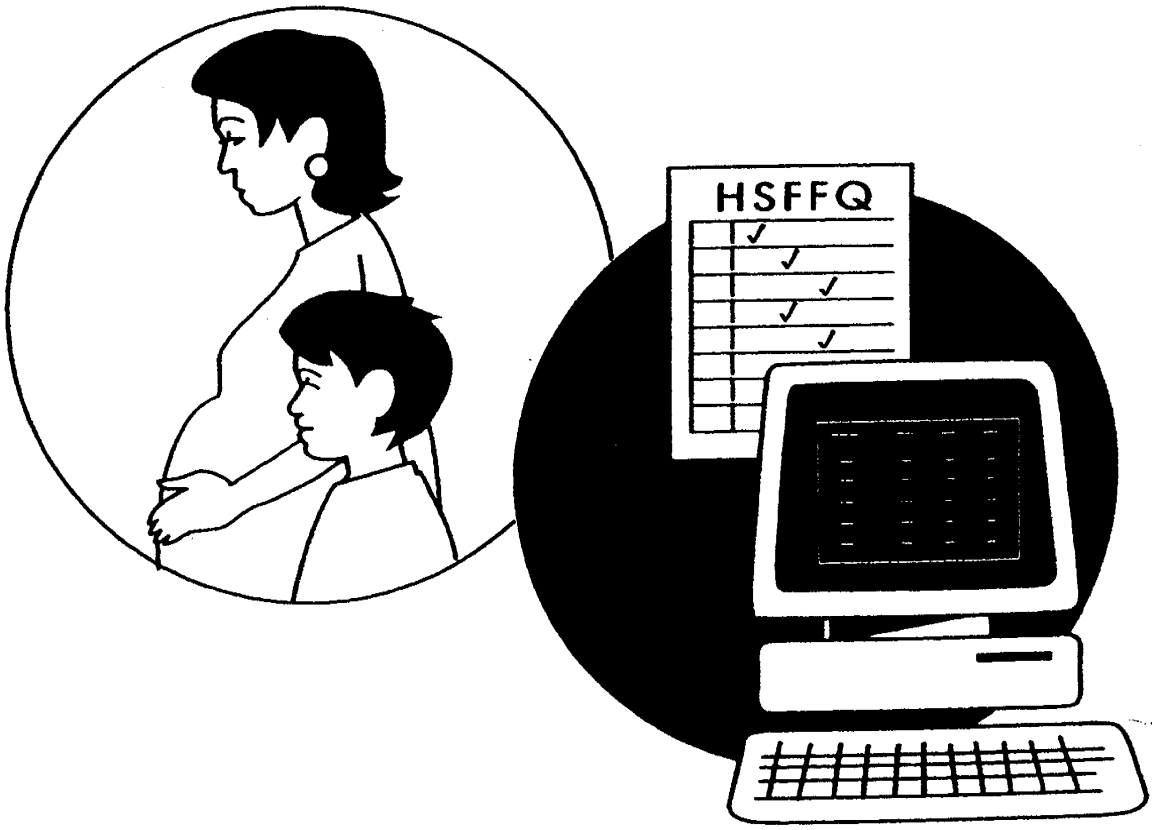
4. (Q8a) [IF YES ABOVE, ASK] How often did this happen---almost every month, some months but not every month, or in only 1 or 2 months?
   [ ] Almost every month
   [ ] Some months but not every month
   [ ] Only 1 or 2 months
   [ ] DK or R

5. (Q9) In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?
   [ ] Yes
   [ ] No
   [ ] DK or R

6. (Q10) In the last 12 months, were you every hungry but didn't eat because you couldn't afford enough food?
   [ ] Yes
   [ ] No
   [ ] DK or R

HARVARD SERVICE FOOD FREQUENCY QUESTIONNAIRE

VALIDATED DIET ASSESSMENT TOOLS



MANUAL

Harvard Service Food Frequency Questionnaire
User's Manual Version 2.1
Department of Nutrition
Harvard School of Public Health

How to contact the Harvard Service Food Frequency Coordinator:
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INDEX

I. OVERVIEW OF THE HARVARD SERVICE FOOD FREQUENCY QUESTIONNAIRE

Overview:

The Harvard Service Food Frequency Questionnaire (HSFFQ) was developed to foster a closer link between the food frequency questionnaire used in health services and those used in research, specifically in nutrition epidemiology. The first version of the HSFFQ was developed to assess pregnant women's diets. It was called the Prenatal Women's Food Frequency Questionnaire (PFFQ) and its properties are described by Suitor et al.[1] The format and many of the properties of the HSFFQ are consistent with the Harvard Food Frequency Questionnaire (HFFQ) used in the large epidemiological study conducted by researchers at Harvard University including the Nurses' Health Study and Nurses' Health Study II.[2,3] Sequentially, the tool has been expanded to include versions for children, lactating and postpartum women, and youth.

All versions of the HSFFQ have been developed for self-administration within a service setting. As such, they are shorter than research FFQs. There are two formats 1) paper copy with computer analyses and 2) direct entry into the computer by the client with the same computer analyses.

II. BACKGROUND

A) FOOD FREQUENCY QUESTIONNAIRE

A food-frequency questionnaire estimates a person's usual intake over a specified period (longer than 24 hours). Using a food-frequency questionnaire allows a person to tell you about her average long term food intake. Diet is known to vary from day to day; therefore, examining intake during only 24 hours in a person's life does not yield an accurate picture of her typical diet. It is the long-term diet that is of most interest in determining under or over nutrition[4] as well as planning for a baby at risk.

Food frequency questionnaires have been used for decades. In the 1980's, the food frequency questionnaire was refined and tested for reliability and validity as a dietary assessment tool. Besides telling a person's long term diet the food frequency questionnaire has several other benefits:

- It can be self-administered, thereby reducing time and costs involved in administration and analysis.
- It is a tool that can be completed quickly and needs only basic literacy.
- Describing one's typical food intake is considered easier than remembering what one ate in the past.

B) HARVARD SERVICE FOOD FREQUENCY QUESTIONNAIRE

As shown in Figure 1, the HSFFQ is available in different versions, which are appropriate to various populations, based on gender and age. The women's version is appropriate for women of reproductive age who are pregnant, lactating, or postpartum and not lactating. This was the first HSFFQ developed and tested as reported by Suitor et al.[1] The purpose was to produce a dietary assessment tool that could be easily self-administered by the majority of low-income women

during routine prenatal care. Therefore, issues such as usability by both the women and the provider, reproducibility, and validity were addressed. Compared with face-to-face interviews, self-administered questionnaires offer the advantages of standardization and economy. In belief that direct entry computer versions had several added advantages including ease in reading and responding, insertion of reinforcing messages, branching for additional information on key foods (such as milk), and automatic analyses, a direct entry version was developed.

After reporting on the above tool (HSFFQ women), Harvard School of Public Health entered in a contract with USDA to adapt a version of this tool for use in young children. With the 1985 CSFII One-Day Data, we determined the most common foods and their median portion sizes for low-income women and children, see Table 1. Documentation of the women's version of the FFQ was reported in 1991.[1] A child and youth version has since been developed using information gained from use of the research tool, Youth/Adolescent Food Frequency Questionnaire.[5,6]

Development and use of the HSFFQ has continued in service settings such as prenatal clinics, Head Start Programs, and WIC programs for both service and research purposes. The food lists and the analyses have been altered for specific projects, each time learning more about the characteristics of this tool. Based on these experiences and current research projects, standardization the HSFFQ for use in maternal and child health settings was begun in 1998. The tool for use in other populations continues to be developed for use in other populations.

III. USES OF THE HARVARD SERVICE FOOD FREQUENCY QUESTIONNAIRE

The HSFFQ was developed for use in care of individuals and populations. The focus has been on low-income populations and programs that serve them. At the individual level, the HSFFQ is used to assess diet in preparation for interventions such as referrals for other services or nutrition education. At the population level, it can be used to aggregate data for program planning and evaluation or to carry out studies of diet and health outcomes.

At the individual level, both the paper copy and the direct entry versions generate a brief summary of foods eaten and estimates of selected nutrients as compared with RDA. The summary can be used for determining services at that time or for a paper or electronic record of diet to be compared with later diet assessments. Since the program stores the diet data in an ASCII file with individual identifiers, multiple dietary assessments can be stored to assess changes in diet.

The diet data can also be used in the aggregate to identify the foods consumed and estimates of their nutrient content for populations. With the addition of program administration data, the diet assessments can be used for local, regional, state program planning, or evaluation. The HSFFQ has age as a variable to define the population. Other variables such as race/ethnicity, geographical location, or social-economic status would need to come from the administrative files. The ASCII file can be used to estimate the most commonly eaten foods, the foods that contribute the highest proportion of selected nutrients, the nutrient intakes compared to standards, or changes in foods selected over time. Since the ASCII file is a flat file you can use this with the analytic program of your choice. The food and nutrient data can be linked to other data to investigate the relationship of diet and health outcomes. Again, the nature of the ASCII file makes it possible to make these linkages with a variety of formats. When the HSFFQ ASCII file is linked with the nutrient database of the Nurses' Health Study, many more nutrients can be estimated. The current version of the HSFFQ estimates the following nutrients in the clinic setting: protein, calcium, iron, zinc, vitamins A, B_6, C and folate (discussed in more detail on pages 20-22).

IV. DESCRIPTION OF THE HARVARD SERVICE FOOD FREQUENCY QUESTIONNAIRE:

A) DEMOGRAPHIC INFORMATION

The following information is collected and used as identifiers in analysis:

id number -

first name -

last name -

(for children - name of person answering the questionnaire)

date of birth -

(for pregnant women - date of confinement or due date)

B) FOOD LIST

The basic foods found on the questionnaire are a combination of foods found on:

a) a women's questionnaire developed, tested and used by researchers at Harvard School of Public Health. The study at Harvard is the Nurses' Health Study, which looks at approximately 200,000 women's diets every four years. The foods on the questionnaire were chosen after an extensive review of dietary records kept for 28 days by a subset of nurses.[2,3]

b) the 1985 Continuing Survey Food Intake of Individuals (CSFII)[7] 100 foods most frequently eaten by low income women(Table1). The data were from a 1-day sample of low-income women and children in CSFII.[7]

C) PORTION SIZE

Portion sizes are not included on the questionnaire because it was found that most women did

not use them and it increased the time to complete the questionnaire.

Portion sizes are **NOT** used when reporting the "Mean Servings by Food Group" or "Mean Servings per Week Reported by Food" on the computer screen analysis or the computer printout. These values are a direct reporting of the number of servings the client says she ate. If a woman states that she ate an apple a day and an orange once a month, the Mean Servings per Week would look like the following:

Apple	7.0
Orange	0.25

Both of these servings (7.0 and 0.25) would then be added to the sum of other Fruits for Mean Servings by Food Group. Depending on which column (per day or per week) the total sum of the fruit servings would be reported (per week) or divided by seven and then reported (per day).

The portions used for nutrient analysis are based on the median portion size reported by women aged 19-29 years of age in the second National Health and Nutrition Examination Survey (NHANES II). It is important to note that the median portion sizes are not the same as the recommended or "standard" portion sizes (Table2). For example, orange juice is almost twice the standard portion size.

D) ANALYSIS

Analysis is completed IMMEDIATELY upon finishing the entry of the FFQ. It can be seen on the computer screen as well as on a printout.

The analysis is designed to assist in the education of the client. It includes analysis by nutrients as well as foods:

Mean Servings by Food Group (per day and per week)

Calorie Sources

Number of Food Items Selected

Nutrients as a Percentage of Recommended Dietary Allowance-1989 (RDA)

Mean Servings per Week Reported by Food

Again the "Mean Servings" are a direct reporting of the number of servings that the client reports. The "Calorie Sources" and "Nutrients as a Percentage of RDA" are calculated from the frequency reported and the nutrients in the corresponding serving of food.

V. START UP

A) COMPUTER DIRECTIONS

Women's and Children's Computerized FFQ Instructions

The program can run on a 286 as well as a Pentium PC. A printer must be connected to the computer if a printout of the analysis is desired.

1) Insert disk into 3.5" disk drive.

2) At the prompt type: "password given to you"

3) When the first screen or **Introduction Screen** of the FFQ comes up, press the Enter/Return key (or green key) to begin.

```
**********************************************************************************
*                                                                                *
*                  Women's and Children's Nutrition Questionnaire                *
*                                                                                *
*  This program is used to handle responses to food frequency                    *
*  questionnaires completed by women who are pregnant,                           *
*  breastfeeding, or post partum not breastfeeding.  It also handles             *
*  responses to questionnaires completed for children aged 1 through             *
*  5 years by their parents or caretakers.  It creates an ASCII                  *
*  format data file that includes estimated intake of energy;                    *
*  protein; vitamins A, C, B-6 and folate; calcium, iron, and zinc.              *
*   It allows screen or printed display of selected results                      *
*  including daily numbers of servings per food group, weekly                    *
*  numbers of servings of each food items, and nutrients as                      *
*  percentages of RDA.                                                           *
*                                                                                *
*  Copyright © 1997 President and Fellows of Harvard College                     *
**********************************************************************************

                    < Press ENTER key to continue >
```

4) Select the type of questionnaire on the **MENU SCREEN** that will be entered from the following choices:

```
Type    C  to enter a child's questionnaire
        W  to enter a woman's questionnaire
        L  to load previous questionnaire
        X  to see existing records
        D  to delete an existing record
        Q  to quit program
```

C to enter a CHILD'S questionnaire – to enter a NEW questionnaire for a child (1-5 years old). This brings you to the **CLIENT INFORMATION SCREEN** for children. The first page for entering a new food frequency questionnaire.

W to enter a WOMAN'S questionnaire – to enter a NEW questionnaire for a woman (pregnant, lactating, or neither). This brings you to the **CLIENT INFORMATION SCREEN** for women. The first page for entering a new food frequency questionnaire.

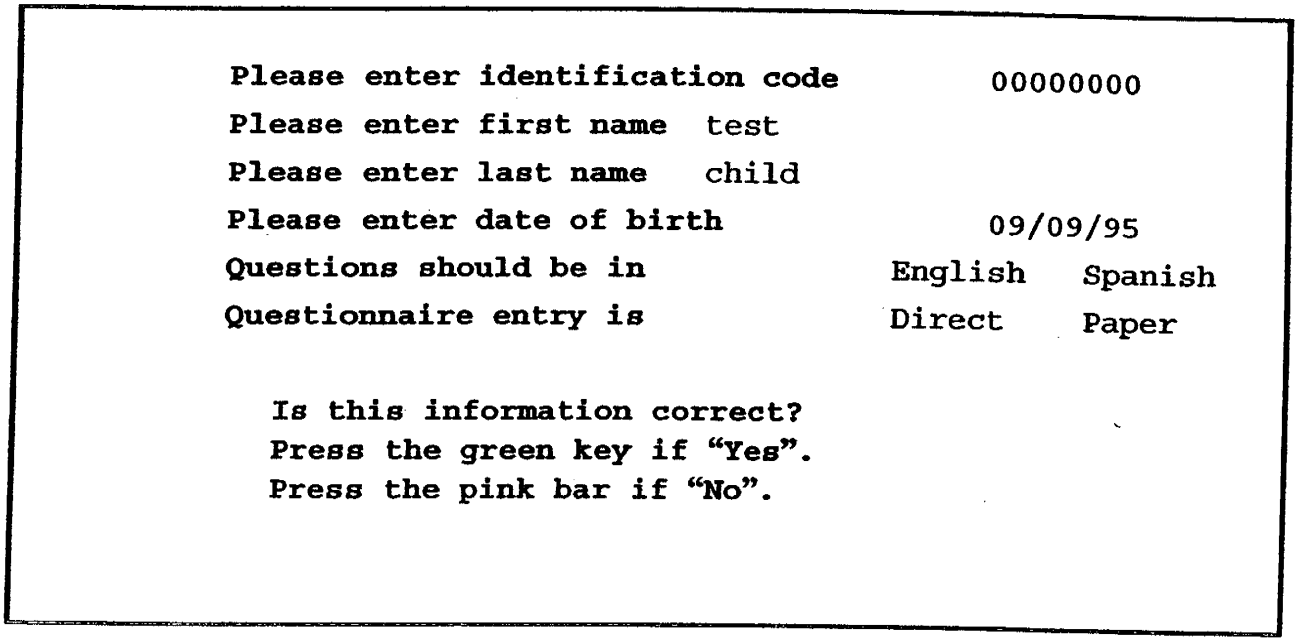
L to LOAD a PREVIOUS questionnaire – to call up an existing questionnaire or a questionnaire that was completed for a client in the past. This brings up "Please enter ID # (or l [line number])". To load (or bring up) a record you must know the ID # or the line number of the record in the file. (To find the line number, use X – to see existing records in the menu.) When you use the line number at prompt "Please enter ID# (or l [line number])", you need to type "l" and the line number so it would look like "l5" or "l10" for line 5 or line 10.

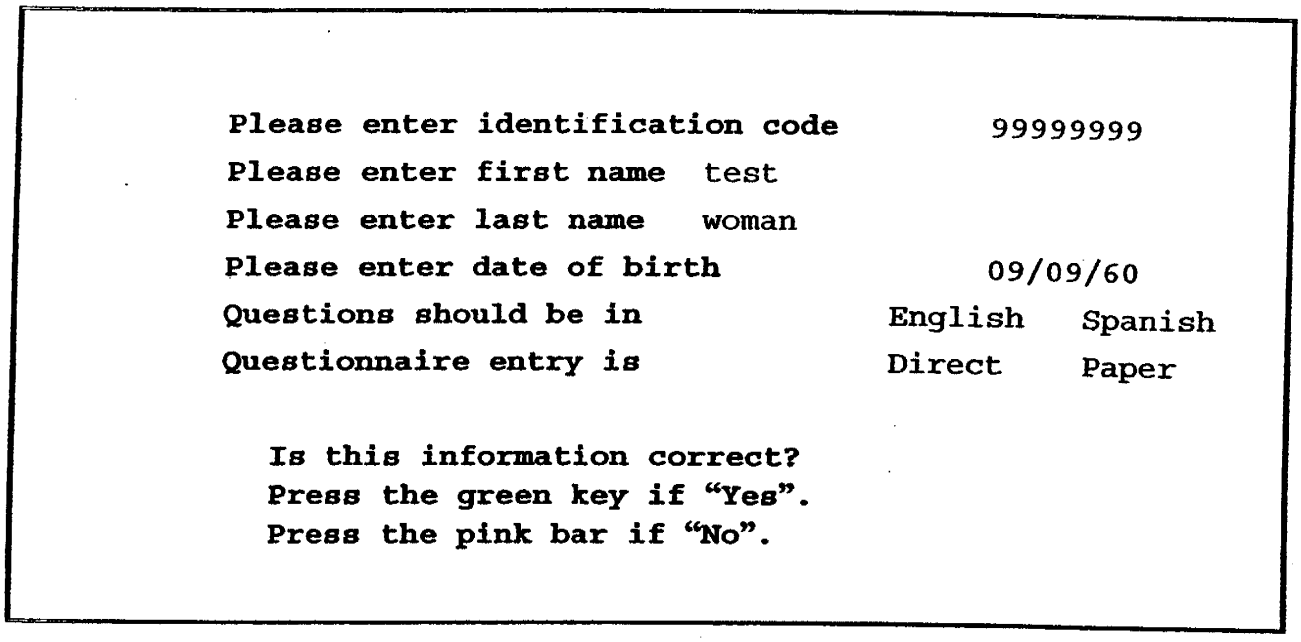
X to see existing records – to look at the list of questionnaires already completed. This brings you into the file of existing records, listing the Name, ID #, Date of Birth, Date the FFQ was completed, and Age when FFQ was completed. The oldest record entered is the first record shown in this list, and the record most recently entered would be the last in this list.

D to delete an existing record – to remove a record or questionnaire already completed. This brings up "Please enter ID # (or l [line number])>>. To delete (or remove) a record you must know the id number or the line number of the record in the file. (To find the line number, use X [to see existing records] in the menu.)

Q to QUIT the program – to get out of system. This returns you to the DOS prompt.

5) **The third screen is the CLIENT INFORMATION SCREEN.** Enter the client information asked for on this screen (i.e., id #, name, birthdate, etc.)





-Hit Return/Enter after EACH entry (green key).

-To choose between ENGLISH, SPANISH, and DIRECT or PAPER use the space bar (pink bar).

-PAPER: (This is for use when the client has filled out paper copy and it is transferred to the computer)

Fill in the appropriate response for pregnant, lactating, etc.
Then TRANSFER the ANSWERS from the paper questionnaire to the computer using 0 - 8 to code the food frequencies (code a 9 for double marked items or missing entries).
To escape from entering the questionnaire, press the escape key and it brings you back to the **MENU SCREEN.**

-DIRECT ENTRY: (This is for use when the client is answering the questions directly.)
Follow the on-screen directions.
Use the TUTORIAL session until you are familiar with the program.
To escape from answering the questionnaire, press the escape key and it brings you back to **MENU SCREEN**.

6) When the questionnaire is completed, or you have just loaded a previously entered questionnaire or you escape, the **MENU SCREEN** will appear with 3 additional options:

```
Name:   Test Woman
ID#:    99999999        Date:   02/26/99
DOB:    09/09/60        Age:    38.5        Status: Pregnant

        Type    C  to enter a child's questionnaire
                W  to enter a woman's questionnaire
                L  to load previous questionnaire
                X  to see existing records
                D  to delete an existing record
                E  to edit data previously entered
                S  to show results previously entered
                P  to print results
                Q  to quit program
```

E to edit data previously entered – this brings you to **CLIENT INFORMATION SCREEN** and you can change any information on this screen or the FFQ.

S to show results on screen – this brings you into the analysis screens of record you are looking at.

P to print results – this will print to an attached printer the analysis of the record you are looking at.

---

7) When you leave or escape the questionnaire **before** completing all questions, **the MENU SCREEN** will appear with 1 additional option.

```
Name:   Test child
ID#:    00000000        Date:   02/26/99
DOB:    09/09/95        Age:    3.5

        Type    C  to enter a child's questionnaire
                W  to enter a woman's questionnaire
                L  to load previous questionnaire
                X  to see existing records
                D  to delete an existing record
                R  to resume answering questions
                E  to edit data previously entered
                Q  to quit program
```

R to resume answering questions – this brings you back into the food frequency questionnaire for the person highlighted at top of the **MENU SCREEN**.

GREEN KEY = Enter or Return - moves to the next question on the questionnaire.

PINK BAR = Space bar - moves between answers within each question.

YELLOW KEY = Backspace or moves back to previous question on questionnaire.

B) RECOMMENDED VERBAL INSTRUCTION

I) Administering the Direct Entry of the Harvard Service Food Frequency Questionnaire

1. Set up the program as directed in computer directions 1-4.
2. Explain that this program is designed to let the woman, herself, complete the questions about what she or her child has eaten during the previous month.
3. Enter her (or child's) i.d. number, name, date of birth, language, and direct entry while she watches and verifies the information.
4. Point out the green key, pink bar, and yellow key.
5. Watch her complete the tutorial section and the first few food items.
6. When she has completed the questionnaire the staff can choose to print the results at that time or later.

B) RECOMMENDED VERBAL INSTRUCTIONS (cont'd)

II) Administering the Paper Version of the Harvard Service Food Frequency Questionnaires

1. Fill in the client identification information in the upper right-hand corner.

2. Provide the appropriate questionnaire, clipboard, and pen. An example of how to introduce or explain to the woman the HSFFQ is: "This is the form we would like you to fill out. It has four sides. We want you to think about what you ate (or what your child ate) during the last four weeks. We understand that you can't remember exactly, but you probably have a good idea."

   "Suppose you (or your child) drank one glass of milk [point to milk] everyday [point to per day]. Then you put an X on or a check here [point]. These columns are for foods you had just once, twice or three times in the last four weeks [point]."

   "We are asking about number of times a food was eaten, not what you like to eat or not eat. So if you put an X here [point to ice cream, 6+/day], that would mean that you had eaten six or more bowls of ice cream every day for the past four weeks. Use this column only for foods you ate a lot of every day. Please make a mark in the "0" column [under last 4 weeks] if you did not eat the food. It helps you to keep your place and it helps us to know that you did not forget a food."

3. Watch as the client fills out the first 3 foods to be sure she understands the instructions.

4. Collect the finished form and check for errors in completion (i.e., pages or rows not filled in or double marked rows).

C) INSTRUCTIONS FOR REVIEWING AND ENTERING THE PAPER HSFFQ

Quickly look at the first three pages of the questionnaire to assess completeness and accuracy in filling out the questionnaire.

✔ Are there **many checks** (e.g., more than 6) **in the two columns on the far right** (those for 4 or more times daily)? If yes, assume that the woman had difficulty understanding how to complete the form. Evidence suggests that such women may be at high risk of inadequate dietary intake.

✔ Are there **many checks in the two columns on the far left** (those for never or up to three times per month)? If all but 6 to 8 marks are in those two columns, either the woman had difficulty understanding how to complete the form, or the marks are accurately reflecting inadequate dietary intake.

✔ Are there **rows in which no check appears or in which more than one check appears?** If yes, delay scoring until the woman can clarify the correct response (if possible). Alternatively, follow these rules if no more than 6 rows are mismarked:

→ a **doubly-marked row followed by a correctly-marked row**, count the first check only.

→ a **doubly-marked row followed by a blank row**, transfer the second check (the one on the right) down to the blank row.

→ a **blank row followed by a doubly-marked row**, transfer the first check (the one on the left) up to the blank row.

→ a **blank row followed by correctly-marked rows**, mark in the "0" column under the last 4 weeks (the far left-hand column).

✔ Enter the code (0-8) for each food. The appropriate code is at the bottom of each frequency column. Check that you have the correct food/code (at least at the end of each group of foods). If you make an error you can backspace to the appropriate food and change the code. To return to where you left off on the food list, simply hit the return key. Your prior codes (answers) will remain as keyed.

IF GREATER THAN 6 ROWS ARE MISMARKED THE WOMAN HAD DIFFICULTY FILLING OUT THE QUESTIONNAIRE.

D) REVIEWING THE ANALYSIS

RELATIONSHIPS OF FOOD GROUPS AND NUTRIENT ADEQUACY

For most nutrients, choosing the recommended number of servings from the food groups does not guarantee that intake will match some target level of intake, such as the Recommended Dietary Allowances (RDA) or 75% of the RDA.

The tables given below give an idea of the range of intake of selected nutrients that may be achieved by combinations of commonly consumed foods. These estimates are calculated using the nutrient content for median portion sizes for women as determined in NHANES-II, with a few exceptions.

Calcium

To identify women who are unlikely to consume adequate amounts of calcium ask these questions:

- ✓ Does she drink milk? 1 glass of milk has 322 mg calcium
- ✓ Does she eat cheese? 1 slice cheese has 174 mg calcium
- ✓ Does she eat yogurt? 1 yogurt has 174 mg calcium

If a client chooses American cheese twice/day: they get approximately 174 mg calcium x 2 = 348 mg calcium

If a client chooses milk twice/day: they get approximately 322 mg calcium x 2 = 644 mg calcium

If a client chooses cheese 1/day and yogurt 1/day = they get approximately 301 mg calcium + 174 mg calcium = 475 mg calcium

Vitamin C Intake

To identify pregnant and lactating women who are unlikely to consume adequate amounts of vitamin C[a], ask these questions:

- ✓ Does the woman eat fruit and vegetables?
- ✓ Were oranges or orange juice used at least 5 times/week?
- ✓ Was melon (cantaloupe or watermelon) or broccoli eaten at least once a day?

If the answer is "yes" to the above questions, the woman is probably meeting the RDA for vitamin C.

If no, check to see if the woman eats any fruits and vegetables or juices that have vitamin C added. If fruits and vegetables are not eaten, reaching the RDA for vitamin C may pose a challenge.

Vitamin A Intake

To identify pregnant women who are unlikely to consume adequate amounts of vitamin A, ask these questions:

- ✔ Does the woman drink milk?
- ✔ Was margarine or butter used at least 2 times a day?
- ✔ Were at least 4 eggs eaten per week?

[a]This refers to vitamin C intake from non-fortified foods. Because of the widespread practice of fortifying fruit drinks and fruit-flavored drinks with vitamin C and because of the widespread consumption of these products, intake of vitamin C tends to be relatively high.

If the answer is "Yes" to all of the above questions, assume that one-half of the RDA for vitamin A has been provided by these foods. The balance of the RDA could be provided by many food choices, for example:

- → carrots 2 times a week
- → carrots, melon, spinach, and sweet potatoes each once a week
- → a daily serving of melon, spinach or other greens, sweet potatoes, or winter squash
- → a daily serving of salad, peas or green beans, and broccoli or tomatoes.

If the answer is "no" to all of the questions about dairy products and eggs, reaching the RDA for vitamin A may pose a greater challenge, for example:

- → carrots at least 3 times a week (~730 Retinol Equivalent (RE)/day) OR
- → liver at least 2 time a month (654 RE/day) OR
- → 10 servings a week (one to two servings a day) of vitamin A-rich vegetables (other than carrot), choosing from spinach, other greens, winter squash, sweet potatoes, cantaloupe, or a food made with carrots (such as vegetable soup or stew).[b] (~700 RE/day)

* NOTE: If liver was eaten at least once a month, vitamin A intake averaged a minimum of approximately 350 RE/day.

[b] Note that broccoli, tomatoes, and peaches are relatively low in vitamin A value and that low fat or skim dairy products, such as many yogurts and hot chocolate made from a mix, are not ordinarily fortified like skim milk is and therefore are low in vitamin A.

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FIGURE 1

Harvard Food Frequency Questionnaire Development

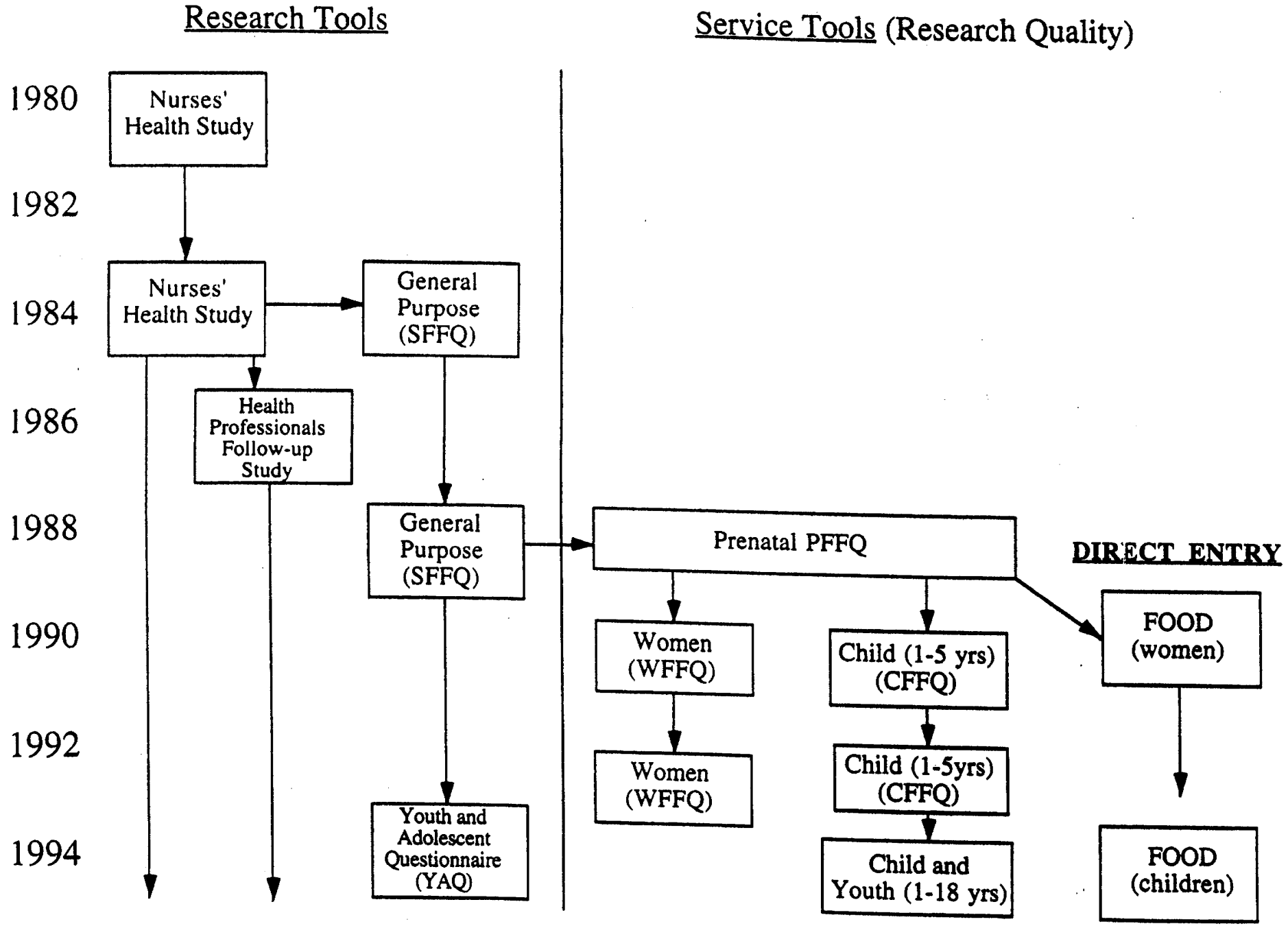

TABLE 1: 100 MOST COMMON FOODS CONSUMED BY WOMEN: CSFII 1985 1-DAY DATA

GROUP	FOOD4[a]	TOTAL[b]	PERCENT[c]	FOOD NAME
1	9241	1142	54.9	soft drinks
2	1111	990	47.6	milk
3	5110	987	47.5	white bread
4	9210	754	36.3	regular coffee
5	8110	728	35.0	margarine, butter
6	9110	706	34.0	[1]sugar
7	3110	488	23.5	whole eggs
8	9230	472	22.7	tea
9	7511	434	20.9	lettuce, cucumber, onions
10	8310	340	16.4	mayonnaise, salad dressing
11	6121	326	15.7	orange juice
12	7140	323	15.5	white potato
13	5620	307	14.8	rice
14	2522	297	14.3	bologna, sausage
15	1411	294	14.1	processed cheese
16	9254	276	13.3	fruit-flavored drinks
17	7440	261	12.6	[1]tomato catsup
18	7550	250	12.0	[1]mustard, pickles
19	5115	245	11.8	rolls
20	7410	237	11.4	tomatoes
21	5120	217	10.4	whole wheat bread
22	7520	209	10.1	beans, string, asparagus, beets
23	2150	202	9.7	ground beef
24	7521	199	9.6	corn
25	2260	195	9.4	bacon
26	7120	191	9.2	potato chips
27	5810	186	8.9	pizza, taco, enchilada, burrito
28	9211	175	8.4	decaffeinated coffee
29	5440	170	8.2	salty snacks
30	7150	169	8.1	mashed white potato
31	7110	168	8.1	fried or baked white potato
32	2751	160	7.7	hamburger, cheeseburger
33	3210	154	7.4	egg omelet, scrambled egg
34	2523	151	7.3	luncheon meat
35	7522	151	7.3	peas
36	6310	148	7.1	apples
37	5620	145	7.0	cooked cereals, grits
38	8311	144	6.9	mayonnaise-type salad dressing
39	2110	143	6.9	beef steak
40	9140	140	6.7	[1]jellies, jam
41	2850	134	6.4	gravy
42	5220	132	6.3	cornbread
43	1221	130	6.3	cream substitute
44	7514	122	5.9	lettuce salad
45	9310	120	5.8	beer
46	9130	119	5.7	honey, syrup
47	2210	118	5.7	pork chop
48	2521	116	5.6	frankfurter
49	5221	115	5.5	tortillas
50	1410	114	5.5	cheese, cheddar or American type

[a]First four digits of the seven digit code to identify foods.
[b]The number of the women who chose
[c]There are 2,079 individuals. PERCENT = TOTAL/2079) * 100
[1]Not included on WFFQ

TABLE 1: 100 MOST COMMON FOODS CONSUMED BY WOMEN: CSFII 1985 1-DAY DATA

GROUP	FOOD4[a]	TOTAL[b]	PERCENT[c]	FOOD NAME
51	5814	114	5.5	macaroni or noodles with cheese
52	1311	113	5.4	ice cream
53	5320	110	5.3	chocolate cookies
54	5210	107	5.1	biscuits
55	5310	107	5.1	chocolate cake
56	2412	106	5.1	chicken breast
57	4220	106	5.1	peanut butter
58	2231	105	5.1	ham
59	4110	98	4.7	pinto, lima, kidney beans
60	9251	97	4.7	fruit drink
61	2711	94	4.5	chili, beef with gravy or sauce
62	6310	93	4.5	banana
63	7160	92	4.4	potato salad with egg
64	7310	92	4.4	carrots
65	9120	91	4.4	sweetener
66	2413	88	4.2	chicken leg
67	5813	87	4.2	spaghetti, lasagna, ravioli
68	2416	84	4.0	chicken wing
69	2140	81	3.9	beef, roast
70	5352	80	3.8	doughnuts
71	5432	80	3.8	crackers
72	6111	78	3.8	orange
73	9170	78	3.8	candy
74	2415	77	3.7	chicken thigh
75	4120	77	3.7	baked beans
76	2270	68	3.3	pork, spareribs
77	5815	59	2.8	rice mixed dish
78	6410	57	2.7	apple juice
79	7510	57	2.7	celery, cauliflower, cabbage
80	5840	56	2.7	soup
81	6120	55	2.7	grapefruit or lemon juice
82	2714	55	2.6	chicken with gravy or sauce
83	5118	55	2.6	muffins
84	7220	55	2.6	broccoli
85	2610	54	2.6	fish
86	2414	53	2.5	chicken drumstick
87	2615	51	2.5	canned tuna
88	5713	50	2.4	corn flakes
89	2721	49	2.4	beef mixed dish
90	5510	48	2.3	pancakes
91	6313	47	2.3	peaches, pears
92	5323	46	2.2	cookies
93	4121	45	2.2	stewed beans
94	5312	45	2.2	white or yellow cake
95	7514	45	2.2	cabbage salad or coleslaw
96	1121	44	2.1	evaporated milk
97	5613	44	2.1	cooked spaghetti
98	5733	43	2.1	rice krispies or raisin bran cereal
99	2745	42	2.0	tuna salad
100	7521	42	2.0	cooked cabbage

[a]First four digits of the seven digit code to identify foods.
[b]The number of the women who chose
[c]There are 2,079 individuals. PERCENT = TOTAL/2079) * 100
[1]Not included on WFFQ

TABLE 2
FOOD PORTION SIZE IN GRAM WEIGHT ASSIGNED TO FOODS ON THE HSFFQ

Food Name	Portion Size		
	Women	Children 1-2 years	Children 3-5 years
Milk	270	183	183
Hot Chocolate	28	28	28
Cheese, plain, in sandwiches	28	21	21
Yogurt	198	117	117
Ice Cream	90	67	67
Pudding	119	80	120
Orange	122	131	131
Orange juice	217	124	155
Apple juice	255	186	186
Kool Aid, other fruit drinks	270	124	155
Banana	102	91	102
Apple or applesauce	138	105	124
Grapes	75	75	75
Peaches	166	123	149
Strawberries	47	47	47
Cantaloupe	127	68	68
Watermelon	440	120	120
Pineapple	80	47	47
Raisins	28	14	28
Corn	83	42	64
Peas	52	42	42
Tomatoes	62	31	31
Peppers	18	9	9
Carrots	70	29	29
Broccoli	70	46	46
Green beans	40	35	35
Spinach	70	27	27
Greens	72	27	27
Squash, orange or winter	156	49	60
French fries, fried potatoes	115	42	51
Potatoes	99	72	80
Sweet potatoes or yams	70	49	60
Cabbage or coleslaw	67	33	41
Lettuce salad	55	37	37
Salad dressing or mayonnaise	15	5	12
Chips (potato, corn, others)	42	13	20
Nuts	15	15	15
Cookies or brownies	25	22	22
Cake or cupcake	66	30	30
Pie (pumpkin,etc.)	140	37	37
Other pie	112	66	66
Jello	90	90	90
Chocolate candy	32	18	27
Other candy	15	18	18
Tea	180	120	120
Soft drinks	246	124	186
Sugar-free soft drinks	246	124	186
Baked beans or chili beans	128	83	128
Other dried beans, peas	85	58	58
Rice	113	87	87
Spaghetti or other pasta	310	192	227
Pizza	140	72	77
Macaroni and cheese	168	121	168

TABLE 2
FOOD PORTION SIZE IN GRAM WEIGHT ASSIGNED TO FOODS ON THE HSFFQ

Food Name	Portion Size		
	Women	Children 1-2 years	Children 3-5 years
Hot dogs	44	44	44
Hamburgers	121	72	105
Canned tuna	60	49	49
Cold cuts	28	28	28
Peanut butter	16	16	16
Bread, toast, or rolls	25	25	25
Pork chops	84	39	56
Steak or roast beef	108	56	56
Fish	85	48	56
Liver	84	42	42
Sausage	54	28	28
Bacon	16	16	16
Hot cereal or grits	180	154	234
Cold breakfast cereal	28	21	30
Doughnut	43	38	43
Sweet roll or muffin	57	44	58
Pancake	33	33	33
English muffin or bagel	50	25	25
Biscuit	28	25	32
Cornbread or tortillas	56	51	56
Vegetable soup	270	122	244
Other soup	217	122	241
Crackers	15	12	12
Eggs	46	59	66
Mixed vegetables	116	89	69

START UP

A) COMPUTER DIRECTIONS

Women's and Children's Computerized FFQ Instructions

The program can run on a 286 as well as a Pentium PC. A printer must be connected to the computer if a printout of the analysis is desired.

1) Insert disk into 3.5" disk drive.

2) At the prompt type: "password given to you"

3) When the first screen or **Introduction Screen** of the FFQ comes up, press the Enter/Return key (or green key) to begin.

```
Women's and Children's Nutrition Questionnaire

This program is used to handle responses to food frequency
questionnaires completed by women who are pregnant,
breastfeeding, or post partum not breastfeeding.  It also handles
responses to questionnaires completed for children aged 1 through
5 years by their parents or caretakers.  It creates an ASCII
format data file that includes estimated intake of energy;
protein; vitamins A, C, B-6 and folate; calcium, iron, and zinc.
It allows screen or printed display of selected results
including daily numbers of servings per food group, weekly
numbers of servings of each food items, and nutrients as
percentages of RDA.

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< Press ENTER key to continue >
```

4) Select the type of questionnaire on the **MENU SCREEN** that will be entered from the following choices:

```
Type    C  to enter a child's questionnaire
        W  to enter a woman's questionnaire
        L  to load previous questionnaire
        X  to see existing records
        D  to delete an existing record
        Q  to quit program
```

C to enter a CHILD'S questionnaire – to enter a NEW questionnaire for a child (1-5 years old). This brings you to the **CLIENT INFORMATION SCREEN** for children. The first page for entering a new food frequency questionnaire.

W to enter a WOMAN'S questionnaire – to enter a NEW questionnaire for a woman (pregnant, lactating, or neither). This brings you to the **CLIENT INFORMATION SCREEN** for women. The first page for entering a new food frequency questionnaire.

L to LOAD a PREVIOUS questionnaire – to call up an existing questionnaire or a questionnaire that was completed for a client in the past. This brings up "Please enter ID # (or l [line number])". To load (or bring up) a record you must know the ID # or the line number of the record in the file. (To find the line number, use X – to see existing records in the menu.) When you use the line number at prompt "Please enter ID# (or l [line number])", you need to type "l" and the line number so it would look like "15" or "110" for line 5 or line 10.

X to see existing records – to look at the list of questionnaires already completed. This brings you into the file of existing records, listing the Name, ID #, Date of Birth, Date the FFQ was completed, and Age when FFQ was completed. The oldest record entered is the first record shown in this list, and the record most recently entered would be the last in this list.

D to delete an existing record – to remove a record or questionnaire already completed. This brings up "Please enter ID # (or 1 [line number])>>. To delete (or remove) a record you must know the id number or the line number of the record in the file. (To find the line number, use X [to see existing records] in the menu.)

Q to QUIT the program – to get out of system. This returns you to the DOS prompt.

5) **The third screen is the CLIENT INFORMATION SCREEN**. Enter the client information asked for on this screen (i.e., id #, name, birthdate, etc.)

```
Please enter identification code          00000000
Please enter first name  test
Please enter last name   child
Please enter date of birth                09/09/95
Questions should be in                 English   Spanish
Questionnaire entry is                 Direct    Paper

   Is this information correct?
   Press the green key if "Yes".
   Press the pink bar if "No".
```

```
Please enter identification code          99999999
Please enter first name  test
Please enter last name   woman
Please enter date of birth                09/09/60
Questions should be in                 English   Spanish
Questionnaire entry is                 Direct    Paper

   Is this information correct?
   Press the green key if "Yes".
   Press the pink bar if "No".
```

-Hit Return/Enter after EACH entry (green key).

-To choose between ENGLISH, SPANISH, and DIRECT or PAPER use the space bar (pink bar).

6) When the questionnaire is completed, or you have just loaded a previously entered questionnaire or you escape, the **MENU SCREEN** will appear with 3 additional options:

```
Name:   Test Woman
ID#:    99999999        Date:   02/26/99
DOB:    09/09/60        Age:    38.5        Status: Pregnant

        Type    C  to enter a child's questionnaire
                W  to enter a woman's questionnaire
                L  to load previous questionnaire
                X  to see existing records
                D  to delete an existing record
                E  to edit data previously entered
                S  to show results previously entered
                P  to print results
                Q  to quit program
```

E to edit data previously entered – this brings you to **CLIENT INFORMATION SCREEN** and you can change any information on this screen or the FFQ.

S to show results on screen – this brings you into the analysis screens of record you are looking at.

P to print results – this will print to an attached printer the analysis of the record you are looking at.

---

7) When you leave or escape the questionnaire **before** completing all questions, **the MENU SCREEN** will appear with 1 additional option.

```
Name:   Test child
ID#:    00000000        Date:   02/26/99
DOB:    09/09/95        Age:    3.5

        Type    C  to enter a child's questionnaire
                W  to enter a woman's questionnaire
                L  to load previous questionnaire
                X  to see existing records
                D  to delete an existing record
                R  to resume answering questions
                E  to edit data previously entered
                Q  to quit program
```

R to resume answering questions – this brings you back into the food frequency questionnaire of the person highlighted at top of the **MENU SCREEN**.

GREEN KEY = Enter or Return - moves to the next question on the questionnaire.

PINK BAR = Space bar - moves between answers within each question.

YELLOW KEY = Backspace or moves back to previous question on questionnaire.

B) RECOMMENDED VERBAL INSTRUCTION

I) Administering the Direct Entry of the Harvard Service Food Frequency Questionnaire

1. Set up the program as directed in computer directions 1-4.
2. Explain this program is designed to let the woman, herself, complete the questions about what she or her child has eaten during the previous month.
3. Enter her (or child's) i.d. number, name, date of birth, language, and direct entry while she watches and verifies the information.
4. Point out the green key, pink bar, and yellow key.
5. Watch her complete the tutorial section and the first few food items.
6. When she has completed the questionnaire the staff can choose to print the results at that time or later.

B) RECOMMENDED VERBAL INSTRUCTIONS (cont'd)

II) Administering the Paper Version of the Harvard Service Food Frequency Questionnaires

1. Fill in the client identification information in the upper right-hand corner.

2. Provide the appropriate questionnaire, clipboard, and pen. An example of how to introduce or explain to the woman the HSFFQ is: "This is the form we would like you to fill out. It has four sides. We want you to think about what you ate (or what your child ate) during the last four weeks. We understand that you can't remember exactly, but you probably have a good idea."

   "Suppose you (or your child) drank one glass of milk [point to milk] everyday [point to per day]. Then you put an X on or a check here [point]. These columns are for foods you had just once, twice or three times in the last four weeks [point]."

   "We are asking about number of times a food was eaten, not what you like to eat or not eat. So if you put an X here [point to ice cream, 6+/day], that would mean that you had eaten six or more bowls of ice cream every day for the past four weeks. Use this column only for foods you ate a lot of every day. Please make a mark in this column [never] if you did not eat the food. It helps you to keep your place and it helps us to know that you did not forget a food."

3. Watch as the client fills out the first 3 foods to be sure she understands the instructions.

4. Collect the finished form and check for errors in completion (i.e., pages or rows not filled in or double marked rows).

C) INSTRUCTIONS FOR REVIEWING AND ENTERING THE PAPER HSFFQ

Quickly look at the first three pages of the questionnaire to assess completeness and accuracy in filling out the questionnaire.

✔ Are there **many checks** (e.g., more than 6) **in the two columns on the far right** (those for 4 or more times daily)? If yes, assume that the woman had difficulty understanding how to complete the form. Evidence suggests that such women may be at high risk of inadequate dietary intake.

✔ Are there **many checks in the two columns on the far left** (those for never or up to three times per month)? If all but 6 to 8 marks are in those two columns, either the woman had difficulty understanding how to complete the form, or the marks are accurately reflecting inadequate dietary intake.

✔ Are there **rows in which no check appears or in which more than one check appears?** If yes, delay scoring until the woman can clarify the correct response (if possible). Alternatively, follow these rules if no more than 6 rows are mismarked:

→ **a doubly-marked row followed by a correctly-marked row,** count the first check only.

→ **a doubly-marked row followed by a blank row,** transfer the second check (the one on the right) down to the blank row.

→ **a blank row followed by a doubly-marked row,** transfer the first check (the one on the left) up to the blank row.

→ **a blank row followed by correctly-marked rows,** mark 0 under "Never" (the far left-hand column).

IF GREATER THAN 6 ROWS ARE MISMARKED THE WOMAN HAD DIFFICULTY FILLING OUT THE QUESTIONNAIRE.

✔ Enter the code (0-8) for each food. The appropriate code is at the bottom of each frequency column. Check that you have the correct food/code (at least at the end of each group of foods). If you make an error you can backspace to the appropriate food and change the code. To return to where you left off on the food list, simply hit the return key. Your prior codes (answers) will remain as keyed.

D) REVIEWING THE ANALYSIS

RELATIONSHIPS OF FOOD GROUPS AND NUTRIENT ADEQUACY

For most nutrients, choosing the recommended number of servings from the food groups does not guarantee that intake will match some target level of intake, such as the Recommended Dietary Allowances (RDA) or 75% of the RDA.

The tables given below give an idea of the range of intake of selected nutrients that may be achieved by combinations of commonly consumed foods. These estimates are calculated using the nutrient content for median portion sizes for women as determined in NHANES-II, with a few exceptions.

Calcium

To identify women who are unlikely to consume adequate amounts of calcium ask these questions:

- ✓ Does she drink milk? 1 glass of milk has 322 mg calcium
- ✓ Does she eat cheese? 1 slice cheese has 174 mg calcium
- ✓ Does she eat yogurt? 1 yogurt has 174 mg calcium

If a client chooses American cheese twice/day: they get approximately 174 mg calcium x 2 = 348 mg calcium

If a client chooses milk twice/day: they get approximately 322 mg calcium x 2 = 644 mg calcium

If a client chooses cheese 1/day and yogurt 1/day = they get approximately 301 mg calcium + 174 mg calcium = 475 mg calcium

Vitamin C Intake

To identify pregnant and lactating women who are unlikely to consume adequate amounts of vitamin C[a], ask these questions:

- ✓ Does the woman eat fruit and vegetables?
- ✓ Were oranges or orange juice used at least 5 times/week?
- ✓ Was melon (cantaloupe or watermelon) or broccoli eaten at least once a day?

If the answer is "yes" to the above questions, the woman is probably meeting the RDA for vitamin C.

If no, check to see if the woman eats any fruits and vegetables or juices that have vitamin C added. If fruits and vegetables are not eaten, reaching the RDA for vitamin C may pose a challenge.

Vitamin A Intake

To identify pregnant women who are unlikely to consume adequate amounts of vitamin A, ask these questions:

- ✔ Does the woman drink milk?
- ✔ Was margarine or butter used at least 2 times a day?
- ✔ Were at least 4 eggs eaten per week?

[a]This refers to vitamin C intake from non-fortified foods. Because of the widespread practice of fortifying fruit drinks and fruit-flavored drinks with vitamin C and because of the widespread consumption of these products, intake of vitamin C tends to be relatively high.

If the answer is "Yes" to all of the above questions, assume that one-half of the RDA for vitamin A has been provided by these foods. The balance of the RDA could be provided by many food choices, for example:

- → carrots 2 times a week
- → carrots, melon, spinach, and sweet potatoes each once a week
- → a daily serving of melon, spinach or other greens, sweet potatoes, or winter squash
- → a daily serving of salad, peas or green beans, and broccoli or tomatoes.

If the answer is "no" to all of the questions about dairy products and eggs, reaching the RDA for vitamin A may pose a greater challenge, for example:

- → carrots at least 3 times a week (~730 Retinol Equivalent (RE)/day) OR
- → liver at least 2 time a month (654 RE/day) OR
- → 10 servings a week (one to two servings a day) of vitamin A-rich vegetables (other than carrot), choosing from spinach, other greens, winter squash, sweet potatoes, cantaloupe, or a food made with carrots (such as vegetable soup or stew).[b] (~700 RE/day)

✱ NOTE: If liver was eaten at least once a month, vitamin A intake averaged a minimum of approximately 350 RE/day.

[b] Note that broccoli, tomatoes, and peaches are relatively low in vitamin A value and that low fat or skim dairy products, such as many yogurts and hot chocolate made from a mix, are not ordinarily fortified like skim milk is and therefore are low in vitamin A.

Appendix F: Aggregate Data

1. **Original and Current Aggregate Data Report Layouts**

2. **Aggregate Data Report Example:** Children 12 – 18 months old in Missouri
   - ***Overall nutrition statistics***
   - ***Contribute files***
   - ***Mean food group per day***
   - ***Data-dictionary for the raw nutrient data file***
   - ***Raw nutrient data file***

3. **Aggregate Data Uses Example:** North Dakota WIC Client Consumption Patterns

Statistics for Pregnant Women

08:55 Thursday, June 18, 1998

NAME	RDA	N	MEAN	STDDEV	Q1	MEDIAN	Q3
Calories kcal		982	1996	841	1338	1838	2492
Protein gm	60 gm	982	75	34	51	69	92
Total fat gm		982	81	38	52	73	101
Carbohydrates g		982	250	115	160	230	314
Calcium mg	1200 mg	982	1074	573	645	997	1357
Iron mg	30 mg	982	10	5	7	9	12
Zinc mg	15 mg	982	10	5	6	9	12
Vitamin C mg	70 mg	982	126	108	55	91	169
Vitamin B6 mg	2.2 mg	982	1.9	.9	1.2	1.7	2.3
Folate mcg	400 mcg	982	279	160	165	246	349
Vitamin A mcgRE	800 mcg	982	1195	951	660	991	1442
Vitamin E mg	10 mg	982	9	5	6	8	12
Saturated fat g		982	32	16	20	29	40
Mononsaturated		982	29	14	19	26	36
Polyunsaturated		982	14	8	9	12	17
Cholesterol mg		982	260	150	160	225	325
Caffeine mg		982	85	140	8	38	109
Alcohol gm		982	0	2	0	0	0

The SAS System 1

10:50 Friday, October 6, 2000

MISSOURI for 1999 Number of Participants=1727
THIS FILE IS FOR ALL IN DISTRICT 3
Statistics for Kids 12-18 months in MISSOURI

NAME	MEAN	% RDA	RDA	% NMRDA	EAR	% MEAR
Calories-kcal	1390	.	.	.	.	.
Protein-gm	56	399%	14 gm	1%	.	.
Total fat-gm	55	.		.	.	.
Carbohydrates-g	174	.		.	.	.
Calcium-mg	1033	172%	600 mg	17%	.	.
Iron-mg	7	71%	10 mg	85%	.	.
Zinc-mg	7	138%	5 mg	24%	.	.
Vitamin C	77	512%	15 mg	2%	13.0	99%
b6	1	253%	.5 mg	2%	0.4	99%
Folate	184	527%	35 ug	0%	35.0	100%
Vitamin A-ugRE	841	224%	375 ug	9%	.	.
Vitamin E-mg	5	88%	6 mg	68%	5.0	47%
Saturated fat-g	24	.		.	.	.
Cholesterol-mg	218	.		.	.	.
Alcohol-gm	0	.		.	.	.

The SAS System 1

10:50 Friday, October 6, 2000

MISSOURI for 1999 Number of Participants=1727
THIS FILE IS FOR ALL IN DISTRICT 3
Statistics for Kids 12-18 months in MISSOURI

NAME	MEAN	% RDA	RDA	% NMRDA	EAR	% MEAR
Calories-kcal	1390	.	.	.	.	.
Protein-gm	56	399%	14 gm	1%	.	.
Total fat-gm	55	.		.	.	.
Carbohydrates-g	174	.		.	.	.
Calcium-mg	1033	172%	600 mg	17%	.	.
Iron-mg	7	71%	10 mg	85%	.	.
Zinc-mg	7	138%	5 mg	24%	.	.
Vitamin C	77	512%	15 mg	2%	13.0	99%
b6	1	253%	.5 mg	2%	0.4	99%
Folate	184	527%	35 ug	0%	35.0	100%
Vitamin A-ugRE	841	224%	375 ug	9%	.	.
Vitamin E-mg	5	88%	6 mg	68%	5.0	47%
Saturated fat-g	24	.		.	.	.
Cholesterol-mg	218	.		.	.	.
Alcohol-gm	0	.		.	.	.

MISSOURI for 1999 N=1727
THIS FILE IS FOR ALL IN DISTRICT 3
AND FOR THE GROUP: Kids 12-18 months

TOTALS :

% making up Total Calories kcal :

Milk	=	23.50
Low vitamin C juice	=	5.21
Cold breakfast Cereal	=	4.24
Bread, toast or rolls	=	3.67
Macaroni + cheese	=	3.57
Spaghetti or other pasta+ sauce	=	3.08
Cheese	=	2.87
Crackers	=	2.81
Vitamin C Juice	=	2.73
Cookies or brownies	=	2.28

% making up Protein gm :

Milk	=	32.24
Chicken or turkey	=	6.85
Hamburger, meatballs or meatloaf	=	4.50
Cheese	=	4.21
Fried Chicken or turkey	=	3.97
Cold breakfast Cereal	=	3.95
Macaroni + cheese	=	3.48
Eggs	=	3.21
Bread, toast or rolls	=	2.73
Steak or Roast Beef	=	2.52

% making up Total fat gm :

Milk	=	31.01
Cheese	=	6.11
Macaroni + cheese	=	4.29
Hamburger, meatballs or meatloaf	=	3.95
Hotdog	=	3.64
Butter	=	3.49
Eggs	=	3.49
Cold breakfast Cereal	=	2.87
Cookies or brownies	=	2.78
Peanut Butter	=	2.72

% making up Carbohydrates gm :

Milk	=	14.81
ow vitamin C juice	=	10.33
read, toast or rolls	=	5.44
old breakfast Cereal	=	5.42
itamin C Juice	=	5.22
paghetti or other pasta+ sauce	=	4.73
ananas	=	4.45
rackers	=	3.62
pple or applesauce	=	3.31
acaroni + cheese	=	2.93

making up Calcium mg :

ilk	=	63.60
heese	=	6.33
old breakfast Cereal	=	5.72
acaroni + cheese	=	3.95
read, toast or rolls	=	2.00
ogurt	=	1.93
udding	=	1.17
ce cream	=	1.09
rackers	=	1.05
w vitamin C juice	=	1.04

making up Iron mg :

read, toast or rolls	=	8.16
w vitamin C juice	=	8.02
old breakfast Cereal	=	7.86
rackers	=	6.74
aghetti or other pasta+ sauce	=	6.21

Macaroni + cheese	=	4.01
Hot cereal or grits	=	3.91
Milk	=	3.80
Hamburger, meatballs or meatloaf	=	3.56
Eggs	=	2.92

% making up Zinc mg :

Milk	=	30.51
Hamburger, meatballs or meatloaf	=	7.84
Cheese	=	4.64
Steak or Roast Beef	=	4.35
Chicken or turkey	=	4.04
Macaroni + cheese	=	3.56
Cold breakfast Cereal	=	3.55
Hot cereal or grits	=	2.93
Eggs	=	2.31
Fried Chicken or turkey	=	2.31

% making up Vitamin C mg :

Vitamin C Juice	=	42.73
Orange or grapefruit	=	8.13
Milk	=	6.74
Cold breakfast Cereal	=	6.42
Broccoli	=	4.51
Bananas	=	3.93
Apple or applesauce	=	2.83
Hotdog	=	2.23
Potato, baked boiled or mashed	=	2.16
Low vitamin C juice	=	1.83

% making up Pyridoxine mg :

Milk	=	17.78
Bananas	=	15.15
Cold breakfast Cereal	=	13.35
Chicken or turkey	=	4.93
Potato, baked boiled or mashed	=	4.56
Low vitamin C juice	=	3.93
Vitamin C Juice	=	2.86
Fried Chicken or turkey	=	2.51
French Fries	=	2.25
Hamburger, meatballs or meatloaf	=	2.23

% making up Folate mcg :

Vitamin C Juice	=	20.02
Cold breakfast Cereal	=	17.46
Milk	=	14.92
Eggs	=	3.69
Bread, toast or rolls	=	3.52
Bananas	=	3.43
Pizza	=	2.86
Other dried beans, peas or Lima beans	=	2.63
Peas	=	2.49
Orange or grapefruit	=	1.93

% making up Retinol Equivalents of Vit A mcg :

Milk	=	22.83
Carrots	=	19.30
Cold breakfast Cereal	=	10.34
Mixed vegetables	=	8.81
Liver	=	4.79
Eggs	=	3.81
Cheese	=	3.67
Sweet Potato or yams	=	3.66
Macaroni + cheese	=	2.79
Butter	=	2.09

% making up Alpha Tocopherol Equiv mgTE, 1993 :

Peaches	=	7.02
Peanut Butter	=	6.63
Eggs	=	5.76
Milk	=	5.69
French Fries	=	3.91

Sweet Potato or yams	=	3.59
Macaroni + cheese	=	3.54
Cookies or brownies	=	3.50
Vitamin C Juice	=	3.42
Fried Chicken or turkey	=	3.40

% making up Total Saturated Fat gm :

Milk	=	43.41
Cheese	=	8.56
Butter	=	4.80
Macaroni + cheese	=	4.23
Cold breakfast Cereal	=	3.94
Hamburger, meatballs or meatloaf	=	3.47
Hotdog	=	3.44
Ice cream	=	2.45
Eggs	=	2.20
Cookies or brownies	=	2.11

% making up Total Monounsaturated Fat gm :

Milk	=	24.90
Cheese	=	4.83
Hotdog	=	4.82
Hamburger, meatballs or meatloaf	=	4.78
Macaroni + cheese	=	4.30
Eggs	=	3.97
Cookies or brownies	=	3.84
Peanut Butter	=	3.56
Crackers	=	2.89
Cold Cuts	=	2.78

% making up Total Polyunsaturated Fat gm :

Milk	=	9.89
Peanut Butter	=	6.32
Macaroni + cheese	=	5.30
Eggs	=	4.92
French Fries	=	4.57
Fried Chicken or turkey	=	4.19
Chicken or turkey	=	3.54
Rice	=	3.42
Potato, baked boiled or mashed	=	3.40
Fried Fish	=	3.01

% making up Cholesterol mg :

Milk	=	31.79
Eggs	=	28.21
Chicken or turkey	=	5.41
Cheese	=	4.60
Hamburger, meatballs or meatloaf	=	4.31
Fried Chicken or turkey	=	3.22
Cold breakfast Cereal	=	2.83
Butter	=	2.33
Steak or Roast Beef	=	1.97
Hotdog	=	1.95

% making up Caffeine mg :

Coffee or tea	=	61.87
Soft Drinks	=	14.64
Cookies or brownies	=	12.64
Pudding	=	4.04
Chocolate	=	3.60
Hot Chocolate	=	2.42
Cake or cupcake	=	0.51
Milk	=	0.26

MISSOURI for 1999 N=1727
THIS FILE IS FOR ALL IN DISTRICT 3
MEAN GROUP PER DAY FOR Kids 12-18 months

NAME	Mean Group/day	% Not Meeting Pyramid
MEAT	1.5	73%
BRDCER	3.0	94%
MILKS	4.1	13%
VEG	2.2	79%
FRUIT	2.9	37%
VITA	0.5	.
VITC	1.0	.
SWEET	1.4	.
FATS	2.5	.

meat=hamburg, hotdog, bologna, tuna, baked beans, other bean, liver, fr chicken, other chicken, pork, beef, fr fish, other fish and egg.

brdcer=crackers, rice, spaghetti, pizza, macaroni and cheese, bread, hot cereal, cold cereal, pancakes, english muffin, biscuits and cornbread.

milks=milk, cheese, pizza, pudding, yogurt, and macaroni and cheese.

veg=corn, peas, tomato, peppers, carrots, broccoli, green beans, spinach, greens, mixed vegetables, squash, zucchini, french fries, potatoes, sweet potatoes, coleslaw, okra, brussel, sprouts, lettuce, salad, and vegetable soup.

fruit=wic juice, oj, juice, orange, banana, apple, grapes, peaches, strawberr, melon, watermelon, pineapple, raisins,&apricots

vitc=oj, orange, strawberries, melon, and broccoli.

vita=melon, carrots, spinach, greens, squash, sweet potatoes, liver, and pumpkin pie.

sweet=hot choc, pudding, ice cream, fruit drinks, cookies, cake, pies, jello, chocolate, candy, sweet roll, pancake, donut, and soda.

fats=ice cream, cheese, mayo, chips, cookies, cake, pies, chocolate, coldcut, nuts, pb, bu, marg, fr chicken, fr fish, sausage, bacon ,donut, hotdogs and sweet roll.

id	a12	Participant Identifier
calor	f8.2	Calories kcal
prot	f6.2	Protein gm
tfat	f6.2	Total fat gm
carbo	f7.2	Carbohydrates gm
calc	f7.2	Calcium mg
iron	f6.2	Iron mg
zn	f6.2	Zinc mg
vitc	f7.2	Vitamin C mg
b6	f6.2	Vitamin B6 mg
folate	f7.2	Folate mcg
re	f9.2	Retinol Equivalents of Vit A mcg
ateq	f9.2	Alpha Tocopherol Equiv mgTE,1993
satfat	f6.2	Saturated fat gm
monfat	f6.2	Monunsaturated fat gm
poly	f6.2	Polyunsaturated fat gm
chol	f7.2	Cholesterol mg
caff	f7.2	Caffeine mg
alco	f6.2	Alcohol gm

45485316	1147.29	56.60	55.87	107.60	1082.11	4.72	6.83	27.12	0.94	121.19	1039.53	4.19	26.17	19.94	6.05	238.14	4.72	0.0
0																		
43649980	1029.90	48.24	37.51	127.66	719.55	5.30	5.51	126.67	0.99	219.04	1134.09	4.51	16.05	13.35	5.25	176.74	0.18	0.0
0																		
44569129	2461.16	90.10	120.98	259.72	1602.67	11.09	11.69	59.60	1.49	174.02	526.21	9.96	51.69	44.73	14.95	465.78	29.84	0.0
0																		
43629495	1299.46	45.37	45.08	183.49	704.86	7.90	5.61	90.35	0.99	162.34	700.70	5.00	17.41	17.22	6.55	126.11	0.95	0.0
0																		
45955301	1006.66	55.14	44.06	99.26	1180.93	3.84	6.33	29.09	0.99	118.76	813.77	3.51	20.52	14.86	5.48	169.90	0.18	0.0
0																		
46461670	1933.60	77.49	93.69	200.05	1358.85	7.90	10.21	73.58	1.23	171.13	626.78	8.69	40.85	34.68	11.48	283.43	2.70	0.0
0																		
46270360	1406.14	57.99	41.44	207.16	898.64	10.12	7.35	115.75	1.85	320.58	1094.02	4.82	18.25	13.92	5.85	184.98	0.00	0.0
0																		
49478515	1809.25	60.19	49.43	297.00	1257.96	12.40	8.34	85.10	2.46	392.86	2630.28	8.46	23.33	17.02	5.33	142.19	2.64	0.0
0																		
46697093	1697.09	101.94	73.51	160.59	1501.53	7.03	10.62	126.38	2.02	273.52	1017.99	6.16	35.74	24.31	7.97	325.41	0.45	0.0
0																		
46849842	1822.92	65.82	57.63	270.10	1004.91	11.59	8.56	71.05	2.08	229.89	892.97	6.78	24.10	21.08	7.35	215.26	0.58	0.0
0																		
46532322	2052.88	72.07	71.51	287.24	1071.18	13.31	8.76	203.15	1.40	291.61	855.42	11.63	23.39	28.85	12.92	234.82	4.56	0.0
0																		
46682599	1596.32	76.77	62.91	184.90	1472.48	9.06	8.59	45.44	1.91	252.55	1022.45	4.19	31.12	20.86	6.20	263.75	9.82	0.0
0																		
46460440	1584.77	69.53	63.99	184.76	1205.35	9.04	8.15	28.29	1.20	146.84	539.73	4.79	28.03	23.32	7.06	387.54	0.73	0.0
0																		
48520648	924.58	39.13	35.95	115.19	1040.68	2.99	4.67	44.69	0.81	103.74	631.41	3.12	18.58	11.86	3.17	175.86	1.44	0.0
0																		
45414753	2310.47	129.61	91.78	247.54	1833.19	14.07	15.90	105.22	2.79	340.07	1851.79	9.20	41.95	32.55	9.86	388.98	0.71	0.0
0																		
46921640	1115.53	53.69	44.06	132.11	1204.90	4.43	6.02	131.59	1.12	245.50	1138.67	5.01	23.10	14.03	3.90	173.76	0.00	0.0
0																		
46879956	700.80	24.40	28.28	92.59	241.75	5.12	3.70	79.32	0.73	132.81	1315.46	4.01	9.75	11.74	4.57	79.67	1.71	0.0
0																		
47852109	1285.91	51.44	51.24	160.28	1159.33	5.02	6.52	140.27	1.04	222.90	653.46	4.53	26.58	17.03	3.90	198.07	1.42	0.0
0																		
46731289	1487.22	69.64	54.33	184.99	1122.09	8.55	7.62	42.61	1.81	157.70	1514.20	4.93	23.57	19.63	6.75	192.23	2.10	0.0
0																		
46936904	2048.81	90.82	82.59	238.14	1755.73	9.78	10.13	33.69	1.27	149.59	1064.56	7.87	30.78	32.72	13.07	227.04	6.95	0.0
0																		
46987759	1209.71	49.01	43.28	160.17	470.28	8.02	6.15	42.04	1.11	133.55	753.33	5.68	15.43	17.46	6.74	174.21	0.76	0.0
0																		
46441739	1816.21	64.95	67.82	241.01	1262.03	11.25	8.90	58.54	1.10	143.15	840.89	5.59	30.06	25.38	7.40	206.67	1.10	0.0
0																		
46880309	1563.48	47.38	58.77	216.00	736.10	9.43	5.60	19.21	0.89	109.82	413.33	5.85	18.36	23.91	11.64	139.73	4.90	0.0
0																		
45866805	1446.83	68.10	62.76	156.24	1248.19	6.98	7.88	28.05	1.35	134.09	507.06	4.81	29.30	22.25	6.60	264.56	0.68	0.0
0																		
45033371	818.36	24.08	19.15	147.08	527.69	3.35	3.20	160.82	1.09	144.31	476.09	3.84	9.17	5.97	2.12	66.68	0.16	0.0
0																		
46538304	1890.70	50.03	85.57	252.71	961.71	7.45	9.11	145.23	2.18	306.56	821.37	18.24	24.61	38.80	17.48	119.97	5.45	0.0
0																		
46279304	2252.46	82.50	84.29	301.58	1468.73	10.67	9.76	211.54	2.18	339.30	834.14	7.97	36.91	30.68	9.93	423.02	12.05	0.0
0																		
46930922	1205.04	53.24	44.09	152.94	1198.93	5.51	6.40	58.00	1.03	155.04	856.35	3.81	19.09	16.72	4.82	161.56	3.53	0.0
0																		
45622347	918.15	42.27	24.09	139.95	1274.15	3.79	5.35	50.25	1.47	190.56	1518.81	2.11	13.43	7.33	1.81	79.57	0.18	0.0
0																		
45298289	1505.48	61.64	58.45	188.32	1375.49	7.25	7.06	76.82	1.31	236.92	669.50	5.32	29.01	20.02	5.54	214.16	2.07	0.0
0																		
47444378	1276.89	59.42	62.64	121.35	1579.66	4.21	7.08	39.63	0.95	136.46	554.09	3.53	32.91	20.63	5.34	234.08	0.76	0.0
0																		
45712213	2530.48	73.90	69.46	433.18	1247.39	12.02	10.52	326.53	3.13	391.41	5509.48	11.87	31.44	24.37	7.83	350.65	24.27	0.0
0																		
45394011	885.51	36.08	33.41	113.49	766.20	4.71	4.13	47.09	0.95	152.15	515.87	2.98	16.39	11.14	3.67	117.31	0.18	0.0
0																		
45626985	1523.00	54.85	84.97	138.30	1215.98	5.91	6.35	33.77	0.95	122.73	715.51	4.60	43.85	28.15	7.37	287.88	3.03	0.0
0																		
45967967	600.05	22.98	12.77	104.92	573.29	2.74	3.28	36.22	0.90	77.47	560.75	3.41	6.45	3.89	1.24	38.86	0.06	0.0
0																		
45825199	600.05	22.98	12.77	104.92	573.29	2.74	3.28	36.22	0.90	77.47	560.75	3.41	6.45	3.89	1.24	38.86	0.06	0.0
0																		
45986454	762.36	36.36	36.69	73.23	1026.74	2.38	4.14	20.63	0.53	74.58	526.88	2.05	19.89	11.56	3.11	176.37	0.08	0.0
0																		
45866805	1446.83	68.10	62.76	156.24	1248.19	6.98	7.88	28.05	1.35	134.09	507.06	4.81	29.30	22.25	6.60	264.56	0.68	0.0
0																		
45033371	818.36	24.08	19.15	147.08	527.69	3.35	3.20	160.82	1.09	144.31	476.09	3.84	9.17	5.97	2.12	66.68	0.16	0.0

46538304	1890.70	50.03	85.57	252.71	961.71	7.45	9.11	145.23	2.18	306.56	821.37	18.24	24.61	38.80	17.48	119.97	5.45	0.0
0																		
46279304	2252.46	82.50	84.29	301.581468.73		10.67	9.76	211.54	2.18	339.30	834.14	7.97	36.91	30.68	9.93	423.02	12.05	0.0
0																		
46930922	1205.04	53.24	44.09	152.941198.93		5.51	6.40	58.00	1.03	155.04	856.35	3.81	19.09	16.72	4.82	161.56	3.53	0.0
0																		
46622347	918.15	42.27	24.09	139.951274.15		3.79	5.35	50.25	1.47	190.56	1518.81	2.11	13.43	7.33	1.81	79.57	0.18	0.0
0																		
46298289	1505.48	61.64	58.45	188.321375.49		7.25	7.06	76.82	1.31	236.92	669.50	5.32	29.01	20.02	5.54	214.16	2.07	0.0
0																		
47444378	1276.89	59.42	62.64	121.351579.66		4.21	7.08	39.63	0.95	136.46	554.09	3.53	32.91	20.63	5.34	234.08	0.76	0.0
0																		
46712213	2530.48	73.90	69.46	433.181247.39		12.02	10.52	326.53	3.13	391.41	5509.48	11.87	31.44	24.37	7.83	350.65	24.27	0.0
0																		
46394011	885.51	36.08	33.41	113.49	766.20	4.71	4.13	47.09	0.95	152.15	515.87	2.98	16.39	11.14	3.67	117.31	0.18	0.0
0																		
46626985	1523.00	54.85	84.97	138.301215.98		5.91	6.35	33.77	0.95	122.73	715.51	4.60	43.85	28.15	7.37	287.88	3.03	0.0
0																		
46967967	600.05	22.98	12.77	104.92	573.29	2.74	3.28	36.22	0.90	77.47	560.75	3.41	6.45	3.89	1.24	38.86	0.06	0.0
0																		
46825199	600.05	22.98	12.77	104.92	573.29	2.74	3.28	36.22	0.90	77.47	560.75	3.41	6.45	3.89	1.24	38.86	0.06	0.0
0																		
46986454	762.36	36.36	36.69	73.231026.74		2.38	4.14	20.63	0.53	74.58	526.88	2.05	19.89	11.56	3.11	176.37	0.08	0.0
0																		
45536466	864.61	37.29	34.24	103.56	211.62	6.06	5.13	25.80	0.85	79.18	229.40	3.60	12.62	13.91	4.39	156.97	0.00	0.0
0																		
44243476	1875.57	58.57	56.97	293.52	975.39	10.64	7.27	125.37	1.29	218.19	574.33	7.98	22.40	21.86	7.91	195.40	7.86	0.0
0																		
11539915	1408.77	46.94	65.92	162.13	383.87	8.48	5.71	39.62	1.00	112.76	355.69	7.99	21.74	28.16	10.81	174.57	27.48	0.0
0																		
45406552	1026.10	50.47	37.44	124.441029.18		5.25	6.36	69.75	0.90	160.07	569.02	3.21	19.38	11.78	3.61	189.27	0.00	0.0
0																		
45453628	1290.44	61.47	65.42	114.771587.65		4.18	7.73	22.53	0.92	113.34	483.84	3.12	34.19	21.86	4.88	217.17	1.40	0.0
0																		
45253474	1015.20	35.21	33.74	146.37	678.00	5.71	3.96	24.87	0.86	92.92	398.21	3.35	14.79	11.44	4.81	149.81	0.77	0.0
0																		
44237932	2000.74	68.91	73.74	280.621260.17		10.51	9.13	163.58	1.53	306.05	1229.27	7.11	35.50	25.18	7.57	330.76	11.44	0.0
0																		
45579466	2285.93	97.23	117.31	218.491335.66		10.25	10.91	47.59	1.51	165.65	836.63	12.89	47.01	44.29	17.41	316.13	4.31	0.0
0																		
44612035	1180.62	53.10	46.40	139.961141.61		6.45	6.42	31.41	1.11	154.62	637.60	3.06	23.26	15.82	4.17	171.22	0.40	0.0
0																		
44395433	1547.87	61.33	72.66	166.50	985.27	8.50	7.18	71.87	1.39	234.08	1396.49	5.56	33.27	25.78	8.22	281.34	0.46	0.0
0																		
44317586	1643.68	60.00	67.92	206.451276.60		6.91	7.19	90.79	1.47	217.99	1113.83	6.98	31.67	24.05	7.58	224.93	76.04	0.0
0																		
45769976	1586.88	61.31	66.42	191.591217.22		8.38	7.38	36.87	1.02	157.60	700.63	6.55	27.99	24.75	8.52	287.82	2.50	0.0
0																		
44379388	2088.17	78.73	88.79	253.111109.71		10.92	9.26	99.37	1.45	262.13	1434.24	10.66	33.06	34.92	14.12	373.95	1.42	0.0
0																		
45906742	1402.05	69.84	43.50	188.351429.64		8.75	8.14	167.70	1.61	327.58	1355.97	6.34	17.55	16.30	5.58	240.37	1.72	0.0
0																		
44941393	1897.54	73.53	74.10	243.451046.12		10.43	8.89	99.65	1.98	286.73	1050.50	9.62	27.63	29.42	11.15	297.27	8.08	0.0
0																		
45900596	1276.15	56.43	56.75	137.28	853.13	6.97	8.03	27.28	0.95	140.57	464.81	4.89	24.68	21.78	6.04	181.24	0.40	0.0
0																		
45695907	1963.87	83.64	83.13	226.92	984.71	11.97	11.42	142.55	1.89	284.40	2132.72	7.88	33.48	32.59	9.66	434.58	0.92	0.0
45899335	1915.46	79.64	87.40	208.871367.06		7.62	9.38	69.50	1.43	182.67	994.95	7.21	39.44	31.96	9.18	425.45	13.72	0.0
46009173	1183.95	64.75	46.88	127.291131.21		5.67	7.17	77.39	1.13	177.28	1008.63	6.18	16.89	18.76	7.12	310.08	1.27	0.0
46074580	1568.26	79.82	76.82	144.061591.99		6.89	10.73	67.48	1.63	185.38	1166.01	5.77	37.03	27.13	7.03	319.91	0.68	0.0
45997147	1727.69	75.34	81.31	178.171531.31		9.00	9.09	58.59	1.73	287.08	1022.11	5.99	37.19	29.65	9.03	371.53	12.24	0.0
45105830	853.32	35.18	29.20	116.711009.57		3.84	4.83	33.71	0.72	107.42	498.33	1.57	16.69	8.88	1.84	135.01	0.00	0.0
44718809	1449.91	68.92	69.56	140.75	810.31	8.43	8.41	43.86	1.32	193.40	511.60	7.60	27.19	26.41	10.59	325.34	2.98	0.0
45140331	1807.66	65.72	76.15	220.021328.64		9.32	7.85	57.04	1.48	201.92	720.77	7.02	31.69	27.58	11.67	242.43	4.37	0.0
45968453	1223.72	50.89	47.20	152.17	748.57	7.09	6.20	24.18	1.05	127.88	543.42	4.88	19.79	17.37	6.40	188.59	3.66	0.0
45199859	903.60	24.01	27.80	145.43	364.33	5.05	2.96	33.50	0.92	61.09	749.45	4.55	12.30	10.05	3.07	74.85	2.91	0.0
45162880	1889.28	65.90	74.70	251.081318.38		10.18	8.93	94.98	1.59	240.38	1116.73	8.95	31.01	27.30	11.05	228.32	0.39	0.0

45579458	2180.46	67.06	63.94	356.45	999.57	12.05	9.13	254.38	2.28	375.95	1467.46	10.74	25.48	25.08	7.61	174.07	11.94	0.0
46412003	1249.34	32.36	33.66	210.25	674.02	6.91	4.16	216.29	1.02	279.75	389.92	3.17	15.25	11.98	3.11	117.61	0.88	0.0
48513891	992.07	29.79	29.71	154.35	626.21	5.68	3.79	20.66	0.66	62.30	418.80	2.14	14.30	9.83	3.10	100.00	0.31	0.0
46425957	1203.39	55.32	53.70	127.491478.88		4.56	6.77	46.69	0.98	128.67	833.80	3.13	28.44	17.50	4.42	211.96	0.08	0.0
46502721	883.05	32.76	50.97	75.18	959.95	3.14	3.68	11.41	0.47	66.95	469.31	2.24	26.47	17.06	3.89	196.22	0.11	0.0
46679273	1003.19	37.14	29.98	151.10	773.16	5.91	4.97	84.45	0.95	153.99	1080.90	3.27	13.07	10.72	3.58	129.82	0.19	0.0
45207223	2135.04	82.63	92.43	254.521317.17		10.47	10.03	96.52	1.84	234.24	1611.26	11.80	37.92	34.88	13.07	276.35	4.00	0.0
46634441	879.08	37.69	26.78	128.57	294.33	5.79	5.13	113.89	0.69	184.51	247.31	5.21	9.86	10.54	3.91	127.36	2.48	0.0
46670338	1856.15	67.77	75.55	235.591494.62		7.82	8.67	112.05	1.87	269.03	813.24	5.85	36.35	27.45	6.73	237.09	5.79	0.0
45325968	1543.23	58.77	61.10	198.041504.25		5.12	7.55	31.85	1.82	150.04	497.61	3.00	31.36	18.91	6.69	187.74	2.30	0.0
46884567	1103.65	41.44	33.67	165.761021.22		5.63	5.01	32.93	1.18	122.69	1177.23	3.82	18.16	10.32	2.81	124.68	0.69	0.0
46880846	809.73	39.75	39.30	76.381353.42		1.67	4.74	17.44	0.64	77.69	607.48	1.38	23.78	11.62	1.80	161.56	0.00	0.0
46922862	1001.26	42.90	42.19	115.641415.67		2.69	5.22	79.75	0.77	149.36	714.65	1.98	25.31	12.62	1.98	162.81	0.45	0.0
46825438	1547.86	65.98	61.92	187.251630.22		7.06	8.03	82.59	1.21	229.18	1078.58	4.75	31.30	20.58	5.99	375.65	0.00	0.0
46987642	1445.74	64.75	46.28	200.571229.43		7.11	7.54	136.67	1.90	299.61	1026.02	6.12	23.50	14.47	4.95	233.18	0.02	0.0
46958312	1758.73	70.51	79.33	197.331713.62		6.54	8.31	155.84	1.58	303.14	1036.60	5.32	42.32	25.76	6.25	269.79	20.98	0.0
46481983	2090.37	88.10	96.97	223.541051.76		12.61	12.10	90.07	2.09	301.15	1988.65	11.01	34.53	40.09	14.35	405.75	142.14	0.0
44038398	567.52	25.05	19.39	74.99	145.45	4.46	3.09	26.78	0.48	86.28	592.01	2.98	6.45	7.40	3.77	106.21	0.69	0.0
44198598	1202.77	44.06	34.45	184.08	724.06	6.97	6.31	31.38	1.39	89.49	302.33	2.95	16.20	11.84	3.14	130.92	1.25	0.0
44183911	2409.68	75.48	70.47	388.571474.24		13.27	9.43	184.87	3.01	410.22	2273.75	10.77	31.43	25.64	7.91	228.88	24.45	0.0
44395433	1166.45	39.80	48.20	147.88	450.61	7.94	4.78	50.26	1.04	185.28	930.34	4.77	20.27	18.15	5.87	154.03	0.42	0.0
43261817	1284.95	29.62	25.82	244.05	412.03	5.26	3.31	81.18	1.66	139.97	216.54	3.67	8.92	9.39	4.97	97.25	4.08	0.0
44109850	2093.81	84.42	72.12	289.22	511.71	12.36	10.66	185.98	2.89	290.64	594.26	8.65	26.66	28.08	10.34	266.68	23.44	0.0
43293589	1972.90	93.33	82.86	217.791635.04		8.80	11.89	125.30	1.62	261.41	924.70	7.60	35.97	30.04	10.58	272.05	21.66	0.0
44267872	1376.52	44.44	56.88	179.69	673.70	7.11	5.68	114.87	1.44	228.94	778.34	5.39	24.64	21.11	6.54	203.00	3.49	0.0
44561612	913.22	32.22	34.35	120.84	590.93	5.11	4.29	26.66	0.68	88.28	396.33	3.79	13.62	12.98	5.24	124.41	0.76	0.0
44453207	940.66	47.81	32.02	117.501438.03		3.74	5.90	65.66	0.62	134.59	845.01	1.95	16.46	10.70	2.41	94.33	0.06	0.0
44593558	1968.07	76.15	66.55	276.211672.54		9.05	9.46	148.15	1.52	244.59	1433.93	7.61	31.16	22.60	7.81	263.64	3.42	0.0
44600270	1143.63	45.78	37.84	160.801235.81		5.69	5.80	127.68	1.18	265.34	882.28	2.65	18.54	13.34	2.77	101.17	2.50	0.0
44568535	550.34	18.24	12.32	94.25	129.37	4.70	3.08	13.68	0.45	43.75	518.34	2.99	3.53	4.76	2.80	13.35	0.50	0.0
44514968	885.98	36.98	25.79	129.451057.47		3.80	4.38	53.13	0.84	103.70	588.31	2.10	12.86	8.50	2.40	134.48	0.57	0.0
44620129	1269.05	43.05	44.03	179.56	837.11	6.45	5.27	25.82	0.79	89.36	349.90	3.89	18.86	15.66	5.97	146.71	1.21	0.0
44890748	1996.97	69.38	74.85	272.001032.67		9.27	8.10	71.04	1.98	162.71	595.97	6.10	32.57	27.46	8.47	248.32	25.40	0.0
44941723	1418.73	68.10	49.99	176.861174.10		8.21	8.24	52.95	1.60	179.55	795.66	4.05	24.60	16.73	4.43	217.26	0.32	0.0
44868604	1048.66	40.87	41.49	135.961397.91		2.60	4.83	32.02	0.73	97.61	514.07	4.54	24.38	12.27	2.20	163.30	0.16	0.0
44944123	1710.72	60.03	48.42	269.941203.97		9.38	7.12	141.92	1.66	288.52	884.60	7.71	22.20	16.29	6.12	170.71	0.79	0.0
44938225	2231.16	76.97	84.17	309.651491.31		10.46	8.91	186.43	2.42	290.62	1268.15	12.72	35.25	30.41	11.57	387.17	0.10	0.0
44943787	1655.06	71.25	74.01	180.981609.79		6.60	9.26	66.36	1.25	145.30	793.40	5.35	36.34	25.38	7.36	260.32	1.64	0.0
45207223	1447.40	59.73	53.15	188.241308.87		7.97	6.82	68.65	1.85	269.52	977.43	4.21	26.60	17.98	4.65	323.65	0.80	0.0

45146322	1374.11	59.71	63.02	145.36	1043.90	7.05	7.27	24.98	1.02	130.76	353.57	5.39	26.15	21.55	10.72	171.80	0.80	0.0
0																		
45186724	643.40	19.84	12.27	117.15	203.96	4.74	2.49	15.74	0.64	56.82	499.21	2.29	4.09	4.55	2.29	37.03	0.68	0.0
0																		
46058485	1188.07	52.75	50.18	135.83	1073.08	5.28	6.53	44.67	1.09	125.67	746.31	4.40	24.31	17.37	4.89	223.02	1.33	0.0
0																		
45500354	1761.97	67.66	63.83	240.02	773.17	10.74	9.16	161.65	1.80	320.33	880.98	8.76	23.50	25.81	8.99	203.54	5.12	0.0
0																		
44365072	1098.07	47.29	49.55	118.30	1202.42	4.36	6.00	33.69	0.74	114.58	675.63	2.97	25.16	17.04	4.33	179.06	2.90	0.0
0																		
45325968	1487.48	47.63	53.81	213.08	813.27	8.51	6.73	42.32	1.32	161.34	2723.89	5.03	24.26	19.86	5.60	247.50	148.56	0.0
0																		
46327591	980.80	68.27	56.89	44.90	158.50	6.16	7.00	34.13	0.97	58.65	139.07	4.87	20.38	24.80	7.09	267.66	0.11	0.0
0																		
45157296	1596.39	51.82	42.29	260.07	623.92	12.47	7.04	107.39	1.62	271.69	2327.54	7.52	12.58	17.82	8.58	111.15	0.90	0.0
0																		
45370674	742.65	40.54	35.48	66.01	952.57	2.40	4.53	14.53	0.60	62.02	602.26	2.58	18.89	11.30	3.04	166.11	0.00	0.0
0																		
44189787	1982.72	73.72	75.99	259.05	1385.68	10.56	8.81	98.64	1.58	249.06	989.07	7.76	32.84	27.17	10.01	384.51	2.90	0.0
0																		
45415165	1923.64	81.59	79.56	223.46	1825.38	9.47	9.47	73.15	1.57	260.94	1078.45	5.78	38.72	28.43	7.22	281.51	0.54	0.0
0																		
45426774	1562.76	73.19	60.09	186.02	1277.49	8.01	8.36	144.28	1.68	314.04	811.05	5.43	28.53	20.94	6.15	267.41	0.18	0.0
0																		
44126309	820.63	41.98	31.59	93.73	663.59	4.83	5.10	31.33	0.74	109.28	571.73	3.25	13.42	11.77	3.81	149.90	0.49	0.0
0																		
45563625	699.72	30.80	26.71	86.85	304.52	4.52	3.97	45.59	0.78	92.57	541.86	2.71	11.09	10.17	3.14	104.96	0.36	0.0
0																		
45571537	1184.48	57.86	54.84	116.83	1513.46	3.80	6.63	26.41	1.01	96.44	692.05	2.56	30.17	17.44	3.82	232.10	0.42	0.0
0																		
45409663	707.12	29.35	26.30	92.01	272.86	4.39	4.01	44.88	0.80	96.43	352.57	3.73	9.51	10.30	4.14	94.94	2.26	0.0
0																		
45543099	1395.29	56.96	50.35	185.87	866.20	7.45	6.83	58.08	1.53	139.91	824.47	5.48	20.24	19.21	6.51	183.89	0.85	0.0
0																		
44296730	2136.58	68.72	91.39	268.53	998.05	11.57	8.26	70.04	1.54	215.36	1197.57	9.04	37.00	35.10	12.08	412.47	4.68	0.0
0																		
45200657	721.16	30.32	29.41	85.99	584.85	3.81	3.78	17.64	0.62	89.86	301.63	2.58	12.96	10.72	3.37	140.46	0.76	0.0
0																		
44397934	1262.21	62.21	50.91	144.41	801.99	7.70	7.81	55.10	1.63	191.91	684.60	5.73	20.51	19.23	7.10	212.30	0.59	0.0
0																		
44282226	1416.58	65.35	62.28	152.17	883.67	7.31	8.79	85.03	1.48	190.97	615.50	5.12	27.62	22.92	6.89	230.44	0.10	0.0
0																		
45693711	1504.94	70.12	70.51	148.42	818.59	8.06	8.07	39.86	1.32	150.26	673.45	6.42	26.12	28.23	10.00	556.76	1.15	0.0
0																		
45244241	1819.94	97.47	93.48	151.42	1405.29	8.27	12.14	116.89	1.68	219.08	791.96	8.12	41.03	34.38	10.58	479.71	0.10	0.0
0																		
48098710	1368.09	63.40	44.67	180.29	350.67	9.81	7.03	49.53	1.26	108.87	577.62	6.44	14.19	18.82	7.35	159.48	3.13	0.0
0																		
45699769	1265.78	50.32	51.08	155.99	1167.38	5.22	6.14	80.99	0.91	171.67	746.48	3.86	24.69	18.28	4.58	210.12	1.17	0.0
0																		
45678440	1086.10	46.15	44.28	130.75	740.41	4.67	5.16	124.61	1.03	191.11	453.79	4.53	19.65	15.81	5.19	188.04	0.74	0.0
0																		
45541275	1063.24	50.75	38.67	130.86	777.16	6.12	6.21	79.40	1.33	199.79	758.26	3.82	16.80	14.30	4.32	182.28	0.42	0.0
0																		
45951036	2316.73	120.90	93.44	257.65	1378.63	13.35	14.51	178.60	3.09	355.65	970.27	10.68	37.15	35.06	12.59	508.70	0.08	0.0
0																		
46031100	1142.88	49.79	39.33	153.45	933.87	6.80	6.07	44.09	1.67	200.16	917.85	4.52	16.73	14.06	5.30	232.74	3.57	0.0
0																		
46024072	1288.13	57.68	49.42	155.38	627.65	7.78	7.22	123.46	1.23	239.73	489.19	5.35	19.79	19.06	6.32	201.31	0.18	0.0
45930006	1076.83	45.18	35.73	149.91	638.35	6.92	5.52	46.27	1.36	161.36	779.93	4.42	15.84	12.71	4.21	170.32	0.00	0.0
47379369	1144.94	45.03	40.02	155.00	757.80	7.49	6.01	35.21	0.96	112.38	709.44	3.42	17.43	14.91	4.18	140.06	0.76	0.0
46147494	1555.96	85.03	50.93	192.21	928.48	8.79	8.27	44.15	1.95	112.26	398.48	4.98	23.10	16.59	6.54	278.78	0.00	0.0
46067064	1572.47	56.20	59.37	212.96	1278.77	7.83	6.60	120.51	1.87	271.89	1011.36	4.96	26.53	21.35	6.99	208.72	2.44	0.0
47426342	1761.60	71.96	60.80	237.48	1403.56	11.51	9.00	45.35	1.56	243.98	813.37	4.40	29.11	20.87	6.10	190.65	3.17	0.0
45091451	1697.05	64.57	74.85	196.43	1204.93	8.41	8.02	24.01	0.98	123.04	677.71	6.41	32.14	27.48	9.40	374.14	9.51	0.0
45966390	1194.23	51.00	48.77	143.64	1194.20	6.64	6.14	33.83	1.21	210.93	2087.77	4.63	24.00	16.82	4.66	328.31	7.37	0.0
45374683	1794.92	80.69	80.12	194.86	1645.53	7.65	10.65	65.50	2.00	184.16	849.41	5.91	37.77	28.65	7.94	308.61	1.11	0.0
45192861	2241.90	77.94	66.84	346.55	1447.52	13.86	10.39	195.32	2.48	416.85	2414.49	10.23	28.83	23.98	8.49	196.40	10.14	0.0

46357944	1556.74	48.40	39.02	258.59	1196.39	8.10	6.03	217.51	1.18	316.67	817.83	4.08	20.15	12.25	3.74	133.77	0.85	0.0
0																		
44956037	1383.64	60.48	60.17	158.28	850.58	6.14	8.32	122.40	1.13	226.78	682.95	7.63	25.90	22.91	6.73	226.72	2.18	0.0
0																		
46104668	824.57	27.08	23.41	132.35	294.34	5.61	3.26	95.93	1.31	185.57	809.25	4.07	9.63	8.25	3.48	83.04	3.68	0.0
0																		
46253035	795.45	31.65	36.39	88.82	1060.23	1.69	4.05	19.01	0.44	57.95	368.76	1.37	21.25	11.04	2.06	146.00	0.56	0.0
0																		
46518398	2417.30	115.42	123.05	215.21	1344.46	13.09	16.73	78.99	2.17	242.64	1011.40	8.44	52.73	49.75	10.39	562.31	5.35	0.0
0																		
46640331	851.09	38.64	35.44	97.65	1037.47	2.84	4.46	22.11	0.89	102.37	563.73	2.74	18.91	11.37	2.90	154.56	0.34	0.0
0																		
46349975	1385.99	60.09	67.06	139.26	1239.84	5.73	7.44	50.99	1.12	138.47	780.16	5.29	30.94	24.39	6.99	326.30	2.30	0.0
0																		
46391108	1349.03	64.69	44.89	179.65	1250.74	7.16	8.30	45.66	2.07	179.79	1782.70	5.08	20.77	15.44	4.98	212.37	1.74	0.0
0																		
46391918	909.33	31.69	27.20	136.22	610.69	5.44	4.07	15.22	0.70	57.31	202.68	1.86	12.38	9.43	2.94	103.24	0.00	0.0
0																		
47940706	944.63	41.53	36.98	114.61	767.19	4.85	4.38	118.66	1.02	251.50	502.78	3.72	16.91	12.61	4.70	249.05	1.92	0.0
0																		
45598094	1461.14	64.60	59.99	170.96	1374.37	6.26	8.23	88.20	1.56	189.07	957.17	4.80	29.31	20.75	5.21	226.88	0.74	0.0
0																		
47426425	800.47	22.94	21.12	135.05	298.55	5.90	2.90	38.41	1.12	113.25	1092.41	4.13	6.93	8.24	3.77	37.05	0.53	0.0
0																		
46391116	720.33	23.07	20.25	115.22	545.13	3.58	3.00	62.64	0.61	109.93	510.17	2.84	10.01	6.58	2.12	108.32	1.53	0.0
0																		
46288818	829.64	39.84	38.14	83.51	694.55	4.85	5.64	29.75	0.92	127.01	644.66	2.81	17.80	13.91	3.36	176.02	0.34	0.0
0																		
46024056	2008.51	92.49	80.17	238.74	1570.83	10.62	10.52	83.45	2.24	300.83	1440.78	7.65	32.53	31.20	10.25	268.23	8.76	0.0
0																		
45106045	1712.80	57.94	68.75	223.62	863.05	7.60	7.29	122.64	1.23	220.94	532.37	6.90	29.44	26.31	7.70	358.72	7.56	0.0
0																		
46232063	645.37	31.00	31.42	59.99	392.26	3.44	3.85	26.46	0.51	70.37	223.91	2.53	13.20	12.24	3.53	146.63	11.53	0.0
0																		
46618825	1358.32	50.76	53.86	173.26	1232.68	5.13	6.25	118.16	0.98	208.85	843.26	4.76	27.36	18.53	4.23	206.45	2.42	0.0
0																		
45941425	1189.13	49.36	38.39	169.83	1306.78	3.77	6.14	132.63	1.38	214.65	731.30	3.54	19.80	12.21	3.32	166.87	2.10	0.0
0																		
46612950	1299.54	54.71	51.93	156.03	1469.71	5.67	6.76	22.07	0.95	111.48	759.78	3.37	27.05	16.68	4.63	355.44	0.45	0.0
0																		
46595932	2146.56	90.62	99.61	227.84	1904.99	9.50	11.69	58.24	1.67	192.63	1088.22	7.49	47.58	34.93	10.08	354.77	2.93	0.0
0																		
45794113	1217.98	53.95	49.89	140.79	796.34	7.31	6.43	35.61	0.90	151.17	447.32	5.64	19.96	18.59	7.46	186.67	1.77	0.0
0																		
45220845	1944.38	72.89	96.37	203.85	1000.15	10.68	9.64	98.65	1.48	250.39	1070.91	8.67	41.82	36.95	10.21	425.10	4.12	0.0
0																		
46698009	942.10	51.52	43.97	86.21	1351.61	2.78	6.40	16.92	0.78	72.81	436.34	1.93	25.13	13.60	2.68	185.98	0.76	0.0
0																		
46800034	1253.03	55.39	57.51	131.74	1665.49	4.98	6.51	32.72	1.08	160.86	680.09	1.79	32.42	17.97	3.45	211.76	0.76	0.0
0																		
46745826	1651.57	69.82	66.70	197.38	1670.48	7.17	8.11	150.15	1.23	243.75	1112.46	5.54	33.90	22.37	5.77	283.96	0.58	0.0
0																		
45370674	979.31	42.36	46.09	101.93	681.72	5.32	5.27	27.18	0.83	107.41	605.64	4.67	19.29	17.57	5.96	170.12	2.28	0.0
0																		
45716894	1262.12	51.58	59.23	134.13	709.36	7.79	6.88	22.52	0.81	115.20	452.02	6.18	21.16	25.11	7.66	245.01	5.31	0.0
0																		
47267879	1149.89	43.24	45.12	149.19	1184.02	5.34	5.30	40.00	0.99	125.28	605.99	3.50	22.82	14.98	3.56	140.42	20.20	0.0
0																		
46895853	943.63	36.94	34.09	128.18	1087.39	3.25	4.74	64.16	0.74	116.41	666.30	3.74	19.05	10.64	2.33	117.77	0.45	0.0
0																		
46764579	2025.27	86.62	71.83	268.09	1256.84	11.68	10.55	115.32	2.13	231.94	1694.81	9.40	31.69	25.95	8.36	290.96	0.42	0.0
0																		
46747541	2236.86	93.13	92.87	262.58	1512.26	12.78	11.18	145.65	1.91	347.42	1289.95	7.91	40.44	34.77	10.59	412.17	4.58	0.0
0																		
46953362	819.42	39.87	29.55	101.87	644.94	4.76	4.94	46.28	0.71	110.08	659.39	3.47	13.93	10.04	3.27	155.98	1.31	0.0
0																		
46879021	1787.39	69.65	67.11	233.92	940.51	10.32	8.31	56.16	1.64	183.93	722.61	7.33	26.73	24.92	9.61	197.74	2.05	0.0
0																		
46774205	1642.05	69.39	59.11	217.64	1060.75	9.53	7.16	153.05	2.31	367.95	1036.40	6.19	25.00	21.61	7.81	211.75	0.95	0.0
0																		
46919059	1209.81	61.26	50.67	130.29	1481.42	5.80	8.45	40.20	1.08	141.06	815.31	3.02	27.84	16.19	3.36	207.85	0.00	0.0
0																		
46834629	1364.03	47.00	56.44	170.97	844.46	8.11	5.77	37.01	1.17	166.67	760.33	4.19	23.34	21.84	6.42	328.11	3.09	0.0
0																		
45637173	1518.54	50.23	86.01	139.67	1150.92	7.33	5.69	22.29	0.67	125.79	807.81	5.30	40.74	30.14	8.33	392.24	3.67	0.0
0																		
44139162	1070.42	44.49	39.11	137.34	1164.72	5.56	5.47	74.13	1.04	206.43	637.02	2.37	21.34	12.51	2.77	140.77	0.11	0.0
0																		

44239821	1273.82	40.33	44.37	183.93	1057.23	6.04	5.06	36.53	0.95	98.76	494.09	3.04	21.41	15.48	4.22	172.26	2.42	0.0
0																		
44178920	1141.52	47.64	38.35	157.59	1208.62	6.32	5.72	36.24	1.24	170.71	1293.98	3.47	17.15	13.84	3.96	146.85	2.44	0.0
0																		
44260917	1310.11	65.20	51.64	149.52	1200.92	7.08	7.42	32.27	1.49	176.72	933.79	5.06	24.77	17.37	5.58	323.16	0.42	0.0
0																		
44260925	1310.11	65.20	51.64	149.52	1200.92	7.08	7.42	32.27	1.49	176.72	933.79	5.06	24.77	17.37	5.58	323.16	0.42	0.0
0																		
44244507	1314.93	45.65	35.15	210.99	1203.40	7.17	5.61	38.01	1.48	155.80	973.22	4.33	15.60	12.51	4.31	131.23	1.96	0.0
0																		
44322593	1342.30	61.24	47.19	174.37	1221.75	6.54	8.01	88.13	1.86	240.59	950.11	3.54	23.94	15.58	4.19	192.35	0.42	0.0
0																		
42836447	1360.64	50.12	54.32	174.00	927.32	6.51	6.08	131.27	1.32	263.93	719.65	5.60	23.42	19.63	7.43	196.34	71.80	0.0
0																		
43745514	1260.62	51.16	48.45	160.03	531.43	7.54	6.22	64.15	0.97	153.46	800.73	7.80	15.08	19.96	9.69	153.23	3.60	0.0
0																		
44282226	1497.26	60.48	60.38	185.30	927.32	7.88	7.53	135.80	1.73	283.82	951.00	5.93	25.56	22.83	7.41	188.26	0.74	0.0
0																		
46115839	1549.02	61.23	49.15	222.71	875.66	9.16	7.70	232.25	1.34	410.76	1219.54	7.93	19.58	18.62	6.65	269.32	2.28	0.0
0																		
44397934	1195.41	56.63	40.49	158.09	780.91	6.15	6.54	144.73	1.49	234.87	1248.44	5.62	17.64	14.41	4.87	169.68	0.18	0.0
0																		
44340727	864.27	29.00	24.47	138.40	355.87	5.64	3.55	41.82	0.74	104.98	1193.06	6.88	9.85	8.58	3.59	246.88	0.18	0.0
0																		
44475269	1273.55	41.97	31.39	215.02	791.79	7.57	5.19	85.29	1.35	163.52	545.09	5.28	12.09	11.55	4.73	77.91	2.85	0.0
0																		
44060458	1712.68	85.00	82.37	157.26	1646.51	7.60	9.31	27.39	1.31	127.15	667.77	5.32	38.30	29.57	8.60	401.15	3.15	0.0
0																		
44378041	2099.72	87.85	61.24	314.21	1596.48	12.50	10.05	85.52	2.48	335.03	1750.20	7.73	25.18	21.83	8.83	365.74	1.60	0.0
0																		
44411784	1643.81	59.41	63.80	213.82	856.43	9.21	8.28	84.58	1.50	224.08	578.00	6.12	25.80	24.22	8.47	219.28	7.49	0.0
0																		
44007012	1720.99	71.01	80.21	186.08	1218.42	7.95	8.37	91.61	1.75	237.29	845.40	6.71	37.71	28.15	8.33	375.19	1.11	0.0
0																		
46810215	1309.85	40.01	52.64	175.18	505.74	9.37	5.53	81.97	0.75	154.74	544.08	5.86	18.14	21.57	7.57	79.08	0.74	0.0
0																		
44753441	962.80	45.54	49.89	84.20	1169.75	3.43	5.84	17.10	0.69	90.13	500.58	2.73	25.99	16.70	3.97	216.19	1.08	0.0
0																		
47452503	2251.64	85.76	80.25	306.06	1196.22	15.27	10.84	194.22	2.33	463.38	1183.02	9.26	32.61	31.46	10.39	238.80	2.33	0.0
0																		
44606327	1483.83	72.62	56.83	175.79	1668.55	6.95	9.01	138.32	1.39	263.69	2304.08	5.13	25.49	20.38	6.36	213.21	0.90	0.0
0																		
44689787	2138.50	83.77	95.06	239.36	950.88	14.44	10.94	61.02	1.58	216.09	805.76	9.60	35.25	40.43	12.08	399.99	0.36	0.0
0																		
44476415	1887.09	88.27	84.49	197.25	1768.70	9.06	10.34	39.69	1.65	212.89	1035.95	7.30	38.97	30.07	9.46	402.55	2.23	0.0
0																		
44602507	881.11	44.32	29.45	111.81	1126.35	4.30	5.09	38.73	0.77	122.02	974.39	2.68	14.30	9.81	3.02	117.14	0.34	0.0
0																		
46197689	2240.72	153.49	87.10	209.63	1416.90	13.64	14.17	89.96	3.25	337.92	1046.71	9.86	34.31	31.78	13.16	497.90	0.10	0.0
0																		
3585621	2470.20	96.94	85.69	341.07	1609.63	13.37	12.18	296.27	2.35	494.73	1405.96	10.62	37.73	30.83	9.99	376.06	2.57	0.0
0																		
3529265	2145.68	69.37	75.93	302.65	1096.38	13.58	8.93	33.76	1.26	133.31	454.23	7.42	30.14	27.78	11.72	212.44	4.84	0.0
0																		
4781583	1477.29	64.71	53.62	192.27	950.63	9.48	8.69	57.06	1.73	229.56	1409.29	7.67	21.23	20.32	7.75	155.05	0.71	0.0
4729517	1260.57	62.91	44.37	158.41	1135.08	5.42	6.36	136.15	1.69	261.89	967.52	5.08	22.60	14.50	3.91	227.26	0.68	0.0
4720135	1984.99	77.01	89.64	223.47	726.97	12.78	10.86	88.09	1.50	201.01	1565.22	9.80	37.05	35.22	9.81	424.38	0.80	0.0
3632729	1401.29	61.01	65.42	146.30	1284.70	5.43	7.86	33.54	1.16	119.74	624.55	4.56	31.72	23.25	5.97	229.44	0.95	0.0
4956037	776.70	35.85	19.30	121.37	308.93	6.10	5.04	83.61	1.41	220.79	1318.35	4.25	8.09	6.79	2.38	104.69	0.02	0.0
5007424	999.30	38.66	27.02	154.17	657.03	5.07	4.21	130.81	0.90	189.74	471.59	3.62	10.68	9.88	4.03	112.15	0.85	0.0
4617853	2021.42	71.09	91.35	236.72	1310.22	10.69	8.33	43.89	1.39	184.06	789.83	7.72	40.57	34.58	9.03	398.14	10.13	0.0
4684802	1773.17	68.13	81.13	200.01	1616.75	7.25	8.06	44.16	1.49	182.64	803.51	6.07	39.60	28.03	8.34	284.67	4.05	0.0
4694653	1617.85	75.46	68.96	180.15	1322.27	8.09	9.68	98.98	1.42	213.03	1045.50	7.26	31.87	24.28	7.82	248.13	0.72	0.0
4686981	1339.92	55.18	53.83	162.13	1230.08	7.19	6.75	52.12	1.22	187.42	1103.65	4.13	26.58	18.46	5.01	180.23	0.92	0.0
4885591	757.87	36.99	35.72	74.28	983.69	2.31	4.50	30.70	0.66	76.40	401.94	1.80	19.19	11.68	2.64	154.72	0.08	0.0
4450063	1682.42	70.30	69.76	196.94	938.27	9.02	9.66	73.22	1.14	170.76	443.63	7.28	28.76	26.33	9.13	246.62	2.70	0.0

4664987	962.07	32.35	30.85	143.64	681.55	6.14	4.35	22.17	0.72	103.38	788.24	2.72	13.84	10.68	4.04	100.70	20.55	0.0
3784851	1759.33	76.36	76.64	197.841479.04		9.69	9.16	82.73	1.91	307.58	1023.36	5.76	35.78	27.42	8.44	297.63	20.47	0.0
4383313	1332.71	56.15	39.98	197.22	921.05	10.11	7.47	179.19	1.54	389.01	3407.80	7.15	16.57	13.82	5.81	347.77	0.18	0.0
3999385	1371.45	55.37	64.08	148.221325.51		6.52	7.24	29.46	0.89	145.95	1142.27	4.66	30.82	22.61	6.65	169.24	1.22	0.0
4476415	1574.80	65.94	63.68	187.51	840.40	9.71	8.07	33.31	1.48	178.47	913.20	6.33	24.70	24.41	9.21	303.47	5.41	0.0
4974708	1758.08	84.98	83.21	171.791939.29		5.96	10.22	89.44	1.35	204.38	1537.19	5.78	42.09	28.22	7.27	455.56	0.00	0.0
7910395	894.75	42.58	44.23	83.261389.85		2.52	5.06	14.14	0.55	76.66	418.03	1.06	25.07	13.98	2.39	161.16	3.39	0.0
5106045	1946.60	76.99	84.26	227.871744.36		9.35	9.22	93.33	1.70	292.70	1081.38	7.10	38.38	30.80	9.30	284.28	2.89	0.0
3840554	1977.90	86.29	94.65	202.322161.32		6.63	11.85	73.79	1.80	206.61	1134.86	3.84	53.75	29.41	5.34	316.13	2.80	0.0
5220845	2066.82	59.48	90.93	264.791178.48		10.34	7.62	293.56	1.52	363.55	1449.72	7.01	45.60	30.94	7.39	284.00	3.20	0.0
5271898	1322.22	53.24	47.56	174.15	804.70	8.60	6.38	38.87	1.07	139.50	843.72	5.56	19.58	17.32	6.95	180.95	2.41	0.0
3975997	1542.92	63.10	72.69	165.101376.33		6.03	8.13	105.14	1.28	192.15	740.77	5.30	35.12	25.42	7.17	254.80	3.42	0.0
5105683	607.48	31.00	28.86	57.37	614.56	2.73	3.80	26.09	0.56	81.59	415.42	1.81	14.30	10.16	2.53	99.88	0.68	0.0
5539816	1292.18	54.87	58.42	139.141080.08		6.49	6.28	44.02	0.85	124.77	648.24	4.37	26.17	21.47	6.15	347.85	3.41	0.0
5339422	789.96	38.70	29.24	95.16	998.92	3.73	5.02	30.24	0.60	99.25	901.34	2.35	13.81	10.67	2.78	126.40	4.58	0.0
5368661	580.44	22.41	18.17	85.05	144.13	4.03	2.71	66.72	0.72	124.08	376.98	2.99	6.65	7.01	2.72	52.90	0.68	0.0
5403152	1874.43	94.11	90.91	174.351209.40		10.30	12.37	80.80	1.68	232.86	1413.00	8.63	37.71	34.98	10.94	339.65	0.61	0.0
5772630	1449.98	70.16	70.74	135.311547.28		5.28	8.79	32.18	1.24	129.16	693.81	4.25	34.52	24.80	6.55	246.54	19.67	0.0
5865279	1348.07	51.85	65.15	142.44	853.96	6.43	6.45	30.20	1.02	116.24	507.68	5.73	28.91	23.77	7.87	220.82	0.86	0.0
6465929	1688.52	65.32	51.68	250.581424.92		8.39	8.22	63.97	1.63	146.05	1181.77	6.37	21.91	19.44	6.18	142.71	3.56	0.0
6807171	1220.69	59.46	56.61	122.371119.95		4.82	6.83	32.96	1.25	136.44	737.47	4.40	26.17	20.25	6.24	244.72	0.22	0.0
5923944	1277.38	60.47	60.24	125.991400.87		4.64	6.96	43.35	0.85	106.33	615.24	3.53	31.11	20.29	4.91	272.17	1.66	0.0
6546349	1036.09	41.25	41.51	129.311098.30		4.63	4.69	28.14	0.99	132.54	550.15	3.88	21.27	13.81	3.85	163.26	0.06	0.0
6667591	1056.74	39.86	39.22	138.84	536.87	6.03	5.03	48.36	0.70	119.46	620.80	3.62	16.79	14.42	4.87	149.44	21.47	0.0
6672235	2247.31117.37		83.98	257.241587.25		12.93	11.93	65.78	2.31	234.89	918.64	7.79	36.89	29.78	10.55	333.76	0.00	0.0
6706307	1292.61	43.54	36.47	208.03	629.31	7.23	5.40	97.11	1.22	138.89	486.40	3.71	12.64	14.59	4.93	134.10	1.60	0.0
6716455	1182.58	37.44	30.92	198.50	754.38	7.75	5.24	66.01	1.36	179.90	1672.52	6.58	13.32	10.75	4.06	218.84	0.18	0.0
6837904	1049.47	38.33	39.12	142.40	888.12	5.73	4.60	41.66	1.05	159.56	788.90	4.55	18.45	13.69	4.36	112.04	0.56	0.0
6840858	1528.32	55.76	71.53	173.46	965.38	7.22	6.79	106.29	1.17	172.51	857.20	7.25	32.10	25.60	8.79	208.90	1.98	0.0
6625185	1538.57	78.78	64.35	165.141209.42		7.67	10.74	66.61	1.67	164.72	1011.28	4.89	28.92	23.99	5.69	370.24	2.18	0.0
6840808	659.51	28.47	20.90	93.55	639.29	3.89	3.35	28.74	0.76	127.16	1201.08	4.13	11.27	6.34	1.97	83.43	0.10	0.0
6750742	852.45	27.04	23.66	137.54	281.54	6.39	3.74	73.53	0.93	181.82	658.46	4.24	8.15	9.56	3.68	100.76	1.03	0.0
6343688	1016.56	45.92	33.40	136.961123.63		5.05	5.05	72.74	0.97	170.28	965.47	3.49	14.80	11.65	3.77	220.19	3.20	0.0
6753085	1560.79	71.57	50.20	210.391276.48		9.73	8.28	65.82	1.59	214.18	1101.25	4.78	23.81	16.52	5.40	323.99	0.00	0.0
6805878	1101.59	26.88	27.45	191.93	978.03	5.22	3.48	27.15	0.90	54.33	328.32	1.39	16.11	7.78	1.60	109.39	0.00	0.0
6547206	1453.12	66.14	62.55	160.051177.63		7.07	7.89	50.05	1.22	150.02	735.77	5.95	28.42	22.45	7.23	207.32	1.13	0.0
8846903	1081.63	33.95	48.93	129.62	647.50	5.83	4.44	25.16	0.56	77.16	341.78	3.38	23.80	16.77	5.08	117.14	6.21	0.0
5718170	1562.98	45.66	65.33	204.79	495.20	8.00	6.26	52.33	1.00	127.53	796.72	6.52	26.65	24.56	9.00	227.81	24.33	0.0
5451391	1283.06	50.32	50.61	160.40	423.02	6.81	6.77	129.97	0.97	219.19	528.09	6.13	19.73	19.31	6.93	180.29	4.63	0.0

46694429	1053.25	40.04	41.60	132.91	1048.56	4.28	4.58	17.99	0.71	77.48	442.90	2.26	21.52	13.41	3.85	164.11	10.48	0.0
0																		
46883999	629.18	13.74	18.40	106.41	225.56	2.33	1.88	217.60	0.41	248.87	478.80	2.54	8.34	6.65	2.00	70.84	2.08	0.0
0																		
46403581	1440.00	45.96	39.62	237.13	1252.66	4.74	5.62	204.45	1.47	241.43	719.48	4.09	20.15	12.83	3.33	110.92	14.95	0.0
0																		
46686385	1793.10	62.49	44.27	301.38	1021.08	10.36	7.31	418.12	2.06	488.03	1785.84	9.74	17.40	15.31	6.98	307.35	0.45	0.0
0																		
46767713	1498.72	63.19	68.76	160.45	1271.99	7.01	7.62	50.91	1.07	158.63	807.37	5.72	32.05	24.79	7.09	337.52	2.63	0.0
0																		
46693934	818.48	36.90	39.39	81.92	479.94	4.56	4.54	38.45	0.73	106.34	424.46	5.56	15.09	15.72	5.47	229.95	0.06	0.0
0																		
46843951	1748.03	66.74	109.73	132.66	999.35	7.60	8.35	67.91	1.10	189.76	1333.98	13.53	44.67	42.76	15.23	275.11	0.50	0.0
0																		
47016945	1373.75	45.99	53.50	183.84	1167.69	6.78	5.72	43.24	0.93	134.37	572.66	3.71	26.58	18.53	4.58	159.25	8.76	0.0
0																		
46964674	1475.74	65.86	61.47	169.84	1699.56	4.97	8.00	48.52	1.05	139.55	912.84	4.59	32.26	20.14	5.16	269.89	5.04	0.0
0																		
46054342	1003.74	40.61	38.04	131.14	720.60	3.87	5.17	129.13	1.12	188.70	350.18	3.23	18.61	13.06	3.40	154.23	0.16	0.0
0																		
45956127	1599.00	60.12	65.28	196.11	771.19	9.27	8.33	40.84	1.13	125.24	682.89	6.44	23.58	26.93	8.57	172.42	82.56	0.0
0																		
42848450	1257.04	54.91	44.99	163.08	845.16	6.50	6.92	225.94	1.24	356.21	649.27	5.43	18.22	17.46	5.82	172.83	0.75	0.0
0																		
44043628	1485.50	63.38	65.63	164.09	990.28	6.92	7.67	60.42	1.11	148.16	615.57	5.49	29.54	23.50	7.54	318.98	2.43	0.0
0																		
43998460	1333.68	56.67	50.38	168.08	777.70	8.56	6.97	77.33	1.17	196.09	986.19	6.13	20.44	19.19	6.56	195.88	3.07	0.0
0																		
44106773	2251.04	89.20	85.46	288.39	1862.39	11.38	10.92	147.78	1.98	344.16	1629.58	7.39	40.51	30.15	8.61	417.79	1.24	0.0
0																		
44141274	1777.56	70.40	75.47	213.09	1228.78	8.46	9.49	164.59	2.26	311.21	685.79	8.01	30.50	29.09	10.20	243.91	1.72	0.0
0																		
44170463	1785.35	99.90	71.14	186.89	723.22	9.36	9.06	130.86	1.81	243.39	873.60	10.54	24.03	28.47	12.24	507.54	1.50	0.0
0																		
43674044	2157.61	74.01	73.63	308.44	1158.94	12.42	9.23	133.34	1.77	267.53	1128.14	8.72	27.66	29.41	10.41	376.80	3.72	0.0
0																		
44273499	824.67	28.28	28.29	120.41	938.66	2.33	3.41	75.02	1.03	122.86	463.55	2.44	16.55	8.54	1.50	102.63	0.76	0.0
0																		
44273514	832.61	28.90	30.15	114.86	403.32	5.13	3.71	33.54	0.61	93.50	379.48	2.83	11.24	11.59	4.77	70.84	0.52	0.0
0																		
44055657	1748.54	77.10	71.24	206.11	1665.48	7.99	10.28	61.68	1.62	157.24	822.12	4.50	35.98	23.98	6.20	286.66	0.58	0.0
0																		
44276047	1974.44	69.94	86.77	235.46	1349.63	8.90	8.53	74.21	1.37	203.89	1308.10	7.13	39.85	32.03	9.34	274.65	3.53	0.0
0																		
44279322	65.19	1.45	1.99	10.78	18.24	0.68	0.12	2.64	0.03	7.02	4.62	0.07	0.34	0.94	0.33	0.20	0.00	0.0
0																		
44445022	699.77	25.80	25.53	94.14	197.31	5.77	3.23	8.46	0.40	99.12	275.46	4.12	7.10	10.61	5.11	217.70	3.94	0.0
0																		
44442028	804.35	22.78	12.45	152.97	300.15	6.65	2.67	108.35	0.79	202.41	221.51	3.09	3.92	4.62	2.65	12.18	0.41	0.0
0																		
44460848	631.98	32.36	22.31	77.51	549.21	3.39	3.54	46.63	0.62	113.56	374.80	2.86	10.77	7.31	2.55	94.51	0.00	0.0
0																		
44371988	2020.20	60.69	51.66	335.26	944.35	11.66	8.06	328.66	1.63	436.03	570.24	5.68	20.35	19.77	6.66	142.50	0.41	0.0
0																		
44432714	2149.84	97.12	89.68	247.49	1621.03	9.36	11.28	139.78	1.74	268.36	917.99	9.28	38.75	32.07	11.78	315.00	1.13	0.0
0																		
45593508	1034.17	39.07	53.56	103.51	502.57	5.91	4.57	37.83	0.90	143.20	580.44	4.98	22.63	20.02	6.62	176.53	0.76	0.0
0																		
45593631	628.74	22.02	20.63	90.47	175.52	4.11	2.98	15.54	0.52	34.53	344.94	2.63	7.41	8.41	2.75	85.94	3.15	0.0
0																		
45542729	2330.77	88.19	116.46	239.69	1981.84	9.11	10.31	140.81	1.86	327.96	1181.05	9.03	52.01	43.26	13.01	480.12	13.23	0.0
0																		
45662999	889.42	41.29	39.88	93.73	1355.20	2.36	5.14	41.62	0.70	93.76	650.32	1.80	23.50	11.97	2.38	149.60	0.00	0.0
0																		
45272293	2370.90	79.64	93.22	314.29	1662.25	13.61	10.24	73.38	1.95	245.97	1130.37	5.92	43.33	32.64	9.67	234.94	0.54	0.0
0																		
43882879	1873.31	73.71	95.85	188.94	943.47	7.87	9.23	133.82	1.33	248.07	645.66	12.72	34.43	39.39	15.88	188.18	1.15	0.0
0																		
43723578	1339.78	50.89	62.74	148.18	497.69	6.59	6.31	47.68	1.10	121.38	433.00	6.95	23.81	26.05	8.11	212.34	24.42	0.0
0																		
45550897	1179.38	51.81	48.28	137.30	1322.69	4.64	6.92	20.81	0.80	105.96	402.21	2.82	25.17	16.02	3.79	179.32	0.74	0.0
0																		
45974288	1155.28	50.30	43.27	144.68	823.46	7.18	6.18	55.62	1.05	181.17	971.22	4.80	16.60	16.79	6.36	165.06	2.32	0.0
0																		
45527854	568.99	21.97	14.97	89.70	284.14	3.44	2.86	31.47	0.70	73.38	468.67	2.15	6.09	5.54	1.78	57.99	0.22	0.0
0																		
45611409	1276.83	59.06	62.10	124.35	665.21	7.49	7.58	16.36	0.84	111.10	534.07	8.67	22.36	24.57	10.28	159.78	19.83	0.0

44147115	911.68	39.39	35.58	112.07	1122.39	4.13	4.54	82.42	0.98	193.33	761.96	1.93	19.94	11.13	2.22	133.48	0.40	0.0
0																		
43610618	1635.73	52.98	64.56	215.81	964.82	10.19	5.99	42.74	1.25	186.86	566.57	5.25	27.11	25.15	7.04	324.14	6.41	0.0
0																		
44722397	1628.27	53.77	76.18	190.81	1030.57	7.58	6.61	151.88	1.61	265.47	1067.90	5.77	38.71	25.19	6.86	225.50	0.77	0.0
0																		
44760496	1407.94	60.64	50.28	186.29	763.90	8.62	7.64	89.16	1.71	218.79	1224.31	6.88	19.20	18.89	7.89	191.40	0.06	0.0
0																		
44750710	1409.37	61.25	50.65	185.12	764.15	8.65	7.68	89.16	1.72	218.94	1224.97	6.93	19.30	19.04	7.98	193.64	0.06	0.0
0																		
44100387	1572.41	88.50	74.99	136.04	795.31	8.43	10.18	27.64	1.28	105.15	457.82	6.59	29.76	29.84	9.27	312.50	3.81	0.0
0																		
44593441	1392.27	60.98	54.24	169.06	1555.18	4.79	7.45	146.04	1.12	222.01	889.14	4.28	29.30	17.45	4.25	193.45	0.79	0.0
0																		
44859596	1897.67	77.83	73.35	237.48	724.34	13.60	9.34	131.96	2.12	351.34	1194.37	7.62	26.20	30.61	10.00	372.18	1.14	0.0
0																		
44737411	1035.00	39.80	42.15	128.24	969.41	5.14	5.07	25.42	0.57	80.70	389.09	3.17	20.12	15.04	3.77	115.13	2.44	0.0
0																		
44703355	739.38	33.17	23.27	100.70	208.48	6.24	5.34	13.64	0.71	68.10	281.36	2.97	8.36	9.42	2.75	72.11	0.68	0.0
0																		
44685355	1376.77	57.11	47.90	184.77	1386.47	6.64	6.88	245.55	1.68	449.95	1214.85	3.93	23.12	17.70	4.02	157.59	1.29	0.0
0																		
45055789	694.51	17.24	12.04	132.95	256.90	3.16	1.94	296.36	0.58	352.32	461.20	3.39	4.93	4.31	1.56	79.73	0.11	0.0
0																		
44695536	1331.08	52.13	65.81	137.70	819.19	5.82	6.46	63.73	1.02	156.06	1186.52	6.34	29.23	23.88	8.13	255.61	3.65	0.0
0																		
44725929	796.82	31.07	35.03	92.78	601.06	3.63	3.76	51.39	0.67	85.28	268.22	3.24	16.24	12.47	3.78	129.88	0.92	0.0
0																		
44685842	1509.16	57.13	61.89	186.19	695.37	9.33	6.81	35.15	1.41	198.04	735.46	7.98	20.79	25.71	10.23	268.06	0.68	0.0
0																		
44776071	2438.80	118.43	94.36	287.49	1696.24	14.96	15.87	96.70	3.14	335.75	2158.65	11.12	41.29	34.79	10.42	488.60	0.00	0.0
0																		
44663567	1291.48	59.11	39.26	183.26	1698.74	3.92	7.22	120.19	1.05	215.96	1029.78	3.57	19.77	13.70	3.14	173.75	11.33	0.0
0																		
45002467	1543.06	62.20	70.59	170.52	1533.70	4.94	7.81	132.44	1.24	241.75	843.55	5.68	33.89	24.57	7.29	262.50	23.76	0.0
0																		
44937384	2009.77	82.86	82.38	249.45	1048.51	8.54	9.11	73.88	2.44	212.51	903.28	12.50	33.65	30.26	11.68	367.10	4.76	0.0
0																		
44883628	678.07	29.04	23.41	89.76	260.62	5.33	3.31	34.78	0.72	133.57	327.30	3.01	8.07	8.96	4.59	83.66	0.16	0.0
0																		
44841915	1278.40	63.62	56.02	133.15	466.55	7.57	6.88	83.99	1.25	124.24	744.57	7.53	20.53	21.88	8.89	179.16	1.04	0.0
0																		
45039486	939.92	32.50	33.19	131.93	604.80	5.26	3.61	111.84	0.65	198.08	473.58	3.94	13.86	11.79	4.77	87.33	0.02	0.0
0																		
44937194	1493.78	40.11	41.86	250.61	702.37	10.13	4.89	41.25	1.00	115.71	998.33	6.96	15.86	15.37	5.75	136.46	0.34	0.0
0																		
47506178	619.18	31.54	33.81	48.35	1031.92	1.19	3.78	10.99	0.40	53.70	335.26	1.02	20.23	10.16	1.69	131.29	0.02	0.0
0																		
44608042	990.99	42.86	40.18	120.35	1095.98	3.85	5.83	34.27	0.64	94.56	682.23	3.64	22.22	12.42	2.95	138.22	0.00	0.0
0																		
44997940	1353.57	55.86	53.98	164.73	1239.11	7.02	6.88	34.69	1.27	150.86	907.95	3.84	27.06	18.39	4.84	184.38	0.76	0.0
0																		
45030012	1547.79	58.68	60.97	196.97	1346.37	7.83	7.24	48.38	1.24	170.17	1123.72	4.57	29.66	21.01	5.89	248.50	0.40	0.0
0																		
44894047	1118.80	50.57	43.71	134.51	1236.84	3.92	5.84	34.20	0.95	116.38	546.47	3.95	22.88	14.00	4.07	207.19	0.51	0.0
0																		
45817600	651.15	26.62	19.88	94.19	241.13	4.28	3.25	16.68	0.84	72.18	421.81	2.78	7.79	7.25	2.96	81.83	0.79	0.0
0																		
45080083	1281.17	58.11	58.33	132.94	1020.61	6.97	6.55	27.58	1.14	163.24	708.00	4.83	26.56	20.74	6.60	298.03	0.42	0.0
0																		
47963857	954.84	51.64	48.30	80.13	1022.65	4.13	6.41	33.14	0.80	102.33	656.60	2.83	23.71	17.13	4.06	350.48	49.89	0.0
0																		
43863481	1060.18	52.71	44.42	115.34	1025.23	4.26	6.06	47.88	1.03	104.27	532.35	3.18	22.24	14.88	4.06	170.46	3.75	0.0
0																		
45207405	1397.81	59.18	58.78	160.69	1478.72	6.56	7.07	25.28	1.04	126.25	627.15	3.09	29.27	20.13	4.89	375.43	0.88	0.0
0																		
45203312	1028.62	26.95	19.90	197.55	262.31	9.89	3.55	53.22	1.81	199.86	1102.03	5.95	4.39	6.77	6.74	19.25	0.00	0.0
0																		
44987719	842.87	37.96	31.13	105.39	606.82	4.91	4.80	22.86	0.77	88.63	455.67	2.71	14.10	10.94	3.54	135.96	0.02	0.0
0																		
45085190	1748.22	65.28	64.42	233.89	1502.68	7.96	7.78	261.49	1.14	288.08	554.66	4.79	32.05	22.23	4.99	233.24	4.62	0.0
0																		
45646794	602.19	29.63	28.25	58.75	612.51	2.93	3.48	23.05	0.77	106.54	400.41	1.62	14.35	9.94	2.13	106.07	0.40	0.0
0																		
45618363	1866.52	76.86	89.47	195.44	1700.16	7.70	9.23	68.77	1.34	187.27	1829.82	6.98	39.89	33.23	10.85	222.44	1.42	0.0
0																		
45618363	1775.42	73.25	71.05	217.69	1761.55	9.12	9.37	62.97	1.37	195.17	1847.11	5.14	34.99	23.44	7.74	217.41	1.42	0.0
0																		

44601955	1018.73	44.26	50.86	97.99	760.49	4.65	5.84	33.96	0.78	110.84	411.18	3.41	23.51	18.32	5.37	202.54	1.52	0.0
0																		
45081594	686.77	30.56	21.25	97.08	1020.74	2.59	3.48	85.42	0.61	96.76	492.53	1.35	10.57	6.97	1.70	59.33	0.11	0.0
0																		
45135193	736.55	31.67	21.85	105.87	213.24	5.60	4.04	64.69	0.81	149.53	451.61	4.09	6.70	8.93	3.95	106.85	0.34	0.0
0																		
45211018	2112.98	90.94	105.94	201.60	1381.82	11.34	12.45	94.27	1.75	251.85	735.29	7.19	46.32	41.43	9.98	483.88	2.70	0.0
0																		
44054807	1203.95	51.17	48.18	147.33	1158.00	5.28	6.46	25.98	1.23	97.00	836.37	3.34	24.23	15.91	4.59	160.38	0.34	0.0
0																		
48044490	1354.28	56.67	66.65	135.24	1133.22	5.64	6.70	53.37	0.90	134.22	543.51	4.84	32.60	22.82	6.70	256.65	0.85	0.0
0																		
44978049	1639.77	76.31	73.42	171.10	1350.73	8.48	9.53	55.38	1.33	189.33	802.13	6.07	32.91	27.15	7.60	409.89	2.98	0.0
0																		
45377779	833.25	40.34	40.08	79.80	1364.16	1.59	4.76	22.45	0.63	83.60	450.60	1.42	24.27	11.85	1.90	164.98	21.09	0.0
0																		
45232072	1604.34	85.71	73.69	154.48	1085.96	9.23	9.22	59.64	1.62	225.40	1431.63	8.72	32.60	25.67	10.09	297.73	0.54	0.0
0																		
45235810	1161.57	45.79	48.22	140.53	774.07	5.58	6.03	128.62	0.94	212.56	562.43	5.20	21.81	17.81	5.08	163.21	0.74	0.0
0																		
45288463	912.58	40.77	42.71	93.41	630.38	4.32	5.30	34.80	0.83	89.42	433.97	3.22	19.30	15.98	4.34	159.21	0.80	0.0
0																		
45362126	944.23	39.38	39.52	110.42	1090.07	4.10	4.74	33.45	0.62	104.19	701.80	2.11	20.41	13.02	3.08	160.98	10.48	0.0
0																		
45240653	917.84	33.57	22.70	149.73	825.38	5.40	3.86	134.68	0.96	263.34	744.40	2.51	9.95	7.95	2.67	56.15	0.08	0.0
0																		
45178218	872.89	27.39	23.82	141.80	322.27	5.51	3.32	91.60	0.72	103.52	187.61	3.32	8.08	9.34	3.98	109.06	3.46	0.0
0																		
44734714	2177.55	97.15	70.67	301.75	1643.35	12.96	12.25	118.43	2.32	334.65	1946.31	9.35	29.12	25.77	9.84	237.90	0.92	0.0
0																		
45069657	1558.14	65.06	65.48	181.70	1389.12	7.00	7.74	78.28	1.13	165.41	814.99	5.45	28.89	24.00	7.71	218.31	12.28	0.0
0																		
45369776	1649.02	59.42	54.80	237.48	1587.22	7.77	6.96	68.99	1.39	155.81	790.21	4.90	28.66	17.55	4.36	228.96	0.10	0.0
0																		
44260785	2178.35	91.10	79.17	285.71	1510.94	13.77	11.36	215.83	2.20	420.40	1381.85	9.22	34.45	28.64	9.70	430.05	3.20	0.0
0																		
46465929	1688.52	65.32	51.68	250.58	1424.92	8.39	8.22	63.97	1.63	146.05	1181.77	6.37	21.91	19.44	6.18	142.71	3.56	0.0
0																		
46807171	1220.69	59.46	56.61	122.37	1119.95	4.82	6.83	32.96	1.25	136.44	737.47	4.40	26.17	20.25	6.24	244.72	0.22	0.0
0																		
45923944	1277.38	60.47	60.24	125.99	1400.87	4.64	6.96	43.35	0.85	106.33	615.24	3.53	31.11	20.29	4.91	272.17	1.66	0.0
0																		
46546349	1036.09	41.25	41.51	129.31	1098.30	4.63	4.69	28.14	0.99	132.54	550.15	3.88	21.27	13.81	3.85	163.26	0.06	0.0
0																		
46667591	1056.74	39.86	39.22	138.84	536.87	6.03	5.03	48.36	0.70	119.46	620.80	3.62	16.79	14.42	4.87	149.44	21.47	0.0
0																		
45672235	2247.31	117.37	83.98	257.24	1587.25	12.93	11.93	65.78	2.31	234.89	918.64	7.79	36.89	29.78	10.55	333.76	0.00	0.0
0																		
45706307	1292.61	43.54	36.47	208.03	629.31	7.23	5.40	97.11	1.22	138.89	486.40	3.71	12.64	14.59	4.93	134.10	1.60	0.0
0																		
45716455	1182.58	37.44	30.92	198.50	754.38	7.75	5.24	66.01	1.36	179.90	1672.52	6.58	13.32	10.75	4.06	218.84	0.18	0.0
0																		
45837904	1049.47	38.33	39.12	142.40	888.12	5.73	4.60	41.66	1.05	159.56	788.90	4.55	18.45	13.69	4.36	112.04	0.56	0.0
0																		
45840858	1528.32	55.76	71.53	173.46	965.38	7.22	6.79	106.29	1.17	172.51	857.20	7.25	32.10	25.60	8.79	208.90	1.98	0.0
0																		
46625185	1538.57	78.78	64.35	165.14	1209.42	7.67	10.74	66.61	1.67	164.72	1011.28	4.89	28.92	23.99	5.69	370.24	2.18	0.0
0																		
45840808	659.51	28.47	20.90	93.55	639.29	3.89	3.35	28.74	0.76	127.16	1201.08	4.13	11.27	6.34	1.97	83.43	0.10	0.0
0																		
45750742	852.45	27.04	23.66	137.54	281.54	6.39	3.74	73.53	0.93	181.82	658.46	4.24	8.15	9.56	3.68	100.76	1.03	0.0
0																		
45343688	1016.56	45.92	33.40	136.96	1123.63	5.05	5.05	72.74	0.97	170.28	965.47	3.49	14.80	11.65	3.77	220.19	3.20	0.0
0																		
45753085	1560.79	71.57	50.20	210.39	1276.48	9.73	8.28	65.82	1.59	214.18	1101.25	4.78	23.81	16.52	5.40	323.99	0.00	0.0
0																		
45805878	1101.59	26.88	27.45	191.93	978.03	5.22	3.48	27.15	0.90	54.33	328.32	1.39	16.11	7.78	1.60	109.39	0.00	0.0
0																		
45547206	1453.12	66.14	62.55	160.05	1177.63	7.07	7.89	50.05	1.22	150.02	735.77	5.95	28.42	22.45	7.23	207.32	1.13	0.0
0																		
45846903	1081.63	33.95	48.93	129.62	647.50	5.83	4.44	25.16	0.56	77.16	341.78	3.38	23.80	16.77	5.08	117.14	6.21	0.0
0																		
45718170	1562.98	45.66	65.33	204.79	495.20	8.00	6.26	52.33	1.00	127.53	796.72	6.52	26.65	24.56	9.00	227.81	24.33	0.0
0																		
45451391	1283.06	50.32	50.61	160.40	423.02	6.81	6.77	129.97	0.97	219.19	528.09	6.13	19.73	19.31	6.93	180.29	4.63	0.0
0																		
45694429	1053.25	40.04	41.60	132.91	1048.56	4.28	4.58	17.99	0.71	77.48	442.90	2.26	21.52	13.41	3.85	164.11	10.48	0.0

46883999	629.18	13.74	18.40	106.41	225.56	2.33	1.88	217.60	0.41	248.87	478.80	2.54	8.34	6.65	2.00	70.84	2.08	0.0
0																		
46403581	1440.00	45.96	39.62	237.13	1252.66	4.74	5.62	204.45	1.47	241.43	719.48	4.09	20.15	12.83	3.33	110.92	14.95	0.0
0																		
46686385	1793.10	62.49	44.27	301.38	1021.08	10.36	7.31	418.12	2.06	488.03	1785.84	9.74	17.40	15.31	6.98	307.35	0.45	0.0
0																		
46767713	1498.72	63.19	68.76	160.45	1271.99	7.01	7.62	50.91	1.07	158.63	807.37	5.72	32.05	24.79	7.09	337.52	2.63	0.0
0																		
46693934	818.48	36.90	39.39	81.92	479.94	4.56	4.54	38.45	0.73	106.34	424.46	5.56	15.09	15.72	5.47	229.95	0.06	0.0
0																		
46843951	1748.03	66.74	109.73	132.66	999.35	7.60	8.35	67.91	1.10	189.76	1333.98	13.53	44.67	42.76	15.23	275.11	0.50	0.0
0																		
47016945	1373.75	45.99	53.50	183.84	1167.69	6.78	5.72	43.24	0.93	134.37	572.66	3.71	26.58	18.53	4.58	159.25	8.76	0.0
0																		
46964674	1475.74	65.86	61.47	169.84	1699.56	4.97	8.00	48.52	1.05	139.55	912.84	4.59	32.26	20.14	5.16	269.89	5.04	0.0
0																		
45436187	952.79	40.85	38.76	112.26	765.29	5.27	5.18	28.71	0.95	116.46	660.14	3.38	18.08	13.49	4.53	128.16	2.91	0.0
0																		
45155191	1368.56	52.87	52.00	174.30	1116.98	7.64	6.58	44.28	0.95	129.83	632.90	3.82	24.29	18.50	5.44	202.29	0.11	0.0
0																		
45498913	1144.23	49.60	57.84	107.88	1030.81	4.46	6.37	24.82	0.78	78.90	496.85	3.24	28.12	21.33	4.76	193.21	0.86	0.0
0																		
45381001	1145.77	54.05	45.02	135.00	1168.40	5.29	6.56	30.13	1.17	140.60	760.52	3.36	23.66	14.57	3.71	203.13	0.99	0.0
0																		
45439884	747.12	31.61	23.45	105.85	664.50	4.48	4.07	40.07	0.90	133.31	670.07	2.09	10.23	8.48	2.67	78.29	0.90	0.0
0																		
45518381	1653.64	65.72	76.75	179.50	1211.00	8.39	7.63	43.25	1.20	164.50	780.23	6.39	31.89	28.72	10.35	378.36	2.33	0.0
0																		
45370806	1162.29	44.61	39.60	162.31	541.24	6.30	5.56	137.62	1.16	218.91	522.51	4.66	16.52	14.33	5.35	125.63	0.18	0.0
0																		
45384831	1338.70	59.02	58.73	147.27	1566.23	4.39	7.23	124.80	1.13	234.35	1051.35	3.80	31.38	19.41	4.28	257.70	0.62	0.0
0																		
45541944	1955.23	82.83	79.00	235.53	1681.11	8.72	10.47	147.49	1.53	293.81	1173.28	8.71	38.90	28.18	6.73	266.99	3.94	0.0
0																		
45517987	627.16	23.90	22.05	84.81	533.74	3.28	2.90	22.24	0.47	56.38	461.35	2.51	10.39	7.60	2.48	113.29	0.18	0.0
0																		
45803740	2015.49	78.18	63.90	291.98	1688.60	9.82	9.32	76.13	1.67	226.65	1012.80	5.86	28.83	23.03	6.85	197.55	6.62	0.0
0																		
45537498	1576.95	67.63	52.11	215.14	1219.95	9.81	9.83	148.33	0.96	208.67	711.38	4.78	24.97	16.99	6.30	199.75	0.00	0.0
0																		
45599513	1350.19	54.07	41.25	199.55	755.42	9.30	6.99	196.94	1.47	335.08	2122.95	6.36	17.58	14.40	5.90	139.25	20.17	0.0
0																		
45555680	1129.35	52.62	53.02	114.06	1587.01	3.38	6.31	32.36	0.91	129.77	849.24	2.42	30.07	16.42	3.53	234.38	0.11	0.0
0																		
45700037	1304.67	58.70	53.69	150.27	821.37	8.86	7.14	42.95	1.25	196.87	948.05	5.36	19.02	21.71	7.44	316.57	0.96	0.0
0																		
45965053	1012.96	48.28	41.34	116.16	1160.48	4.14	5.37	89.08	1.30	218.58	981.12	3.54	22.61	12.96	3.21	168.67	0.10	0.0
0																		
47307659	2288.63	100.71	98.06	257.40	1072.83	12.12	10.62	115.18	2.10	262.81	793.97	10.94	36.60	38.58	14.73	470.96	0.56	0.0
0																		
44893891	1315.40	46.42	50.62	173.02	848.33	7.68	5.40	66.99	1.12	201.30	570.69	4.11	20.60	19.09	6.94	172.09	1.82	0.0
0																		
46119758	1522.82	67.60	55.97	194.12	1760.71	6.62	7.60	145.13	2.15	373.82	1316.10	3.12	31.61	17.39	3.70	226.33	0.02	0.0
0																		
46335007	888.04	42.53	31.54	111.61	1112.98	4.69	4.80	18.45	0.77	114.89	916.66	2.81	13.95	11.40	3.58	93.19	0.80	0.0
0																		
46182995	813.55	34.83	34.04	94.94	660.45	3.76	4.64	69.95	0.67	134.17	450.65	2.84	15.97	12.39	3.20	129.92	0.11	0.0
0																		
46290128	1165.89	49.10	45.46	146.75	1573.84	3.77	5.82	133.51	1.52	289.61	801.94	2.17	27.19	13.39	2.45	171.55	0.00	0.0
0																		
46323177	1126.26	49.00	56.93	108.53	1450.01	3.13	5.82	80.22	0.73	177.66	657.26	3.39	32.67	17.57	3.61	194.24	0.72	0.0
0																		
46266070	1505.64	52.97	82.86	142.62	994.40	6.30	7.19	102.48	1.32	212.19	676.48	5.77	37.06	32.73	7.85	201.83	1.72	0.0
0																		
46437663	1628.71	56.96	56.69	229.19	1271.53	8.63	6.91	57.37	1.48	201.33	795.21	4.46	27.04	19.64	5.59	307.61	24.95	0.0
0																		
46009462	2004.26	60.40	88.21	251.27	1026.57	9.84	8.56	172.57	1.28	243.91	708.67	6.44	37.90	34.91	9.38	188.98	150.23	0.0
0																		
46228286	1557.08	47.74	44.85	249.59	890.98	9.63	5.42	215.93	1.13	327.12	1084.36	5.26	15.49	17.87	6.92	68.24	9.22	0.0
0																		
46673879	1949.32	74.99	50.61	308.37	1226.58	12.94	10.41	127.90	1.20	259.27	811.24	8.38	21.37	17.06	7.30	135.63	1.23	0.0
0																		
46649292	1949.32	74.99	50.61	308.37	1226.58	12.94	10.41	127.90	1.20	259.27	811.24	8.38	21.37	17.06	7.30	135.63	1.23	0.0
0																		
46649309	1898.27	73.56	49.07	300.24	1185.05	12.81	10.22	127.10	1.17	256.23	795.73	8.21	20.71	16.51	7.09	132.77	0.54	0.0
0																		
46378403	1379.84	58.15	51.15	176.73	777.02	8.59	7.00	66.73	1.21	176.72	1285.92	5.76	20.50	19.44	6.64	327.18	2.87	0.0

46951936	983.80	44.29	44.15	104.24	1049.78	3.32	5.19	31.33	0.78	88.42	492.89	3.09	22.27	14.98	4.05	150.50	10.21	0.0
0																		
46437374	1413.95	63.92	67.20	142.36	1646.52	4.85	7.58	54.01	1.21	186.10	854.92	3.93	34.82	22.10	6.01	350.83	22.49	0.0
0																		
46492170	1365.69	60.26	57.75	154.71	1698.84	5.52	7.11	67.32	1.21	216.07	779.31	2.88	31.99	18.21	4.12	208.34	0.58	0.0
0																		
47064316	1000.75	44.61	45.42	106.81	1413.88	2.26	5.28	80.11	0.84	141.53	525.54	2.76	26.01	14.13	2.77	187.53	0.16	0.0
0																		
46763092	1225.79	49.12	52.32	144.57	783.31	5.76	6.46	125.61	1.04	196.97	976.03	6.06	21.66	18.76	8.05	163.52	1.17	0.0
0																		
46652716	2112.85	82.48	63.41	317.01	1725.91	12.64	11.29	147.57	2.10	425.64	1907.20	6.45	29.71	21.91	7.47	364.79	0.00	0.0
0																		
46898344	1109.24	57.40	48.00	114.86	1066.75	5.20	6.97	42.95	1.05	97.61	1074.56	4.18	23.23	16.68	4.55	186.59	0.65	0.0
0																		
45309136	1959.26	90.17	71.21	245.32	960.05	11.14	9.54	244.15	1.92	426.57	917.73	9.19	27.71	26.53	11.28	287.19	1.12	0.0
0																		
45639822	929.52	30.94	25.88	147.20	579.05	4.40	4.38	53.53	0.69	100.17	501.27	2.88	9.65	10.87	3.35	77.86	0.80	0.0
0																		
45664241	1292.61	49.94	55.40	152.88	893.69	6.97	5.81	40.90	1.18	166.50	519.74	5.18	23.39	20.27	7.88	189.91	6.32	0.0
0																		
45486637	1824.84	79.94	86.79	186.16	1664.03	8.34	10.53	45.39	1.56	164.90	651.02	4.54	43.99	29.73	7.01	331.62	20.56	0.0
0																		
44606822	2083.39	85.90	91.09	236.43	1603.97	10.62	10.80	124.52	1.73	277.17	1462.96	8.43	40.79	33.36	10.41	291.69	2.85	0.0
0																		
45758036	1434.62	47.23	50.21	202.47	1055.38	7.89	6.40	24.34	0.92	102.07	432.51	3.94	22.44	18.42	5.54	149.08	2.42	0.0
0																		
47556230	1462.85	75.73	72.85	130.53	1349.42	6.70	8.70	59.95	1.30	175.60	1676.95	5.93	35.39	24.63	7.88	320.83	1.52	0.0
0																		
45605261	959.50	34.10	38.03	126.01	987.78	3.23	4.39	30.21	0.99	79.88	625.19	3.40	20.32	12.16	3.08	148.81	0.76	0.0
0																		
45314721	606.65	23.49	23.02	79.60	620.75	2.45	2.91	24.31	0.48	59.16	459.46	1.92	11.62	7.47	2.44	78.36	3.55	0.0
0																		
45385300	1259.41	53.35	50.72	151.47	1168.62	6.27	6.43	47.33	1.21	158.63	644.87	3.76	24.93	17.35	5.01	207.78	11.20	0.0
0																		
45705665	1690.58	67.22	78.53	183.35	1552.41	6.86	7.99	73.59	1.16	175.53	534.39	5.06	37.02	28.59	7.32	278.14	5.09	0.0
0																		
45995539	532.23	15.88	13.68	89.50	312.31	4.21	1.74	24.55	0.64	119.83	473.43	1.07	5.56	4.90	1.67	81.19	10.17	0.0
0																		
45637214	1454.81	69.14	76.38	128.70	1376.45	5.65	8.86	47.76	1.30	134.29	872.94	4.76	39.00	25.65	6.54	254.33	3.14	0.0
0																		
45984673	1388.62	52.24	45.99	195.09	1256.04	6.52	6.67	45.38	0.98	121.12	764.84	4.08	20.78	16.55	4.88	178.22	1.76	0.0
0																		
45995232	1552.58	52.97	47.84	234.43	1009.62	9.03	6.58	135.18	1.60	279.75	1430.09	4.78	21.56	16.95	5.23	193.14	0.99	0.0
0																		
46141313	1978.22	68.57	73.64	271.34	1924.75	7.32	8.51	100.99	1.69	216.36	1483.88	6.93	35.66	24.77	8.33	329.24	23.54	0.0
0																		
45600419	1402.04	39.46	42.23	228.49	441.19	7.51	4.68	66.90	2.07	158.89	598.85	5.14	16.62	15.67	6.00	145.96	7.41	0.0
0																		
45804673	1327.14	46.54	46.10	187.36	790.55	6.95	5.74	83.32	0.99	179.57	444.25	4.68	19.21	17.29	6.12	180.62	14.24	0.0
45816678	1141.19	46.12	43.28	144.85	754.24	5.98	5.42	140.07	1.04	217.67	519.45	4.46	18.42	16.40	5.01	175.74	0.83	0.0
46021789	1878.15	66.98	75.95	239.03	839.98	11.63	8.33	42.48	1.49	219.08	1070.08	8.33	29.98	29.21	10.35	323.30	51.60	0.0
46264321	1553.23	68.53	67.47	174.13	1427.80	6.74	8.03	88.73	1.83	242.98	1001.26	5.53	33.35	23.22	6.12	224.04	0.16	0.0
45832195	1078.16	43.07	40.33	138.98	1126.18	5.74	4.86	35.73	0.81	134.85	554.91	2.82	20.57	13.24	3.48	176.48	0.11	0.0
46075158	736.55	32.52	32.70	79.41	586.33	3.26	4.34	48.19	0.49	83.37	346.25	2.52	13.98	12.59	3.69	87.96	1.07	0.0
45134996	1375.11	54.45	54.50	169.78	1115.39	6.82	6.76	30.78	0.95	103.22	376.77	3.92	25.40	19.42	5.86	166.14	0.95	0.0
45756361	1182.35	46.87	45.18	151.54	729.74	5.85	5.68	78.54	0.95	153.15	489.19	4.46	18.59	16.94	5.86	261.60	1.28	0.0
45227288	1726.62	64.23	61.37	241.01	1414.22	9.58	8.04	100.62	1.94	290.57	1536.52	8.33	28.48	21.18	7.11	212.91	0.22	0.0
45701100	2250.41	98.31	109.91	223.31	1435.70	10.92	11.36	100.50	1.93	225.72	1391.78	11.08	43.36	42.62	15.08	653.68	1.80	0.0
45827791	1007.82	37.85	29.14	153.67	638.99	4.82	5.17	27.91	0.51	117.03	406.40	4.00	10.66	11.30	4.93	87.29	12.47	0.0
46089689	1000.15	33.60	34.28	144.65	709.62	4.86	4.33	43.00	1.01	157.80	499.03	2.74	16.34	12.07	3.41	148.93	2.61	0.0
45488733	971.91	40.67	47.37	97.35	641.55	4.62	5.81	65.37	0.76	130.85	444.62	3.16	21.94	17.40	4.31	200.47	3.97	0.0
45226545	1059.57	53.60	40.63	122.43	503.05	8.35	6.60	70.54	1.07	190.04	795.95	4.35	15.47	15.48	5.02	142.86	0.06	0.0
46028436	1057.29	44.51	43.33	125.43	478.80	6.21	4.91	34.78	1.02	138.82	520.79	4.54	16.82	16.96	5.94	303.85	2.79	0.0

46666741	1140.35	53.34	48.84	125.05	1115.79	5.14	6.86	79.18	0.83	169.75	679.25	3.50	23.92	17.17	4.31	191.88	1.37	0.0
47341350	1655.04	68.87	51.20	238.31	1353.49	8.42	8.01	264.31	1.73	417.05	1539.38	6.89	22.48	18.25	6.15	320.42	1.50	0.0
46249521	1619.57	67.72	63.92	197.70	1305.29	8.23	8.26	42.51	1.54	142.81	801.81	4.80	29.00	22.99	6.88	242.05	0.34	0.0
45206861	1162.62	52.58	47.33	134.41	710.54	5.95	6.91	76.05	1.03	142.22	418.33	4.31	20.74	17.72	4.90	190.04	0.56	0.0
46315166	1367.04	58.39	62.62	146.04	1160.84	6.18	7.29	28.24	1.08	128.75	851.49	4.15	32.25	20.54	5.47	217.60	0.18	0.0
46571130	584.33	31.81	28.30	50.74	138.11	4.13	4.28	7.19	0.51	48.46	140.50	3.12	9.83	11.56	4.04	112.89	1.40	0.0
47489077	1344.82	45.45	54.65	176.28	605.58	8.13	5.24	173.43	1.20	329.45	765.44	8.64	19.21	23.01	8.24	273.57	8.09	0.0
46630465	831.90	39.88	22.39	120.59	349.28	5.49	3.95	66.60	0.99	125.77	642.04	3.66	7.46	8.63	4.08	99.56	0.69	0.0
46301008	1513.34	50.24	57.70	203.17	845.48	9.85	6.40	49.16	1.28	193.76	1264.90	6.12	23.99	21.81	7.22	321.52	0.61	0.0
46616663	1361.31	56.38	55.42	163.59	1124.11	7.28	6.87	23.70	0.93	114.12	741.77	4.79	24.81	19.68	6.71	210.21	0.85	0.0
46397693	1726.44	61.81	60.83	242.24	1256.82	9.15	7.68	136.08	1.48	283.98	922.99	6.42	27.74	21.39	7.02	221.93	1.18	0.0
46542701	750.55	37.99	15.83	117.82	508.54	3.80	4.45	23.99	0.63	73.12	458.92	3.26	6.13	5.46	2.58	125.99	0.24	0.0
46383171	1401.89	53.03	70.41	142.16	1168.44	6.06	6.45	68.15	0.91	173.54	658.69	7.29	27.61	26.85	11.35	180.51	0.38	0.0
46663416	1370.49	52.64	59.83	163.01	1178.28	6.48	6.41	57.83	1.52	171.47	690.18	7.13	27.15	20.19	8.47	178.67	72.19	0.0
46792629	1061.81	43.60	35.70	146.43	1123.90	4.85	5.42	74.44	0.89	150.42	1191.68	3.62	15.40	12.92	4.35	133.10	11.98	0.0
47610656	1516.20	73.67	82.85	120.08	337.10	9.19	9.70	33.85	1.24	91.13	484.26	7.08	33.26	33.82	9.13	298.35	2.67	0.0
46511863	1383.65	39.05	59.74	180.69	619.30	7.09	4.35	55.41	1.10	164.75	1214.87	6.26	24.74	22.79	8.14	140.40	4.22	0.0
43978660	901.46	27.09	27.89	142.59	691.03	4.29	3.19	138.06	1.12	191.78	429.95	3.24	11.74	10.07	3.79	59.44	0.00	0.0
43982132	1595.14	74.33	75.34	159.30	1653.37	6.04	9.24	34.87	1.19	127.46	689.69	4.99	37.40	25.89	7.18	280.20	11.31	0.0
44207290	1320.81	54.88	67.11	131.54	735.48	6.07	6.37	33.80	0.99	106.85	999.46	6.48	33.72	21.60	6.82	260.64	0.45	0.0
44183763	2056.19	84.75	87.02	238.29	1436.15	11.25	10.85	75.22	1.49	226.27	732.41	8.92	36.10	32.00	12.55	276.33	3.60	0.0
44286278	1636.59	104.54	60.86	169.32	1189.78	10.92	12.19	48.90	2.18	228.14	2345.46	8.00	26.04	21.38	8.52	295.92	0.10	0.0
44230176	1026.83	43.58	37.16	132.61	621.90	6.50	5.44	56.08	0.86	117.45	631.20	4.40	15.01	14.03	4.75	165.75	0.40	0.0
43301879	1703.62	70.33	64.56	219.46	1086.36	10.36	8.77	99.22	1.58	270.27	1166.55	8.83	27.14	22.81	9.21	366.16	0.76	0.0
44479146	927.03	39.43	41.20	103.05	316.21	5.46	4.95	30.19	0.74	87.75	306.27	4.92	14.80	16.27	6.78	153.83	14.10	0.0
44479170	1003.42	38.49	41.28	123.36	332.26	5.91	4.89	35.98	0.92	98.15	257.60	5.12	14.46	16.15	7.20	147.11	4.66	0.0
44495853	1349.75	69.18	63.05	130.27	816.91	7.13	7.47	31.14	1.36	142.25	1092.58	8.78	25.00	22.96	10.29	246.72	0.45	0.0
44488733	514.13	16.16	18.71	71.44	158.19	3.38	1.99	103.45	0.30	139.02	174.37	2.05	6.22	8.08	2.44	83.14	0.36	0.0
44389741	1282.97	35.79	35.28	212.90	807.16	7.32	4.11	47.06	1.64	199.46	471.94	3.29	15.09	12.26	4.68	135.32	7.56	0.0
44466713	979.35	49.93	46.15	92.13	1011.18	3.93	5.99	15.48	0.80	80.68	356.11	3.23	22.25	15.80	4.69	217.18	0.18	0.0
44578914	1078.73	36.74	37.94	155.85	812.87	4.92	4.49	53.61	1.13	117.89	875.70	3.47	19.40	12.11	3.64	132.87	1.33	0.0
44446947	1625.79	81.44	70.62	168.83	1860.98	7.34	10.12	70.03	1.21	194.63	1124.97	5.29	33.23	25.13	6.90	329.64	5.00	0.0
44347517	1105.40	41.76	31.88	171.65	488.68	6.17	5.10	50.20	1.42	137.93	686.43	5.85	11.74	12.04	5.08	147.68	2.61	0.0
43613133	1392.18	58.04	69.61	137.01	1153.50	6.89	7.08	31.81	0.91	123.04	668.56	5.10	30.89	25.95	7.45	364.60	3.56	0.0
44457051	1851.66	73.99	83.83	204.85	1506.03	9.56	8.69	65.94	1.51	227.93	695.38	6.01	39.29	30.50	7.90	281.56	15.36	0.0
43995557	1056.16	46.97	49.15	108.76	1098.58	3.99	5.79	25.84	0.79	99.88	408.88	3.27	24.61	17.23	4.04	211.25	1.35	0.0
44678011	1963.45	69.50	82.82	242.36	1662.29	9.70	9.10	56.15	1.48	207.63	979.96	5.32	39.87	29.93	7.29	253.65	5.33	0.0
44723395	607.66	26.10	17.80	88.53	185.23	4.73	3.60	34.27	0.60	78.97	524.63	3.13	6.31	6.60	2.92	106.71	0.16	0.0
44645052	2151.03	76.38	65.61	322.35	1783.10	9.81	9.23	279.60	1.93	389.39	642.42	5.61	33.95	21.23	5.35	281.75	20.77	0.0

44604040	2494.18	92.45	101.70	316.93	1660.96	11.51	11.53	126.75	1.75	249.67	968.57	9.05	46.00	36.71	11.69	416.65	35.63	0.0
0																		
44827791	1330.48	60.69	51.32	159.51	1504.00	6.51	8.27	38.85	0.79	124.39	565.68	3.16	27.13	15.87	5.04	213.86	0.45	0.0
0																		
44740589	879.01	37.62	38.12	97.92	978.59	3.25	4.31	18.18	0.67	74.07	497.70	3.02	19.48	12.44	3.79	150.25	0.74	0.0
0																		
45089689	895.82	44.31	39.35	93.17	1014.75	3.88	5.39	22.20	0.71	88.12	1027.88	2.59	19.81	13.16	3.43	165.75	0.00	0.0
0																		
45919357	1433.94	61.66	69.67	143.23	994.75	7.21	8.18	31.96	1.06	128.81	558.96	6.23	30.25	26.33	7.91	237.31	11.63	0.0
0																		
44634336	1178.45	36.52	41.01	170.92	750.66	6.47	4.96	20.74	0.89	102.83	331.66	3.65	17.83	15.22	4.72	151.01	2.23	0.0
0																		
44949008	1360.06	56.08	64.58	144.02	1212.36	6.62	7.41	74.43	1.30	203.01	810.62	3.56	33.52	21.76	5.05	209.12	0.99	0.0
0																		
45099109	967.03	34.63	33.06	137.04	694.86	5.45	4.20	70.11	0.91	157.67	410.23	3.24	14.57	12.02	3.54	135.72	0.27	0.0
0																		
45042455	2316.56	85.19	90.31	303.53	1820.49	10.64	11.14	66.48	1.56	209.53	883.84	10.08	38.75	34.06	12.06	193.16	0.74	0.0
0																		
44978958	2074.32	97.36	84.72	234.81	1896.04	10.86	11.44	67.95	1.82	267.74	1563.05	5.75	41.00	29.26	7.94	420.99	0.02	0.0
0																		
45085611	941.38	34.46	44.23	105.40	864.56	3.05	4.40	16.00	0.54	73.49	391.26	3.01	22.30	15.00	4.22	156.65	2.65	0.0
0																		
44929646	1556.60	62.00	54.92	207.71	1219.71	8.98	7.46	79.64	1.33	221.18	830.37	5.13	25.07	19.29	6.54	213.60	0.88	0.0
0																		
45466944	910.89	49.16	41.13	87.11	1168.10	3.52	5.81	24.33	0.74	99.15	643.10	2.63	19.71	14.50	3.96	126.23	0.16	0.0
0																		
44879487	879.89	43.40	35.62	98.35	1061.45	3.59	5.11	21.00	0.67	94.20	592.03	2.56	16.82	12.48	3.84	97.89	6.59	0.0
0																		
44999657	1982.78	67.33	86.93	242.59	1600.89	7.57	8.36	106.09	1.56	210.89	1428.58	8.29	40.84	31.41	9.11	271.08	2.66	0.0
0																		
44990051	918.74	45.78	32.16	114.51	1483.35	2.73	5.49	52.22	0.72	118.04	786.98	2.00	17.03	10.65	2.29	152.73	3.71	0.0
0																		
44210574	925.37	39.64	46.15	91.16	1001.65	3.00	4.88	36.84	0.71	94.07	548.49	3.23	23.23	15.79	4.24	166.08	0.56	0.0
0																		
45282689	1132.59	48.09	41.75	144.50	715.63	5.67	6.13	118.69	0.97	180.33	481.13	4.13	17.90	15.34	5.09	179.11	0.56	0.0
0																		
45226207	1138.64	23.17	27.04	209.45	579.32	4.41	2.53	129.84	1.30	177.48	271.60	2.83	10.66	9.91	3.57	51.23	2.10	0.0
0																		
45139343	1128.34	74.57	35.43	129.61	722.81	6.70	6.73	73.75	1.70	199.17	853.89	4.46	14.16	13.02	4.85	225.61	2.42	0.0
0																		
45364479	1683.58	73.30	59.94	223.93	799.49	8.54	7.15	46.59	1.76	162.51	930.16	10.32	22.87	23.53	8.39	344.52	76.47	0.0
0																		
45139179	1185.39	43.99	45.51	154.18	784.15	7.04	5.38	51.40	1.08	128.81	591.85	4.19	18.65	16.68	5.94	290.84	0.74	0.0
0																		
43982132	1974.95	84.54	100.87	191.86	943.25	10.50	9.91	43.74	1.43	192.35	552.77	13.56	36.85	39.63	17.69	210.32	11.56	0.0
45214591	1028.03	28.80	58.52	100.75	333.58	4.84	3.81	50.65	0.61	74.01	585.36	4.22	29.25	20.07	4.83	160.49	1.14	0.0
45658806	1248.66	61.45	51.64	138.09	1037.48	6.21	7.35	87.70	1.23	190.28	738.05	4.20	23.35	18.44	6.28	200.57	0.34	0.0
44171388	1317.98	46.37	55.81	161.81	893.45	7.99	6.47	33.09	1.12	157.31	497.35	4.45	23.94	21.64	6.25	135.30	2.42	0.0
44272144	1282.08	51.39	46.42	173.21	854.35	6.82	6.58	128.54	1.76	229.25	885.60	5.30	18.00	18.02	6.36	173.86	3.50	0.0
44645705	1262.65	59.97	51.40	142.11	904.11	7.15	7.42	75.50	1.06	188.97	790.14	4.96	19.86	20.08	6.98	264.23	1.83	0.0
45536350	948.47	47.42	43.51	93.82	1369.79	2.26	5.28	30.51	0.73	87.46	493.99	2.34	24.78	13.12	3.17	172.59	0.00	0.0
45225995	1205.35	47.11	48.00	152.28	746.72	6.10	5.90	124.42	0.94	213.26	652.41	4.87	19.85	18.06	6.54	179.66	2.16	0.0
45472206	1078.61	36.22	45.96	138.42	211.79	6.48	4.30	37.09	1.09	129.30	362.64	7.10	15.48	18.60	8.21	78.88	13.77	0.0
45680585	1229.94	52.05	45.45	158.61	1233.24	5.55	6.50	137.34	1.37	288.14	1230.81	3.99	23.05	15.26	4.05	178.48	0.56	0.0
44945723	1344.29	48.13	46.26	190.29	1097.92	8.17	5.86	136.60	0.88	247.45	1605.07	4.52	21.45	16.90	4.43	116.57	5.33	0.0
44746395	1382.66	51.55	56.40	171.11	1151.76	6.23	6.24	123.08	1.03	227.74	499.01	4.60	26.24	20.83	5.41	216.45	1.18	0.0
44777423	1615.79	67.73	62.05	200.14	1679.52	8.31	8.13	81.31	1.39	256.18	801.67	3.83	31.55	20.66	5.61	257.19	0.00	0.0
44143353	1048.00	40.30	45.24	121.53	678.03	5.36	4.56	61.32	0.67	117.78	338.07	3.99	19.72	16.89	5.32	122.97	8.10	0.0
45094753	674.34	25.51	26.21	86.62	582.86	2.73	3.18	80.27	0.51	109.32	265.61	1.80	12.97	9.26	2.04	110.03	0.76	0.0
44960308	614.40	26.41	27.28	68.18	593.13	2.86	3.42	17.29	0.51	70.79	465.22	2.17	12.79	9.64	2.92	103.82	0.16	0.0
45525865	1443.33	61.93	70.28	142.22	909.41	8.19	8.48	30.34	0.87	99.73	524.83	4.37	28.75	28.46	7.33	343.42	0.02	0.0

5608299	1527.93	52.23	57.98	208.53	831.64	7.86	6.86	61.00	1.47	147.04	814.90	7.60	22.82	22.25	8.29	265.84	1.18	0.0
4719104	1606.65	57.41	56.69	223.71	880.55	8.33	6.76	143.61	1.56	252.86	596.28	6.41	22.22	21.29	8.73	180.11	1.51	0.0
5471779	1123.09	66.27	52.10	97.22	1521.26	4.14	7.86	26.27	0.93	115.38	841.25	3.58	24.24	18.92	4.92	295.19	1.10	0.0
5868710	1604.31	68.67	69.89	179.05	1490.89	7.90	8.76	34.90	1.47	173.31	799.05	4.14	35.60	23.90	5.51	289.04	0.42	0.0
5078195	1318.96	53.13	47.46	175.58	933.44	7.28	6.56	51.35	1.43	167.87	711.48	4.44	22.27	16.45	5.04	209.88	0.76	0.0
5222586	1014.73	39.13	37.05	133.68	1055.88	4.90	5.04	18.52	0.71	66.49	726.47	2.42	17.19	13.61	3.34	141.05	3.84	0.0
5405992	2273.16	105.74	85.02	278.10	1944.16	11.95	11.97	68.72	2.61	253.11	1505.24	8.34	36.04	30.84	11.25	434.72	1.13	0.0
5778688	1261.70	51.46	38.01	183.41	560.22	8.11	6.43	149.05	1.54	275.47	853.02	4.88	15.54	14.24	4.49	188.44	0.56	0.0
5726554	1096.60	46.39	39.00	142.88	338.49	7.97	6.75	25.16	0.93	114.30	433.30	4.24	14.17	15.73	5.27	133.60	3.66	0.0
7704243	934.42	33.44	31.85	130.83	527.21	6.35	4.17	36.28	0.62	113.41	380.94	3.10	13.35	11.46	4.35	123.22	20.07	0.0
5814797	836.82	20.19	18.85	151.27	299.11	6.03	2.78	35.44	0.63	94.20	354.48	3.39	5.46	8.20	3.55	29.77	10.99	0.0
5816628	1132.93	51.19	49.57	122.44	1176.45	5.65	6.57	39.13	0.96	153.30	661.81	3.08	24.82	16.97	4.32	288.64	0.00	0.0
5405877	1216.00	42.50	34.48	191.30	1152.46	6.86	5.43	48.46	0.94	144.06	1072.35	4.68	15.91	12.14	3.41	108.12	0.74	0.0
5912608	1519.85	70.77	70.35	153.38	1090.31	8.35	9.10	60.56	1.36	166.13	1029.01	5.54	30.83	27.20	7.12	246.73	6.24	0.0
4597203	964.06	44.24	48.57	90.09	1056.76	3.35	5.69	23.82	0.84	97.19	451.77	2.77	24.45	17.19	3.82	208.83	21.45	0.0
5907732	813.73	18.14	15.77	158.31	217.60	4.05	2.01	123.89	0.99	178.36	340.23	3.30	5.15	5.91	2.93	48.97	0.85	0.0
5907740	824.50	19.33	16.92	155.28	214.90	4.59	2.31	119.15	0.73	163.83	329.67	3.51	5.29	6.51	3.29	50.29	0.91	0.0
4655332	1642.98	71.62	68.47	190.25	1104.02	9.29	9.21	138.00	1.39	302.69	855.71	5.07	31.55	24.98	6.88	260.79	0.26	0.0
6179629	1684.13	66.86	69.76	204.18	1705.37	6.74	8.29	138.25	1.59	311.98	1001.98	4.84	35.20	23.45	6.56	239.96	2.98	0.0
6292653	1016.39	42.80	41.46	122.15	302.45	6.94	5.01	29.40	0.89	115.27	732.84	6.05	12.95	17.63	7.04	224.42	4.91	0.0
6278695	691.74	28.74	27.89	85.89	963.05	1.68	3.50	36.00	0.96	92.66	475.26	1.97	16.65	8.13	1.55	112.69	0.00	0.0
6354388	1822.15	72.66	66.33	242.82	1370.85	10.40	9.23	65.76	2.32	217.20	1144.27	6.05	30.93	23.26	6.78	264.79	1.83	0.0
7863156	1828.54	82.26	86.23	183.02	1174.79	9.81	11.05	140.22	1.39	255.00	702.26	6.91	37.65	33.45	8.49	306.70	4.09	0.0
6170841	872.90	34.66	28.64	123.02	320.55	5.90	4.23	53.03	1.05	114.61	472.05	4.16	10.46	10.60	4.65	205.85	0.11	0.0
6292645	1639.96	57.21	69.31	206.55	754.42	8.11	7.11	123.56	1.58	211.16	643.65	7.63	29.63	25.24	8.45	361.33	4.76	0.0
6284072	1060.75	44.65	47.18	118.50	733.27	5.10	5.57	40.56	0.99	143.46	860.67	4.95	20.98	17.42	5.33	191.09	1.16	0.0
6456530	1903.56	69.65	75.20	243.99	1749.09	7.89	8.31	228.71	1.23	359.87	741.81	4.85	38.14	26.45	5.26	268.91	24.53	0.0
6500402	1109.27	56.87	56.87	93.82	1552.33	2.97	6.66	25.31	0.82	119.12	537.26	2.51	31.40	18.18	3.97	207.68	0.58	0.0
6794550	643.11	30.07	22.68	81.17	546.06	3.28	3.60	66.77	0.66	115.55	392.35	2.22	10.89	7.80	2.30	86.78	0.02	0.0
6505551	1371.67	46.26	50.70	191.31	909.30	8.07	5.88	75.76	1.24	218.96	934.51	5.73	21.87	18.64	6.57	137.49	6.10	0.0
6726595	1121.98	39.13	32.86	174.70	407.03	8.18	4.94	129.34	1.21	265.04	781.22	4.90	11.79	13.09	4.77	98.98	2.64	0.0
6765824	1484.81	59.49	75.19	146.18	1134.33	6.00	7.29	73.72	1.08	161.03	700.19	5.38	35.72	26.96	7.38	269.41	0.95	0.0
7729558	1821.13	71.01	74.39	223.93	1121.29	10.12	9.12	87.56	1.29	241.34	910.28	8.33	29.33	28.43	10.94	223.06	9.18	0.0
7404976	1488.70	51.76	42.01	235.35	1124.99	7.42	7.22	116.36	1.81	224.48	888.97	3.56	20.18	15.15	3.31	132.11	0.54	0.0
4839019	2474.60	102.62	86.67	332.54	2057.45	13.15	11.97	130.83	2.58	308.61	1417.75	6.86	42.43	28.67	8.43	478.00	1.13	0.0
4655332	1222.25	37.25	34.09	197.50	747.08	8.00	5.36	31.82	0.86	133.32	1031.37	2.96	15.99	12.01	3.42	101.10	0.11	0.0
4499649	2234.15	126.91	100.73	207.85	1737.25	10.37	12.84	70.63	2.29	227.69	977.12	7.62	48.57	34.46	10.12	469.63	0.00	0.0
4854918	1293.73	53.09	56.54	149.67	1221.33	5.11	6.94	121.86	1.15	232.95	817.47	5.49	29.07	19.17	4.72	224.71	0.40	0.0
4502202	1873.42	74.79	70.91	238.04	1816.09	9.23	8.50	73.14	1.50	240.81	793.21	4.40	36.96	22.63	6.85	238.58	2.77	0.0

43706574	1301.12	50.23	58.12	149.65	950.08	6.19	6.01	80.34	1.20	212.81	743.49	4.13	29.99	19.33	4.64	235.98	0.42	0.0
0																		
44601335	1424.92	59.05	53.57	182.63	1309.01	8.37	6.79	57.11	1.43	234.25	1283.24	4.35	26.19	17.91	5.38	199.03	0.34	0.0
0																		
44874099	1989.82	86.69	78.34	245.23	1845.58	9.53	11.19	155.55	2.19	377.47	1694.16	5.79	39.87	26.45	6.40	449.41	1.65	0.0
0																		
45064558	1149.63	35.66	38.98	169.00	655.96	6.64	4.58	28.55	0.82	85.67	624.31	4.10	15.11	15.68	4.85	131.32	2.50	0.0
0																		
45024388	2632.01	94.23	95.17	360.06	1920.66	13.86	11.29	68.64	1.93	312.67	1947.42	8.86	40.70	34.89	12.37	426.06	13.09	0.0
0																		
46821220	1687.19	63.06	64.97	218.47	844.61	10.88	7.86	73.28	1.32	218.67	569.83	7.06	24.28	25.66	9.63	209.91	2.60	0.0
0																		
45240174	1717.86	60.87	66.29	227.01	1331.55	9.02	8.03	118.31	1.60	266.93	1871.71	5.22	30.93	23.52	6.64	342.09	1.15	0.0
0																		
45117901	1645.50	73.17	85.82	149.22	1645.76	5.47	9.22	46.57	1.16	121.05	801.67	5.84	42.96	30.41	7.00	328.96	0.99	0.0
0																		
45334612	1407.64	63.92	58.25	163.12	507.81	8.53	7.78	85.83	1.30	180.91	831.01	8.06	20.35	23.40	9.71	214.95	3.62	0.0
0																		
45083491	1339.14	42.45	69.49	140.84	788.05	6.39	5.15	45.33	0.88	129.73	820.42	6.10	31.66	24.79	7.97	281.11	2.62	0.0
0																		
45640572	1450.84	63.46	70.49	143.50	776.23	6.91	7.60	35.49	1.17	117.52	665.94	7.06	27.26	27.58	9.88	371.87	1.78	0.0
0																		
45544352	1784.17	61.61	57.95	263.05	1580.95	8.58	7.85	144.93	1.41	278.02	1529.21	7.87	29.96	18.51	5.63	230.90	0.95	0.0
0																		
43977860	1236.98	54.32	56.64	131.35	1074.25	4.93	6.77	42.87	1.12	130.92	601.43	4.11	26.18	20.43	6.13	209.47	4.05	0.0
0																		
45062718	744.61	41.22	36.97	62.67	983.46	2.78	5.07	18.62	0.63	75.79	424.17	1.92	19.99	11.82	2.87	147.24	0.00	0.0
0																		
44227975	653.21	12.07	17.07	115.56	188.28	6.12	1.20	7.50	0.24	31.04	61.49	0.83	4.12	7.36	2.79	9.76	0.34	0.0
0																		
44320448	1400.08	64.16	39.33	202.53	744.18	9.63	7.15	70.97	1.53	172.26	971.34	5.82	13.62	14.89	6.75	268.91	1.02	0.0
0																		
44751023	1084.83	39.92	47.62	128.09	302.36	6.56	4.83	17.88	0.83	83.10	282.63	5.75	15.22	21.07	7.44	137.59	15.65	0.0
0																		
46139491	928.57	37.21	36.98	115.06	339.22	6.03	4.86	28.53	0.79	97.42	507.60	4.34	13.45	14.74	5.55	143.71	2.91	0.0
0																		
46362349	651.94	19.93	23.69	94.44	350.64	4.36	2.44	38.60	0.87	133.70	413.55	2.85	9.00	9.15	3.68	53.30	70.59	0.0
0																		
46362349	651.94	19.93	23.69	94.44	350.64	4.36	2.44	38.60	0.87	133.70	413.55	2.85	9.00	9.15	3.68	53.30	70.59	0.0
0																		
46368909	1598.74	71.12	70.77	174.07	1377.32	7.18	8.47	88.54	1.27	187.94	830.90	5.15	33.89	24.68	7.09	277.31	0.08	0.0
0																		
46368876	1620.43	71.60	71.66	177.18	1394.26	7.20	8.55	88.65	1.28	188.59	841.81	5.19	34.44	24.93	7.13	280.74	0.24	0.0
0																		
45460582	1506.28	58.98	69.98	166.35	767.93	7.81	7.40	40.25	1.16	134.77	570.53	7.28	27.95	27.96	9.05	235.07	9.41	0.0
0																		
46636091	1541.05	54.09	55.53	210.95	1101.35	6.36	6.68	146.54	1.29	228.77	720.40	6.96	23.80	19.98	7.00	162.73	0.27	0.0
0																		
46682581	1772.71	65.81	71.10	229.91	859.12	8.49	8.02	222.78	1.97	313.70	811.07	9.92	27.39	27.87	10.44	361.99	3.09	0.0
0																		
46687771	1303.04	38.47	35.80	214.05	774.35	8.44	4.99	58.24	1.16	153.01	682.88	2.85	15.68	12.64	3.83	155.84	3.27	0.0
0																		
47050000	1144.96	45.36	52.52	125.88	1001.55	5.20	5.68	70.10	0.82	152.99	542.34	4.77	23.21	19.50	5.86	312.84	2.42	0.0
0																		
46740511	1596.70	68.44	70.13	177.50	1638.97	6.21	7.83	89.36	1.38	235.91	779.48	4.33	35.02	24.47	6.37	255.37	2.83	0.0
1																		
46986876	896.93	36.82	29.01	127.04	417.95	5.79	4.77	47.55	0.86	110.60	308.87	4.34	10.38	11.18	4.87	126.70	0.32	0.0
1																		
47091814	430.82	13.46	16.36	59.59	133.12	3.36	1.81	22.08	0.29	72.61	459.25	2.61	5.26	6.99	2.85	18.87	2.42	0.0
1																		
47048089	355.34	6.39	4.85	76.91	67.62	2.42	0.67	69.30	0.74	99.14	183.71	1.65	0.96	1.85	0.91	0.23	0.00	0.0
1																		
47048021	372.32	4.81	4.56	82.87	65.68	2.92	0.61	15.03	0.20	30.60	193.83	2.57	0.75	1.83	0.89	0.23	0.00	0.0
1																		
43660522	2165.78	92.37	92.79	247.08	1970.63	9.10	11.45	238.64	1.97	389.71	880.21	6.10	45.88	32.07	8.00	338.99	0.82	0.0
1																		
45535137	691.12	24.59	21.18	103.03	267.22	5.71	3.30	43.73	0.56	76.13	619.15	3.17	6.79	8.53	3.44	60.97	0.58	0.0
1																		
45183176	1399.08	54.91	59.61	166.19	1162.75	6.70	7.06	37.15	1.27	163.65	664.23	4.60	26.19	21.23	7.72	190.86	1.11	0.0
1																		
45441730	979.80	35.51	33.46	139.55	809.63	5.63	4.02	85.34	1.00	197.42	588.99	3.65	16.20	10.89	3.50	279.59	19.93	0.0
1																		
45460649	2480.72	105.45	113.77	265.77	1978.61	10.36	12.89	63.55	1.74	203.46	1277.72	8.28	52.14	42.03	11.70	526.83	144.46	0.0
1																		
45453652	1306.21	52.83	59.70	143.74	1418.48	5.18	6.68	32.77	0.99	126.53	852.77	3.26	31.29	19.87	4.66	225.09	20.17	0.0
1																		
45689636	1127.06	52.82	53.00	112.72	1454.31	3.51	6.52	35.13	0.88	127.09	533.77	2.93	28.38	17.44	3.94	234.85	0.76	0.0
1																		

5521144	1821.60	73.62	68.44	234.51	953.49	11.05	9.06	108.09	1.55	252.36	909.62	8.41	26.07	26.58	10.03	319.55	0.80	0.0
7378014	1387.05	61.11	58.89	156.67	859.74	8.47	7.67	43.27	1.25	198.45	646.71	6.07	22.47	23.84	7.87	203.74	15.08	0.0
5459634	1676.43	51.45	63.74	232.78	1213.46	7.11	6.27	39.13	1.35	132.42	546.15	5.28	28.90	22.65	7.46	196.32	1.44	0.0
8306907	1159.48	41.03	41.61	162.38	930.79	5.47	5.62	68.20	0.88	136.42	1229.60	4.74	19.50	14.56	4.70	123.59	12.26	0.0
5578989	1259.07	46.12	58.41	141.69	836.80	6.99	5.63	48.92	1.29	169.93	722.85	4.91	24.35	21.85	7.83	188.77	1.11	0.0
5564558	1857.45	71.48	79.70	219.93	1438.63	7.50	9.36	54.70	1.24	162.92	729.43	5.78	37.52	28.35	7.52	407.07	4.08	0.0
5638171	1181.30	45.72	31.41	183.69	1202.93	5.55	5.93	74.16	0.89	155.04	860.26	3.38	14.46	10.68	3.87	85.24	11.80	0.0
5330751	1609.88	77.84	59.26	196.44	1663.01	7.65	9.96	50.15	1.39	183.48	1199.74	4.82	26.64	21.44	6.59	227.38	1.13	0.0
5525899	716.19	25.96	22.92	105.34	272.57	5.11	3.49	19.29	0.69	69.30	275.07	2.35	8.42	9.26	3.12	106.28	3.91	0.0
5485382	979.59	35.55	43.51	115.58	500.85	5.74	4.32	33.95	0.88	119.31	704.12	3.83	20.19	15.32	4.66	172.78	0.18	0.0
5632678	912.39	45.16	38.79	97.51	1096.97	3.62	5.96	18.92	0.71	88.02	555.28	2.45	21.46	12.18	2.68	172.33	0.10	0.0
5901131	1286.12	47.44	48.11	172.55	1536.38	3.36	5.78	128.07	1.36	197.99	518.32	2.13	28.64	14.06	2.49	178.17	0.18	0.0
5831832	1954.95	72.93	61.45	285.99	979.40	12.70	9.16	148.95	1.75	367.45	1228.48	9.83	23.54	24.11	8.69	355.44	0.40	0.0
5766196	2038.10	85.81	97.12	209.67	1574.21	9.23	10.71	127.96	1.56	286.99	927.04	6.75	46.78	33.78	9.42	324.43	0.73	0.0
5764132	1874.93	68.46	72.85	241.85	557.84	13.84	9.93	40.84	1.12	163.97	571.04	9.10	25.90	30.04	10.54	194.93	17.86	0.0
5679498	2339.47	86.34	103.12	275.97	1840.81	9.98	10.59	41.29	1.85	190.24	1083.66	10.89	43.90	37.72	13.71	434.94	1.13	0.0
5748409	988.27	41.24	40.43	117.76	1400.86	2.20	4.83	130.96	0.70	186.79	442.22	1.66	24.34	12.03	1.92	156.41	0.18	0.0
5469329	1769.51	64.60	75.51	213.25	1301.68	8.95	8.42	137.90	1.70	301.80	904.00	5.56	36.94	25.89	7.06	281.58	10.49	0.0
5897397	640.14	23.33	28.41	75.76	576.77	2.79	2.79	18.30	0.54	85.14	295.10	2.18	12.76	10.64	3.14	99.70	21.49	0.0
5948786	732.21	36.46	37.13	64.71	955.54	2.16	4.50	27.15	0.61	83.18	305.00	1.70	19.90	12.47	2.49	162.20	0.56	0.0
5673748	1299.36	52.49	56.16	149.72	1237.12	6.56	6.35	31.51	1.17	188.83	789.36	3.85	27.51	19.86	5.21	185.65	2.62	0.0
5962116	1774.41	67.82	51.09	271.76	509.93	13.30	8.09	141.57	1.73	208.09	2362.71	10.69	15.88	19.70	10.67	147.28	1.13	0.0
5386746	1459.31	65.14	58.85	174.59	1090.04	8.01	8.60	79.38	1.42	228.80	1657.26	6.66	23.94	22.18	8.23	201.04	1.60	0.0
5004420	847.10	45.56	36.61	84.12	1151.88	3.30	5.53	26.90	0.61	83.25	600.29	2.13	18.59	12.32	3.16	164.27	0.50	0.0
5984714	2009.19	80.76	79.03	251.88	1872.35	10.02	9.71	65.75	2.55	277.62	891.34	4.77	39.32	26.57	7.09	426.09	80.55	0.0
5010948	952.58	39.72	43.89	101.37	1096.42	3.75	4.76	16.60	0.65	90.31	580.02	2.11	23.60	14.55	3.12	147.03	2.04	0.0
8871885	1480.68	54.64	49.56	218.87	842.15	7.43	6.77	145.69	1.97	197.48	875.85	7.53	20.66	17.34	6.55	185.70	2.90	0.0
5008597	646.73	27.32	25.18	79.49	395.28	3.86	3.40	12.09	0.48	70.14	230.12	2.38	10.51	9.40	3.33	102.05	0.56	0.0
5608406	1498.61	64.92	60.56	176.76	1272.85	6.56	7.68	40.49	1.29	171.73	849.96	4.23	28.58	21.35	6.61	255.98	162.19	0.0
5054425	1227.97	32.41	32.14	205.97	739.41	7.62	4.28	36.03	0.95	81.26	587.05	2.19	14.17	11.78	3.30	130.04	0.02	0.0
5035384	1082.76	47.14	46.02	122.01	1129.88	5.03	5.52	37.90	0.97	167.62	775.26	3.82	22.72	15.97	4.35	189.08	0.52	0.0
5982148	1904.48	80.46	84.29	208.90	1740.26	9.10	9.26	43.76	1.36	178.79	741.39	5.45	39.26	30.15	8.92	272.46	0.56	0.0
5245834	1067.51	44.53	47.55	119.38	1457.67	2.76	5.23	17.09	0.68	73.31	626.42	2.31	27.07	14.32	3.60	169.34	1.13	0.0
5197390	1400.23	49.98	59.34	172.00	750.41	8.03	6.48	87.62	1.25	215.33	733.15	4.65	27.53	20.98	5.84	193.65	0.00	0.0
5045797	1535.53	46.32	43.69	252.33	1118.51	7.44	6.30	196.85	1.76	280.45	1057.12	5.75	21.61	14.04	4.73	136.82	0.56	0.0
8206066	1267.10	53.71	60.20	130.36	1113.96	5.57	6.52	36.80	0.82	111.48	530.66	4.52	27.92	21.23	6.94	200.03	141.82	0.0
5257227	1191.51	53.09	40.07	157.61	1073.38	6.07	6.67	23.12	0.99	98.27	643.49	4.07	17.21	14.54	5.07	133.32	3.20	0.0
5113205	1205.69	47.35	29.90	193.34	904.24	6.92	5.99	127.13	1.18	273.05	750.12	3.16	12.14	11.27	3.72	106.98	13.37	0.0
5117885	551.95	22.15	21.05	70.66	571.00	1.90	2.67	34.13	0.41	79.51	374.30	2.55	8.96	7.95	2.52	96.40	0.68	0.0

46087765	1679.52	69.35	61.23	216.69	934.15	10.43	8.61	37.78	1.35	189.84	715.28	8.47	21.90	24.02	9.85	275.94	57.82	0.0
0																		
45993319	1154.86	46.25	31.53	176.64	1238.89	5.92	6.13	71.89	0.91	150.15	1281.02	3.61	16.08	9.89	3.27	90.43	0.47	0.0
0																		
46184446	886.48	42.94	25.87	130.18	382.80	7.88	5.66	68.97	1.24	177.83	3968.77	6.46	9.83	9.25	4.55	110.23	0.11	0.0
0																		
44994053	1213.74	43.63	49.97	151.52	895.86	7.02	5.65	40.58	1.22	157.43	542.58	3.04	23.98	18.24	4.40	165.39	0.34	0.0
0																		
45997866	1143.89	44.33	41.78	152.30	703.55	6.43	5.89	57.06	0.99	113.19	392.73	4.50	15.84	16.70	5.78	128.45	11.19	0.0
0																		
46369402	1546.06	64.51	60.74	188.17	1051.36	9.89	7.46	28.01	1.14	203.21	698.88	4.89	27.16	21.44	7.63	178.39	3.20	0.0
0																		
46300456	2259.76	121.41	97.66	221.20	902.85	13.28	13.02	86.28	1.89	188.94	1067.17	10.88	34.94	39.66	15.50	366.89	0.06	0.0
0																		
45049386	1623.92	77.12	91.31	127.52	1611.26	5.83	9.76	50.45	1.04	136.90	850.84	6.32	45.23	31.63	8.35	318.56	0.41	0.0
0																		
46439693	2166.13	102.71	103.25	212.64	1879.76	11.83	11.92	59.08	1.78	321.58	1053.47	7.20	49.96	35.81	10.51	355.23	2.42	0.0
0																		
46061206	1441.16	66.60	71.69	134.09	1522.59	5.79	7.87	40.44	1.08	150.45	839.91	4.78	34.16	25.30	7.13	404.62	1.78	0.0
0																		
46252996	1550.61	70.15	59.20	186.81	1201.70	8.72	8.76	127.24	1.39	252.03	1230.19	4.49	27.57	21.33	5.52	287.68	0.30	0.0
0																		
46265163	1688.44	63.33	79.48	184.47	814.17	9.72	9.14	94.38	1.37	231.81	1132.10	6.94	34.82	29.96	8.24	340.16	0.54	0.0
0																		
46360624	2340.37	87.55	96.32	289.91	1345.71	12.45	10.44	75.85	1.64	230.98	742.62	8.62	40.16	37.20	11.66	325.55	26.18	0.0
0																		
46377950	816.44	36.12	29.72	107.09	945.62	2.82	4.15	36.84	0.78	86.12	608.93	2.61	16.51	8.89	2.27	119.92	0.41	0.0
0																		
46533700	1370.28	60.84	61.37	145.12	564.91	9.48	7.93	41.83	1.20	174.54	471.16	6.51	22.10	24.70	9.43	192.01	0.69	0.0
0																		
46332095	540.82	14.83	17.97	82.87	273.93	2.87	1.83	16.58	0.36	56.84	217.04	1.39	8.14	6.62	2.04	44.03	154.29	0.0
0																		
46395415	872.65	19.55	37.35	119.46	263.00	4.72	2.32	8.56	0.72	48.58	201.08	4.23	13.81	16.37	4.39	159.97	19.85	0.0
0																		
46398089	1277.92	46.51	49.09	166.83	1079.55	5.92	6.02	120.58	0.96	215.63	388.52	2.70	23.84	17.69	4.13	148.62	71.15	0.0
46472205	938.56	39.89	38.27	111.67	1013.26	3.87	4.79	19.22	0.83	89.25	370.84	2.19	19.54	12.65	3.55	152.97	0.42	0.0
45146926	1739.64	79.52	76.06	190.68	1333.51	8.49	9.72	64.09	1.68	212.48	1565.42	6.54	34.51	27.05	9.11	311.20	6.66	0.0
46486074	1655.57	74.72	74.13	177.29	1255.55	7.77	9.77	68.16	1.43	150.14	676.49	6.33	32.11	27.24	9.22	245.02	0.46	0.0
45034907	1583.42	74.76	81.78	138.58	1269.61	6.97	9.57	22.01	0.98	103.59	456.18	6.25	36.29	31.00	8.69	297.60	2.23	0.0
47290713	1981.62	70.08	68.49	282.94	1354.49	9.80	8.24	108.59	2.07	221.59	1078.70	7.48	30.05	24.49	8.82	228.30	72.84	0.0
45314233	1082.08	48.22	42.89	130.09	732.13	5.80	5.64	46.47	1.14	108.78	422.21	4.81	18.18	15.87	5.50	186.91	0.96	0.0
45501509	778.98	26.19	22.72	121.02	600.27	3.00	2.88	206.37	0.64	269.31	346.55	2.85	11.22	7.87	1.98	78.21	19.94	0.0
45686872	1042.00	48.85	38.78	128.35	1001.42	4.47	6.17	122.83	0.98	202.38	987.25	3.66	19.87	12.77	3.42	151.44	3.07	0.0
45666725	943.40	15.73	37.77	139.66	183.78	6.13	1.97	19.06	0.50	61.88	357.49	4.69	11.29	18.00	5.42	22.39	13.39	0.0
45486347	1151.93	42.72	39.73	160.44	1049.50	4.89	4.84	36.78	0.93	91.06	943.29	2.81	20.32	13.21	3.40	144.77	0.69	0.0
45696970	1046.20	36.97	26.92	167.55	673.26	6.85	4.22	117.24	0.84	212.75	681.93	3.16	10.14	10.11	3.71	121.73	11.58	0.0
45594520	928.31	36.76	39.76	108.02	1017.04	3.92	4.30	14.27	0.56	75.41	454.64	2.33	19.98	13.60	3.49	168.40	20.30	0.0
45555811	1051.84	40.20	40.35	134.99	701.67	6.55	5.28	112.64	0.77	199.71	415.40	2.94	16.56	15.36	4.34	130.66	0.69	0.0
45713790	1847.38	64.32	75.03	233.12	1364.16	8.90	8.01	49.15	1.31	126.21	682.34	5.33	34.59	27.64	7.54	234.69	1.14	0.0
45597910	1081.32	38.16	41.57	141.05	328.88	6.68	4.61	27.30	0.91	94.32	447.22	4.77	13.05	16.88	7.56	222.86	13.61	0.0
45573952	970.55	35.28	40.45	120.80	372.87	6.14	4.89	59.06	1.18	130.83	424.18	4.10	15.89	16.34	5.03	119.96	0.36	0.0
45651619	1233.87	51.62	48.95	151.37	876.26	7.46	7.16	54.24	1.04	122.74	772.01	3.99	22.29	17.73	5.40	142.76	1.25	0.0
45710240	2413.19	115.29	105.47	253.69	1885.51	12.91	13.39	49.76	1.77	222.35	897.12	8.97	45.55	38.53	13.12	513.89	1.35	0.0
45773362	1524.85	74.31	75.43	140.24	1098.06	6.42	9.59	45.43	1.38	123.72	700.32	6.00	33.90	28.11	7.37	383.03	3.46	0.0
45712310	801.27	23.51	24.79	125.36	243.99	5.61	2.77	59.41	0.57	117.30	891.19	4.90	7.21	10.26	5.11	83.18	0.68	0.0
45743630	1623.49	69.40	65.27	192.77	1436.18	8.98	8.11	39.05	1.35	213.83	802.82	5.10	30.87	22.93	7.06	230.49	11.02	0.0

6936730	1273.67	56.43	37.83	180.52	358.18	10.98	6.01	85.03	1.64	304.07	1905.48	5.44	15.25	13.22	6.09	149.85	0.00	0.0
6743391	1370.40	67.48	52.02	159.16	1066.24	7.44	7.09	37.51	1.16	158.47	655.89	5.52	22.06	18.23	7.80	305.90	19.61	0.0
6836659	1652.55	66.63	71.93	189.59	1779.52	7.13	8.00	139.34	1.70	359.83	936.36	4.26	37.09	24.31	6.08	252.87	1.41	0.0
8622602	1646.03	70.92	51.74	231.02	1438.51	10.03	8.35	75.94	2.39	311.83	1372.43	5.74	21.81	19.06	6.93	195.73	0.54	0.0
7905726	1958.78	88.84	80.62	224.95	1453.57	10.43	10.10	110.50	2.23	289.35	1694.74	8.43	34.53	28.91	11.05	423.64	0.54	0.0
6850055	663.14	10.94	11.74	137.85	182.29	4.22	1.54	38.45	0.96	74.27	630.79	3.98	4.06	3.98	2.07	19.88	0.16	0.0
6582517	1258.66	53.38	58.39	132.50	1109.94	5.72	6.58	23.34	0.89	94.10	862.30	4.18	26.62	20.98	6.37	186.49	0.34	0.0
6814788	2443.62	80.97	74.41	375.75	1301.53	15.24	10.18	205.77	2.53	468.07	1486.70	8.67	29.58	27.66	11.26	189.13	2.76	0.0
6841806	1233.57	43.70	34.81	194.59	880.50	7.75	5.56	45.56	1.63	279.98	991.11	5.20	14.41	12.72	4.39	454.78	0.34	0.0
6886852	768.78	19.59	24.13	121.37	202.77	5.13	2.34	15.85	0.54	58.32	292.20	3.06	7.65	10.18	4.04	91.39	5.90	0.0
7425360	1237.55	60.07	55.81	125.58	1196.63	6.08	6.86	24.51	0.95	125.70	672.08	4.49	26.90	19.18	6.03	209.69	0.76	0.0
6930386	1324.61	54.83	49.39	168.79	1154.77	7.46	6.63	32.28	1.08	148.33	906.61	4.75	23.04	17.28	5.74	175.69	0.16	0.0
5939280	1543.88	47.08	86.91	151.27	1262.18	6.29	6.25	33.16	0.96	172.33	904.17	7.16	42.68	30.87	8.14	279.63	11.87	0.0
6676758	735.85	35.20	32.33	77.52	585.05	4.02	4.05	22.62	0.64	84.21	602.12	2.94	14.30	11.93	3.41	238.84	0.50	0.0
5290369	955.75	32.72	38.83	123.25	654.58	3.77	3.97	29.99	0.78	86.43	413.29	3.82	17.09	14.08	4.63	153.57	6.02	0.0
4120434	1018.87	31.31	27.32	166.89	668.17	5.31	3.99	120.31	0.91	194.88	856.65	3.56	12.60	9.46	2.92	90.97	0.61	0.0
6484747	1369.49	56.86	51.98	174.99	1504.66	5.83	7.21	135.09	1.18	254.27	1371.75	4.19	27.44	16.73	4.39	176.60	0.30	0.0
4060870	815.06	41.25	42.14	69.50	1366.92	1.41	4.90	18.87	0.58	79.70	411.22	1.30	25.17	12.71	2.11	162.00	0.30	0.0
4237221	1929.82	64.62	73.74	259.40	1416.06	9.56	8.06	91.26	1.73	224.95	827.42	5.44	34.44	26.09	7.91	220.92	0.76	0.0
2819435	1187.20	49.49	50.64	135.91	882.29	6.37	5.78	44.91	1.12	170.98	558.84	4.10	22.71	18.30	5.98	198.00	3.61	0.0
4064369	1856.39	82.12	81.97	204.87	1350.99	8.73	9.72	119.91	1.81	238.93	1314.80	7.02	39.11	27.85	8.55	448.14	0.55	0.0
3927394	1095.17	49.18	46.78	122.29	1147.55	5.39	5.97	28.93	1.13	169.58	690.62	3.55	23.23	15.67	4.65	332.46	0.11	0.0
4273605	1828.95	83.99	83.06	192.59	1438.02	8.82	10.44	92.47	1.70	227.86	1037.98	6.95	40.59	28.48	7.89	396.41	2.28	0.0
4309484	1000.34	60.92	23.82	142.26	346.55	5.91	5.36	133.24	1.77	242.19	727.42	5.75	8.51	8.19	4.37	166.93	10.27	0.0
5090878	1802.92	95.06	103.67	121.27	1229.52	7.95	10.97	45.18	1.43	155.14	623.98	7.11	42.39	40.79	12.33	673.90	0.97	0.0
4340983	2145.24	97.54	97.08	223.16	1691.16	9.71	11.56	134.16	1.78	265.54	1014.70	6.72	44.57	35.64	9.53	499.06	0.46	0.0
4461177	1671.53	73.38	76.23	177.59	1686.58	6.49	8.82	36.13	1.13	138.39	1008.32	5.90	37.51	26.61	7.12	289.56	24.16	0.0
4450451	999.43	38.13	42.41	119.49	665.09	5.38	5.03	37.98	0.86	108.84	421.94	3.79	18.08	15.91	5.41	158.07	0.68	0.0
4469329	742.46	32.94	32.54	80.96	595.12	4.03	3.85	40.41	0.66	95.48	720.16	3.79	14.13	11.90	3.88	273.44	9.90	0.0
4401347	1451.52	63.05	48.12	196.82	1756.71	7.10	7.72	48.53	1.30	196.36	1100.80	3.07	23.20	16.79	4.27	185.41	2.59	0.0
4451582	677.02	27.23	20.80	97.61	520.89	3.58	3.16	57.47	0.56	98.71	313.98	1.90	9.71	6.93	2.33	100.88	0.06	0.0
4337039	1445.15	51.91	65.41	166.99	1205.87	7.14	5.78	21.77	0.82	132.47	818.11	4.63	28.92	24.49	7.19	343.79	4.63	0.0
4182921	1061.38	43.13	42.93	130.19	710.89	6.11	5.93	26.00	0.91	111.50	351.94	2.86	18.69	15.20	4.90	132.39	1.31	0.0
4395467	926.87	23.95	29.73	143.76	274.80	6.75	2.31	57.89	0.51	123.59	231.98	3.56	7.88	12.67	5.49	218.12	0.83	0.0
4536369	1918.96	86.65	86.26	204.16	1237.91	9.44	12.56	231.43	1.46	376.65	716.37	9.83	35.87	33.49	9.72	273.93	0.30	0.0
4507435	2524.11	101.68	142.13	217.54	1622.16	10.71	12.25	130.63	1.83	285.90	978.52	10.86	64.81	52.41	15.03	555.70	0.41	0.0
4451012	1409.56	53.60	55.12	179.29	784.89	7.29	6.37	67.32	1.13	146.27	410.99	6.41	21.37	21.17	8.34	171.29	3.83	0.0
4622571	1469.98	53.21	67.60	167.70	780.91	9.20	5.82	39.77	0.74	137.08	496.13	5.65	25.05	26.92	8.61	499.43	4.26	0.0
4615998	1870.84	53.66	60.73	288.99	919.88	10.26	7.00	130.33	1.44	248.19	957.69	7.50	27.66	21.39	6.28	323.63	5.62	0.0

44513241	1810.16	55.41	63.36	260.05	865.76	11.40	7.25	40.93	1.23	185.35	936.91	7.38	25.47	23.36	9.71	178.83	14.08	0.0
0																		
43457820	581.61	26.16	22.29	74.21	600.60	2.53	3.43	35.17	0.54	96.65	590.24	1.73	11.43	7.34	2.04	123.53	1.14	0.0
0																		
44673748	1035.03	46.17	38.41	130.41	1144.65	5.39	5.26	34.28	1.22	165.59	1184.99	4.11	20.66	12.23	2.92	178.09	0.06	0.0
0																		
44681692	1549.43	62.54	67.15	180.81	1658.18	5.62	7.57	87.73	1.58	208.76	863.76	4.75	34.04	22.57	6.05	235.61	2.23	0.0
0																		
44682195	1270.29	39.42	40.99	190.74	929.10	7.36	4.44	131.35	1.13	253.16	540.74	2.99	19.39	13.68	4.55	157.97	0.36	0.0
0																		
44700179	1011.22	44.60	27.69	151.78	397.35	8.01	5.38	115.37	1.88	250.20	1317.62	4.88	8.69	11.25	5.17	94.67	0.00	0.0
0																		
44584870	2253.67	77.31	74.07	335.10	1699.03	12.25	10.87	90.36	2.17	286.10	3763.76	9.13	32.65	26.50	10.11	221.98	12.06	0.0
0																		
47630969	1690.74	63.91	61.60	228.21	842.48	10.17	8.63	61.62	1.23	198.42	866.47	6.63	25.42	23.29	8.13	224.97	81.31	0.0
0																		
43767419	2525.10	93.20	115.31	286.34	1914.34	11.85	11.16	48.67	1.65	201.05	919.61	7.30	54.25	42.07	10.69	379.93	5.61	0.0
0																		
44893552	760.43	29.52	29.97	96.93	562.43	3.36	3.61	28.97	0.66	80.61	468.41	3.95	13.95	10.48	3.39	100.41	0.77	0.0
0																		
44264604	1081.07	41.10	50.60	120.94	863.66	4.28	5.11	36.00	0.80	105.80	464.65	4.00	23.59	18.28	5.42	182.94	10.12	0.0
0																		
44936542	732.27	41.48	15.58	110.14	508.11	5.30	4.22	78.53	1.24	207.96	924.15	2.90	5.97	5.39	2.66	83.09	0.00	0.0
0																		
43595761	938.11	23.13	51.36	99.44	361.66	3.41	3.23	66.13	0.73	102.52	206.84	7.38	20.08	16.14	12.33	80.87	80.19	0.0
0																		
43583344	1654.79	84.96	77.02	158.33	838.97	10.05	10.66	79.42	1.45	175.33	596.93	6.82	29.94	29.69	10.79	418.94	0.56	0.0
)																		
44611235	1065.09	36.07	42.33	139.07	694.45	5.39	4.87	40.71	0.82	101.28	335.27	3.43	18.66	15.49	5.06	134.78	2.05	0.0
)																		
44510594	1505.60	59.21	53.38	200.49	1097.97	8.40	8.17	30.27	1.14	169.50	505.40	4.57	24.07	19.16	5.83	175.08	8.06	0.0
)																		
44868745	892.20	40.35	28.64	124.30	1167.32	2.54	5.11	51.71	0.82	95.91	659.08	2.23	15.26	9.28	2.24	118.69	10.75	0.0
)																		
43741348	1649.19	71.80	74.83	176.77	1349.22	8.17	9.17	90.08	1.42	228.73	846.34	6.24	34.23	27.42	7.75	268.36	2.29	0.0
)																		
46535938	1598.33	70.86	63.19	191.18	1724.88	6.02	8.77	48.21	1.27	169.12	784.74	3.96	31.90	20.99	5.36	405.35	0.06	0.0
)																		
44888511	753.23	32.55	33.75	81.74	602.62	3.47	4.28	23.71	0.61	80.73	257.85	2.46	15.25	12.51	3.52	129.37	0.36	0.0
)																		
44717108	1142.80	46.59	61.36	109.40	937.65	3.66	5.99	53.72	1.10	99.43	654.49	4.57	32.63	19.39	4.75	296.03	0.93	0.0
)																		
44620749	2041.24	72.55	90.06	241.41	1239.48	12.09	8.32	50.35	1.38	216.24	1022.20	7.60	40.91	32.96	9.64	273.69	3.13	0.0
43719882	1995.02	81.66	92.68	216.24	1552.66	8.33	9.84	98.42	1.78	252.86	874.16	7.80	43.02	34.07	9.08	446.56	24.64	0.0
44706185	1198.24	56.05	58.18	116.27	1098.26	5.17	6.79	26.15	0.92	126.13	560.96	5.40	25.59	21.39	7.18	214.21	0.88	0.0
44091726	1340.06	62.10	60.40	140.41	1535.86	4.53	7.35	66.11	1.13	155.17	567.20	3.95	31.06	20.22	5.31	237.48	0.35	0.0
43981224	697.11	28.17	31.04	77.30	336.18	4.56	3.86	30.04	0.56	93.68	607.51	3.19	12.44	12.08	3.97	133.43	0.69	0.0
43888404	910.41	41.60	16.94	150.97	1201.77	5.13	4.92	35.67	0.88	106.13	831.46	1.66	7.26	5.78	2.20	42.45	0.42	0.0
43936708	843.58	22.89	26.09	136.60	300.31	5.91	3.09	42.10	1.15	121.15	620.47	4.82	8.08	11.11	4.75	156.40	3.56	0.0
43936724	836.94	22.55	26.10	135.00	261.86	4.92	2.84	62.75	1.11	90.37	431.42	4.62	8.07	11.11	4.74	156.40	3.56	0.0
44056026	672.00	24.84	19.32	105.20	523.33	5.15	3.37	38.22	1.20	221.99	926.64	2.11	9.58	6.52	1.82	66.35	0.18	0.0
44049386	600.99	21.81	18.69	90.29	547.18	2.82	2.88	16.82	0.70	60.31	434.51	2.06	9.81	5.82	1.76	83.77	0.80	0.0
43995647	1090.95	48.27	32.05	157.69	453.65	7.83	4.75	150.22	1.29	255.69	1304.45	6.91	9.83	13.09	6.33	143.80	1.85	0.0
44040714	1144.33	49.40	53.23	119.70	1434.96	3.02	5.91	118.96	0.90	208.37	615.08	2.80	28.29	18.08	3.54	204.13	0.40	0.0
43961721	2219.89	122.27	90.75	230.60	1816.48	11.80	15.18	38.74	2.13	191.17	900.48	6.90	42.35	32.03	9.05	421.77	20.51	0.0
43988767	1543.73	62.86	78.19	154.05	1250.29	6.24	7.56	29.09	1.35	164.01	766.17	6.69	36.30	27.53	9.19	338.34	20.88	0.0
43678574	1866.48	68.77	85.51	216.22	1279.20	8.33	8.77	75.76	2.64	231.28	562.99	7.90	37.75	31.55	10.60	217.71	0.00	0.0
44030765	1863.57	73.30	60.97	266.57	1618.60	9.42	9.32	73.81	2.29	228.98	973.54	4.87	30.85	20.20	5.35	254.64	1.55	0.0
43562759	1110.88	48.37	50.99	117.79	965.53	5.18	6.15	83.42	1.10	193.93	702.72	3.07	25.83	17.60	4.18	169.84	0.18	0.0
44034907	848.41	36.20	43.56	79.31	286.95	4.94	5.44	32.39	0.64	56.87	164.80	3.57	17.03	18.34	5.00	109.20	3.00	0.0

45146926	1538.40	61.70	60.66	191.73	1578.16	7.11	7.58	66.69	1.22	181.52	1696.69	4.52	30.77	20.34	5.44	273.11	1.17	0.0
45122439	1548.57	58.37	54.40	213.80	1217.22	6.70	7.30	155.76	1.52	236.86	760.47	4.42	26.20	18.66	5.18	234.19	0.18	0.0
45073632	1516.14	60.19	60.68	185.90	1156.20	8.23	7.42	43.15	1.25	134.93	789.14	4.64	26.87	22.03	6.94	227.40	3.75	0.0
45077832	1813.51	76.75	80.57	199.28	1706.87	7.93	8.55	42.35	1.32	159.82	832.65	5.31	39.17	27.44	8.17	320.10	0.40	0.0
45002110	1333.38	51.66	62.61	144.52	880.28	6.43	5.93	71.27	1.07	173.09	843.53	5.70	27.44	22.69	7.59	340.25	2.15	0.0
45232379	1518.87	68.30	64.24	173.32	1171.09	7.18	9.66	58.30	1.63	161.66	841.40	6.77	29.18	23.06	6.73	229.17	0.18	0.0
45222643	2066.28	64.67	71.65	309.02	823.62	9.53	8.73	113.60	2.37	223.34	873.76	8.01	29.67	26.14	10.04	210.15	10.09	0.0
45136422	1193.53	43.24	47.85	150.50	797.30	7.01	5.65	20.92	0.87	110.30	633.31	4.29	20.53	17.85	5.87	121.50	8.02	0.0
44862820	1920.17	85.04	84.34	213.68	1936.86	7.58	10.96	130.13	1.51	216.11	969.06	5.79	43.88	28.15	6.58	306.82	14.16	0.0
45125201	1614.60	54.86	58.16	229.43	1219.51	7.15	6.53	116.08	1.78	177.38	622.45	6.12	27.24	20.30	6.13	189.52	2.48	0.0
45125227	1329.18	58.15	69.81	124.25	1142.27	5.22	6.72	28.42	1.01	108.57	515.42	7.33	29.11	26.56	9.41	161.18	2.48	0.0
45101003	1575.41	63.82	84.03	144.66	1634.90	5.74	7.31	33.24	1.24	157.12	761.92	4.50	43.66	28.27	6.77	304.58	2.44	0.0
45203445	1124.47	47.22	42.12	142.96	732.50	6.94	5.43	30.51	0.99	130.33	696.49	5.19	17.27	15.92	5.66	165.63	0.18	0.0
48019998	1138.41	51.22	52.58	116.91	741.36	5.83	6.75	44.29	0.93	115.43	404.84	4.42	22.27	20.23	6.24	169.32	2.70	0.0
45349546	1052.93	38.25	40.78	138.65	349.50	7.41	4.99	130.43	1.17	278.38	955.13	5.20	14.41	17.03	5.84	212.06	2.42	0.0
45223625	1493.87	48.27	52.46	211.53	477.28	10.66	5.87	79.46	1.39	235.02	869.02	7.13	15.55	21.75	10.15	292.16	1.65	0.0
45223972	976.79	38.32	39.93	118.75	1032.51	3.38	4.73	33.80	0.81	78.63	350.48	1.87	21.14	12.94	3.14	172.05	0.46	0.0
45394963	2133.70	96.80	95.00	231.04	1367.12	10.71	11.93	98.78	2.38	269.56	1070.84	9.01	40.20	35.81	12.02	342.01	6.68	0.0
45235026	1452.82	58.39	38.79	232.01	1213.45	8.81	8.15	70.27	2.30	229.38	1928.96	5.89	15.75	12.77	7.53	70.40	0.56	0.0
45211696	2089.34	82.24	107.27	205.51	1801.23	7.60	9.70	63.36	1.55	220.67	996.88	7.45	51.80	37.71	11.03	357.60	161.71	0.0
46135233	1944.85	66.72	56.61	299.05	1619.94	8.88	8.51	223.23	1.26	329.64	606.26	3.71	27.19	19.50	4.82	177.02	19.61	0.0
46131778	1139.04	47.00	48.52	133.09	1101.15	4.71	5.60	78.94	1.01	137.05	965.82	3.98	24.70	16.54	4.15	169.70	1.24	0.0
46249290	2392.78	100.26	102.49	271.67	842.28	16.32	13.43	67.56	1.58	222.46	680.69	9.48	38.47	41.47	14.53	298.69	24.21	0.0
45451896	1957.85	74.81	73.00	258.67	1908.98	7.41	9.43	150.97	1.99	304.05	798.57	4.77	37.54	24.01	6.51	268.56	0.77	0.0
46585537	1362.08	62.28	53.18	162.11	1269.45	6.82	7.20	32.49	1.42	175.84	927.83	4.15	25.89	18.28	5.21	244.26	0.22	0.0
46301834	759.71	34.25	41.05	64.46	803.89	3.17	4.19	36.55	0.45	76.60	535.62	2.60	20.94	13.99	3.62	163.81	0.10	0.0
45470200	2041.25	91.05	113.16	168.07	1331.49	8.89	11.13	46.80	1.53	185.13	796.15	8.10	50.02	42.39	12.15	683.33	24.82	0.0
46255784	641.84	18.81	25.44	87.77	207.05	3.84	2.65	21.09	0.49	69.82	532.07	3.68	8.80	10.05	4.61	65.49	3.79	0.0
46458594	1092.80	51.15	44.17	126.08	776.67	6.34	6.68	48.09	1.25	146.43	761.36	4.36	20.32	15.93	4.36	197.51	11.82	0.0
46518819	536.90	27.52	30.98	38.74	734.21	1.44	3.54	9.25	0.43	45.67	572.49	1.31	17.65	9.63	1.86	109.45	3.32	0.0
46518819	536.90	27.52	30.98	38.74	734.21	1.44	3.54	9.25	0.43	45.67	572.49	1.31	17.65	9.63	1.86	109.45	3.32	0.0
46287422	1335.99	57.76	46.96	176.68	1256.63	7.32	6.75	105.82	1.30	253.16	802.31	5.48	22.86	15.78	5.07	178.39	0.34	0.0
46451150	1424.44	79.38	41.41	185.66	1733.00	6.82	9.60	130.36	1.37	287.43	1744.07	5.11	15.48	16.55	6.05	238.76	10.54	0.0
45100584	1140.06	46.41	40.99	149.82	791.42	5.76	5.83	121.69	0.86	204.51	436.17	4.62	16.27	15.59	6.07	115.46	11.98	0.0
46480331	2124.71	104.11	86.37	238.76	639.89	16.99	15.04	75.18	2.25	385.89	3951.77	10.73	28.27	35.17	15.44	351.56	1.24	0.0
46429743	1795.83	60.13	47.05	296.36	822.68	11.00	7.80	55.14	2.25	166.15	768.71	8.23	18.48	16.65	6.99	183.21	0.45	0.0
45295426	1442.29	74.45	81.05	107.46	793.66	5.95	7.23	27.51	1.27	139.44	667.22	8.31	34.06	29.46	11.38	429.88	4.12	0.0
46676534	964.02	45.44	36.59	116.30	728.63	4.30	5.20	65.96	0.93	141.70	299.55	4.17	15.84	12.92	4.88	150.87	0.88	0.0
46588052	1300.55	41.28	51.27	173.64	553.95	8.79	5.30	75.81	1.10	215.96	1070.26	4.51	22.62	17.64	6.84	284.89	5.52	0.0

46762086	1777.08	71.32	75.22	208.81	1661.61	8.30	8.79	42.10	1.37	151.37	824.96	5.29	36.71	26.37	6.94	253.59	2.48	0.0
0																		
46543121	2106.27	80.15	80.20	280.53	1244.13	9.99	10.40	165.35	1.94	297.80	1583.59	9.61	34.84	28.40	9.94	337.88	0.77	0.0
0																		
46543098	2106.27	80.15	80.20	280.53	1244.13	9.99	10.40	165.35	1.94	297.80	1583.59	9.61	34.84	28.40	9.94	337.88	0.77	0.0
0																		
46586197	1461.16	70.14	65.79	152.48	1684.54	4.45	8.48	47.94	1.57	147.66	700.26	3.93	34.92	21.44	5.05	294.79	0.97	0.0
0																		
48460331	776.27	15.33	11.32	159.66	197.45	6.07	2.10	72.28	1.05	134.71	228.34	2.11	3.03	4.34	2.32	9.49	0.08	0.0
0																		
45342615	1731.85	78.40	79.39	180.64	1425.57	9.35	9.19	90.42	1.50	261.56	920.86	5.76	36.87	28.27	8.31	297.66	2.84	0.0
0																		
46739902	1793.83	77.40	84.25	185.28	1330.11	8.25	9.04	32.58	1.35	157.59	872.26	6.77	35.33	32.06	10.49	349.98	3.37	0.0
0																		
46785898	1022.56	28.38	42.95	137.81	449.31	5.65	4.48	68.29	0.82	142.14	402.84	9.27	12.15	19.86	7.91	98.64	0.00	0.0
0																		
46704939	1317.45	59.74	62.98	130.33	453.39	8.33	7.59	140.25	1.58	300.70	1952.29	6.01	23.40	25.32	8.88	394.21	0.45	0.0
0																		
46808872	1498.50	60.87	50.30	209.86	1378.70	7.06	7.30	89.13	1.42	208.92	762.43	4.75	24.18	17.27	4.99	336.46	10.79	0.0
0																		
45428176	1545.31	60.47	66.64	180.55	994.63	7.95	7.08	31.85	1.13	113.33	684.38	5.99	28.16	24.99	8.49	215.62	1.08	0.0
0																		
46915677	1525.12	66.98	63.21	174.58	1195.73	8.80	8.32	42.07	1.30	142.65	774.74	4.37	28.79	23.11	6.45	254.30	0.08	0.0
0																		
45533313	1174.80	53.18	53.36	124.22	1700.64	4.20	6.24	39.27	1.43	229.10	839.21	1.75	31.16	16.31	3.10	207.61	0.50	0.0
0																		
46149713	1392.16	50.21	37.72	222.73	1105.92	6.42	6.26	135.46	1.15	221.83	715.47	6.65	16.42	14.10	3.85	157.78	2.69	0.0
0																		
46016582	1531.24	55.90	48.40	228.99	1240.79	7.59	6.51	119.59	1.25	210.09	1080.16	6.86	24.80	15.46	4.43	222.93	0.06	0.0
0																		
46108371	1104.42	50.21	47.64	122.72	1105.23	4.60	5.94	49.99	0.92	126.93	654.64	4.25	22.96	16.18	5.34	184.25	0.75	0.0
0																		
45884617	858.19	31.24	33.77	112.44	1004.78	2.90	3.65	27.38	0.93	90.87	610.79	4.20	18.34	10.71	2.54	109.99	0.00	0.0
0																		
46168193	586.41	17.92	24.61	75.22	167.53	3.43	2.64	11.70	0.40	50.36	746.65	2.25	8.64	10.31	3.76	121.08	4.69	0.0
0																		
44923036	1914.12	64.74	96.93	205.52	1073.17	7.58	8.41	92.94	1.49	183.95	1189.37	7.04	46.20	32.97	10.96	275.85	0.54	0.0
0																		
46203296	1624.13	50.28	53.84	244.45	1262.85	6.30	6.29	139.42	1.33	212.77	861.69	6.48	24.73	19.42	6.09	147.08	3.57	0.0
45982552	1403.94	44.78	57.88	181.30	573.32	8.29	5.58	74.54	1.05	172.88	783.85	7.16	20.43	24.70	8.22	247.25	76.75	0.0
46215043	2442.35	93.28	103.47	294.40	1511.16	12.23	11.92	176.81	1.71	332.32	975.32	10.88	43.37	39.18	13.47	317.68	6.34	0.0
46369634	1049.56	44.01	47.15	116.11	1383.02	2.53	5.23	33.20	1.03	88.17	490.83	2.78	25.97	14.99	3.58	172.08	2.91	0.0
45339760	2118.84	99.39	80.85	256.70	894.57	13.10	11.27	189.35	1.95	292.42	1302.27	11.57	27.93	32.60	12.79	385.32	4.04	0.0
45543246	1188.76	59.54	48.85	130.92	1118.64	6.21	6.20	24.50	1.03	138.26	526.12	3.55	22.92	16.57	5.41	228.96	0.02	0.0
46089035	1499.56	66.36	63.13	170.18	1261.71	7.23	7.84	51.76	1.18	152.10	816.89	6.29	28.18	22.57	7.87	241.56	1.03	0.0
46749597	944.83	38.76	33.31	125.06	678.47	4.67	4.53	125.67	0.88	199.61	528.30	3.96	12.65	12.88	5.05	110.46	0.16	0.0
46832037	965.06	42.97	31.50	130.75	1147.65	4.54	5.18	68.17	0.89	169.88	881.89	3.80	14.74	10.98	3.54	131.25	0.56	0.0
46186758	1244.96	54.52	45.42	157.42	874.65	8.02	6.03	39.47	1.61	220.58	636.57	3.31	20.57	16.35	5.05	213.06	0.68	0.0
46412335	1260.73	42.91	49.76	163.69	567.56	7.70	5.18	41.76	1.01	132.19	831.77	6.29	19.17	19.25	7.35	166.19	0.40	0.0
46123608	747.82	30.00	24.00	104.38	223.01	5.29	3.42	19.56	0.67	57.10	352.28	3.07	7.98	9.34	4.04	97.96	0.27	0.0
46565564	1889.02	91.96	92.54	173.19	1000.73	10.79	10.43	46.65	1.31	156.02	829.99	8.82	36.98	35.59	12.48	454.68	2.59	0.0
46616888	862.74	40.44	30.21	110.19	624.43	4.58	4.88	53.77	0.82	117.64	744.28	3.96	13.61	10.63	3.51	158.34	0.45	0.0
46761526	1362.63	41.91	59.25	177.29	454.39	9.95	4.65	35.32	1.49	260.84	771.16	10.41	15.56	25.78	12.71	230.01	0.42	0.0
46769984	2167.52	78.32	88.32	271.90	920.90	12.94	10.55	95.39	1.64	214.40	1256.37	11.38	37.08	32.90	11.01	387.69	0.91	0.0
46307403	2182.80	88.92	87.40	269.27	1414.73	11.88	12.16	119.78	2.13	252.59	1664.44	10.27	35.15	34.29	11.06	275.15	1.61	0.0
46320067	652.10	26.90	25.35	82.15	654.97	2.29	3.36	63.93	0.65	90.25	839.74	2.53	10.94	9.17	3.20	68.80	7.22	0.0
46131816	2386.70	88.41	92.14	312.25	1241.72	15.02	11.65	90.44	2.02	270.75	2208.44	12.28	36.55	34.92	13.39	386.65	1.25	0.0
46068073	1688.57	57.46	59.60	241.44	701.10	11.21	7.09	106.33	1.68	248.51	1650.19	10.18	19.86	23.76	10.51	283.54	8.48	0.0

5745843	1021.31	46.66	40.15	122.53	396.45	7.00	5.50	46.40	1.14	171.08	522.59	5.83	14.46	15.41	6.66	247.06	1.00	0.0
4713388	790.29	30.16	29.88	102.15	683.25	4.44	3.84	24.20	0.98	121.16	578.33	2.30	14.11	10.63	3.35	87.40	0.10	0.0
5265677	1491.19	65.22	66.47	162.69	998.43	9.41	7.88	42.06	1.51	218.15	1119.14	7.33	26.95	24.63	9.66	360.83	0.18	0.0
5817444	700.38	25.03	27.32	91.96	650.04	2.93	3.07	49.28	0.43	95.48	490.04	2.47	13.19	9.61	2.63	129.08	12.53	0.0
4835629	1136.85	35.53	42.81	160.36	419.44	6.03	4.40	53.08	1.14	152.78	365.29	5.93	13.71	17.93	7.18	134.42	1.55	0.0
6080909	782.46	24.95	26.76	114.54	415.42	4.83	3.49	18.08	0.64	76.77	544.76	2.81	10.57	10.04	3.74	108.26	1.18	0.0
6057940	2003.64	94.74	92.74	203.54	1122.60	10.18	11.81	41.42	1.56	162.88	1021.17	10.95	37.44	35.01	12.97	308.68	5.14	0.0
6078467	2332.56	75.63	101.16	292.84	1753.32	8.32	9.76	145.87	1.92	289.88	1455.80	8.34	50.51	32.86	10.40	502.61	0.02	0.0
6138097	953.47	29.43	34.08	135.40	641.96	5.77	3.52	17.81	0.55	80.06	359.30	2.69	14.44	12.94	3.91	96.50	2.83	0.0
6122933	614.88	21.93	21.10	86.68	223.50	4.11	2.89	16.51	0.50	82.78	277.21	2.88	6.88	8.34	4.09	35.98	1.99	0.0
5923952	838.71	40.27	34.14	95.78	608.49	4.05	5.15	75.44	0.85	131.87	550.47	4.23	15.90	12.50	3.00	127.50	0.11	0.0
6030342	1259.57	46.79	49.41	159.90	526.75	8.71	5.11	8.89	0.71	83.21	193.53	4.96	16.91	20.38	7.10	162.64	3.58	0.0
4675695	1051.23	47.55	43.01	121.20	658.51	5.72	6.12	33.35	1.00	100.18	479.03	4.28	17.82	15.82	5.88	157.71	0.40	0.0
6011699	1668.83	57.89	71.89	206.16	1597.97	6.47	7.24	55.00	1.48	182.05	1480.38	5.03	38.70	23.29	5.35	224.60	1.14	0.0
5904530	1790.58	73.87	74.85	209.94	1532.65	8.00	9.22	134.14	1.39	266.13	854.20	6.06	35.71	25.95	8.03	277.76	0.56	0.0
5242294	2124.53	82.68	87.36	266.47	1397.71	10.98	11.40	121.57	2.29	250.40	1666.82	10.70	41.41	30.02	8.84	421.06	0.18	0.0
5149250	1459.10	62.41	57.58	178.26	892.23	8.70	8.33	39.97	1.44	165.31	844.14	7.12	23.46	22.47	7.30	228.11	0.12	0.0
5417723	1250.64	53.37	50.07	151.74	1200.81	6.10	6.50	40.92	1.08	164.98	779.33	3.91	24.69	16.79	5.16	204.31	3.18	0.0
5287018	967.65	39.53	36.23	122.83	482.54	6.19	4.94	15.56	0.62	118.91	1047.61	3.87	15.45	12.38	5.41	117.55	0.34	0.0
5045359	2287.77	84.45	95.04	284.43	1636.51	10.97	10.58	68.01	2.07	238.08	843.97	8.70	43.35	34.77	10.15	317.45	3.78	0.0
5115285	1244.30	42.08	52.32	154.41	1109.46	5.77	5.20	54.47	0.79	125.56	479.54	3.28	23.95	19.40	5.12	134.78	22.52	0.0
5248763	994.60	45.40	36.71	124.86	1137.05	4.45	5.08	78.91	1.23	210.12	940.04	3.12	20.38	11.23	2.83	168.41	0.00	0.0
5121729	1316.08	41.21	37.31	213.48	723.73	7.42	5.32	137.42	1.86	244.94	676.87	4.78	14.09	14.53	4.79	121.46	2.42	0.0
5298619	863.54	27.26	28.40	129.69	485.80	5.04	3.51	28.56	0.85	104.54	620.23	3.78	11.37	10.50	3.80	181.17	1.78	0.0
5352168	701.31	33.03	41.59	48.85	172.01	4.40	5.43	23.81	0.69	61.07	130.77	3.19	15.19	18.05	4.49	108.06	0.00	0.0
5301850	1218.70	48.21	45.10	160.51	886.33	7.27	6.16	40.71	1.59	188.09	701.35	3.57	20.94	16.00	4.72	161.06	0.40	0.0
5377877	1299.17	56.27	47.70	167.20	1133.15	5.84	6.57	126.13	1.33	230.39	954.23	5.00	22.79	16.08	5.29	286.61	0.18	0.0
5521946	1834.42	72.83	75.64	226.25	1275.03	7.13	8.41	268.69	2.52	410.55	1435.61	7.58	32.92	26.60	10.31	386.57	0.79	0.0
5377570	846.18	31.12	36.83	101.23	222.71	5.32	3.54	25.85	1.01	100.61	191.61	4.35	12.21	15.30	6.22	123.31	2.84	0.0
5320933	1540.25	57.61	64.77	186.50	1163.49	7.96	7.22	48.93	1.39	163.40	713.28	5.58	28.31	23.21	8.65	229.77	0.76	0.0
5262657	2434.45	118.03	103.85	264.44	1604.60	12.13	14.50	159.56	2.38	337.49	1282.62	10.73	42.13	40.50	11.83	490.44	0.56	0.0
5565357	685.98	23.67	17.20	111.92	261.85	5.07	3.01	26.59	0.60	55.62	356.68	2.45	7.07	5.84	2.57	73.48	0.28	0.0
5503365	1112.35	45.67	43.69	139.18	1556.61	2.94	5.64	22.85	0.84	88.47	713.38	2.40	26.25	12.88	2.22	166.16	3.20	0.0
5483814	792.02	29.30	27.29	109.49	366.05	5.05	3.00	49.07	0.64	120.10	411.19	4.02	9.87	10.50	4.47	118.22	0.61	0.0
5406808	1527.86	57.04	57.36	201.35	373.82	9.74	6.80	46.60	1.97	121.50	268.78	5.78	19.82	23.37	8.30	332.08	2.37	0.0
5659522	1111.62	48.44	40.21	145.20	1023.17	4.58	6.28	86.62	1.30	152.71	785.91	5.47	20.53	13.08	3.65	173.82	0.02	0.0
5721256	667.58	12.44	11.89	133.14	203.30	5.89	1.58	23.98	0.35	61.65	581.41	2.66	2.88	4.93	1.99	21.46	0.58	0.0
5812097	1178.53	40.24	36.75	175.38	731.07	6.90	5.08	134.77	1.34	262.41	711.55	3.98	16.17	13.40	4.35	160.47	19.61	0.0
5801561	2023.84	77.00	101.25	207.82	1448.17	8.82	9.35	50.69	1.44	168.35	952.84	8.41	46.58	35.93	11.80	325.77	2.88	0.0

46820339	909.30	68.96	28.50	94.09	171.16	7.91	8.88	68.25	1.27	135.05	1228.03	3.67	9.42	11.23	4.22	220.69	0.00	0.0
0																		
46705622	1789.05	80.66	77.95	197.42	1799.53	7.66	9.27	48.78	1.98	242.01	1115.28	5.71	39.08	26.14	7.32	446.84	1.15	0.0
0																		
46833118	1575.10	72.79	52.02	209.36	1717.12	8.48	9.88	38.43	1.60	211.52	1502.36	4.30	24.92	18.06	4.92	205.64	1.06	0.0
0																		
46870722	1520.03	61.27	63.54	181.10	1276.89	6.70	7.93	31.14	1.15	123.60	834.58	4.67	30.91	22.23	5.97	224.60	3.26	0.0
0																		
46685618	1215.90	46.99	52.83	144.48	995.44	4.33	5.75	68.03	1.18	126.97	650.05	4.16	27.09	17.35	4.77	215.81	2.28	0.0
0																		
45320455	1869.60	73.14	84.01	213.89	1535.41	8.83	8.54	135.07	1.80	332.88	1155.53	8.58	38.71	29.85	9.83	396.52	0.16	0.0
0																		
46040911	928.24	34.22	35.10	121.33	684.47	4.96	4.17	32.89	0.74	93.87	299.40	2.47	15.75	12.73	3.84	109.91	0.11	0.0
0																		
46028298	1166.15	45.20	44.20	152.00	1083.37	6.48	5.44	56.91	1.08	163.39	387.10	2.80	20.88	15.48	3.91	136.25	0.68	0.0
0																		
45990050	1283.79	63.94	58.27	129.15	1282.37	4.79	7.55	123.35	1.06	196.26	753.17	4.60	30.03	18.79	5.31	262.72	0.18	0.0
0																		
45990068	1283.79	63.94	58.27	129.15	1282.37	4.79	7.55	123.35	1.06	196.26	753.17	4.60	30.03	18.79	5.31	262.72	0.18	0.0
0																		
45990042	1283.79	63.94	58.27	129.15	1282.37	4.79	7.55	123.35	1.06	196.26	753.17	4.60	30.03	18.79	5.31	262.72	0.18	0.0
0																		
46169117	736.98	27.33	23.17	109.20	574.22	4.02	3.57	19.52	0.64	68.91	683.73	3.13	11.21	7.72	2.69	76.16	0.00	0.0
0																		
46564599	1064.69	33.55	26.97	177.48	489.77	8.34	4.10	37.07	1.06	174.44	583.20	4.32	9.42	10.16	5.13	39.75	0.00	0.0
0																		
46708759	1771.17	71.25	79.98	194.84	1578.39	7.93	8.62	30.56	1.29	137.53	746.34	4.56	40.69	27.03	6.71	316.97	3.22	0.0
0																		
46774122	1520.26	47.95	46.62	236.84	1101.99	7.95	6.17	39.72	1.50	131.02	1399.15	6.40	21.96	15.99	5.17	153.28	13.38	0.0
0																		
45987924	904.62	33.82	47.61	87.93	268.72	4.43	4.73	50.25	0.73	108.78	347.64	3.96	19.88	18.47	5.12	177.27	11.81	0.0
0																		
44129832	1946.16	90.86	88.64	203.36	2031.74	7.71	11.37	160.85	1.87	284.58	1138.77	5.90	45.74	30.09	6.66	474.14	1.58	0.0
0																		
47405502	1513.73	43.31	40.94	253.26	864.14	8.41	5.19	221.99	1.34	314.69	763.51	4.79	16.61	14.89	4.88	116.64	3.20	0.0
0																		
44537077	2504.63	100.57	84.25	351.03	1371.58	15.25	12.30	72.52	2.87	299.35	1672.30	12.03	34.32	31.11	11.85	445.90	7.29	0.0
0																		
44114982	2065.89	63.54	95.13	247.32	1012.02	12.24	7.63	81.66	1.33	230.77	1051.42	7.29	41.94	36.33	8.93	242.57	9.74	0.0
0																		
44527846	2133.91	86.64	88.42	254.69	1797.89	10.65	10.83	71.92	1.73	257.82	932.67	7.39	39.96	30.83	10.69	437.56	1.31	0.0
0																		
44467969	1553.14	56.44	53.03	219.58	922.12	9.41	6.93	86.11	1.63	219.48	853.26	6.95	20.38	19.67	8.87	165.53	11.29	0.0
0																		
44546424	1697.82	78.16	64.79	205.10	945.86	10.28	9.66	55.83	1.54	186.11	1175.72	7.25	25.94	24.27	9.24	263.28	0.52	0.0
0																		
44546482	1697.82	78.16	64.79	205.10	945.86	10.28	9.66	55.83	1.54	186.11	1175.72	7.25	25.94	24.27	9.24	263.28	0.52	0.0
0																		
44675695	1505.30	52.14	45.93	233.65	1178.63	6.30	6.59	66.29	2.29	149.92	862.88	4.74	23.12	14.43	4.19	212.77	0.00	0.0
0																		
44609991	1737.59	63.20	69.71	221.71	1654.56	7.99	7.16	138.04	1.63	293.94	1029.13	5.83	34.14	22.90	7.65	196.18	2.42	0.0
0																		
43822312	987.35	34.65	28.63	156.57	690.50	4.99	3.89	98.34	1.26	137.49	572.18	4.35	13.00	9.15	4.18	109.80	0.26	0.0
4997669	827.82	22.54	23.36	138.44	578.08	4.30	2.93	23.23	0.87	73.24	532.32	2.88	11.29	7.65	2.38	116.59	0.10	0.0
4966391	1561.65	58.65	49.72	224.66	1236.58	8.42	7.42	35.32	1.48	114.61	895.24	4.21	21.78	17.51	6.17	192.48	0.76	0.0
4966408	1561.65	58.65	49.72	224.66	1236.58	8.42	7.42	35.32	1.48	114.61	895.24	4.21	21.78	17.51	6.17	192.48	0.76	0.0
6373728	591.55	23.87	23.17	76.56	303.37	3.07	2.84	28.60	0.71	82.79	382.14	2.61	9.03	8.61	3.76	88.86	12.56	0.0
4846254	777.92	41.72	32.75	80.12	962.60	3.30	5.29	12.43	0.54	61.90	513.98	1.84	18.08	9.91	2.75	129.15	0.02	0.0
4902634	1602.12	77.75	67.35	173.33	1539.00	7.24	9.16	30.37	1.36	125.30	810.82	4.97	32.62	23.10	6.99	262.76	0.02	0.0
4863175	913.69	27.72	18.02	169.45	405.20	6.86	3.72	66.14	1.90	207.65	1006.88	3.55	8.01	5.83	2.53	69.32	0.00	0.0
4916320	1420.72	63.72	67.13	144.77	1174.94	7.23	7.85	49.45	1.45	208.38	657.93	6.05	28.86	25.36	8.04	369.22	0.11	0.0
4923862	2379.32	68.36	70.14	387.70	1769.35	10.46	8.83	96.82	2.15	201.06	2584.29	13.18	28.70	27.10	9.08	153.77	7.92	0.0
4777631	654.93	17.52	11.44	124.21	198.84	4.25	2.08	121.32	0.65	160.64	492.79	2.29	3.89	4.16	2.06	43.29	3.10	0.0
4034501	1420.79	58.48	57.12	174.38	1329.67	6.57	7.04	72.44	1.03	194.65	864.98	5.00	28.19	19.50	5.45	213.24	25.30	0.0
4982199	1299.24	55.61	50.54	161.06	1119.59	5.45	6.85	138.94	1.10	227.20	775.37	5.78	24.22	17.53	5.09	199.56	0.16	0.0

5020667	1007.26	33.57	36.48	139.95	667.95	5.52	4.09	19.15	0.67	66.93	294.64	3.22	15.97	13.35	4.25	119.32	22.70	0.0
5038488	1678.16	55.20	67.14	223.66	1478.19	7.66	6.98	142.21	1.24	232.25	485.58	4.11	28.43	21.92	11.25	155.06	0.18	0.0
5018993	1222.22	47.33	46.74	158.39	1220.87	4.49	5.74	78.63	0.86	140.24	701.00	3.67	23.67	15.78	3.89	279.11	2.29	0.0
5089051	1422.29	54.51	57.45	176.17	438.17	9.84	6.77	114.11	1.29	216.23	660.70	6.49	23.79	21.36	7.17	215.51	0.88	0.0
4694877	1416.75	35.53	44.86	228.10	306.83	9.03	4.70	165.17	1.42	246.68	382.59	6.56	17.41	17.95	5.30	139.85	5.49	0.0
4982173	1991.30	72.95	64.81	283.96	1140.23	11.98	8.91	136.42	1.50	263.25	774.37	7.83	25.98	24.12	8.61	352.83	2.64	0.0
5075464	1672.61	67.59	67.11	206.67	1589.60	7.82	8.53	101.41	2.15	317.36	1017.09	4.42	34.30	23.22	5.50	242.66	0.46	0.0
4979956	866.28	29.79	35.63	111.16	329.89	4.98	3.72	124.35	1.06	239.20	527.92	4.88	12.18	14.02	6.84	93.71	1.46	0.0
4989898	804.20	35.98	38.33	81.19	717.70	3.46	4.50	54.17	0.72	131.02	437.85	2.75	18.29	13.77	3.80	111.22	0.00	0.0
7988938	1519.04	62.71	69.09	166.35	1170.05	7.12	8.20	83.64	1.10	186.69	597.18	6.01	30.63	25.73	7.11	376.49	3.29	0.0
4048785	1543.48	61.47	67.15	178.84	968.98	8.07	7.37	100.57	1.42	245.51	908.06	8.09	26.77	24.67	10.48	362.00	1.53	0.0
5638428	1283.32	47.28	47.06	172.87	1184.45	6.54	5.87	37.85	1.27	162.61	1031.21	4.33	23.54	15.63	4.67	168.30	0.68	0.0
5018274	1280.93	43.60	46.52	176.17	1071.91	6.03	5.50	119.88	0.96	193.35	733.35	3.23	22.41	16.45	4.00	183.55	0.68	0.0
4686072	2061.13	80.77	87.22	244.94	1336.57	10.92	9.56	36.68	1.36	170.08	821.99	7.03	38.05	31.46	11.05	307.92	1.55	0.0
5569920	1615.04	76.70	74.26	162.91	1662.42	7.37	9.19	50.93	1.30	181.98	962.04	5.62	36.79	24.99	7.59	300.06	0.40	0.0
5641520	996.20	39.47	54.59	92.56	1058.43	3.15	5.61	29.02	0.71	120.06	358.85	8.39	22.75	21.90	7.02	139.17	3.55	0.0
5540805	2728.53	113.25	110.27	329.57	1983.76	13.89	14.53	266.19	1.99	504.47	1435.38	11.79	47.33	41.53	13.29	388.75	7.78	0.0
4728494	2104.81	78.31	87.43	262.39	1405.64	10.77	10.00	141.54	1.89	309.73	871.36	8.64	34.51	34.11	12.13	266.84	2.30	0.0
5758838	1053.59	43.81	46.23	118.61	1057.22	4.55	5.09	64.09	0.74	135.97	569.36	2.85	22.97	15.89	3.95	155.59	0.18	0.0
5832236	885.41	26.06	24.50	146.31	246.64	5.85	3.75	94.65	1.12	140.11	384.42	3.24	9.49	9.51	3.07	109.68	3.68	0.0
4424612	1813.37	70.98	61.19	249.69	1694.82	10.28	8.95	124.18	1.36	287.62	1011.19	4.90	25.54	23.98	6.03	146.63	61.98	0.0
4413607	1799.26	90.04	65.61	219.29	1775.00	9.02	11.38	124.93	1.80	296.24	1610.66	5.97	31.30	22.01	7.11	256.26	0.16	0.0
3454446	1824.37	95.11	85.81	167.62	1308.57	10.15	12.61	41.32	1.67	205.54	682.78	5.43	37.27	32.71	9.23	464.19	3.92	0.0
5887116	1881.25	77.82	69.89	246.00	1348.62	8.69	9.31	207.19	1.60	303.56	707.03	8.57	29.97	25.59	9.30	266.67	7.23	0.0
4815712	771.73	30.13	25.55	107.79	303.63	6.15	3.60	25.52	0.82	108.36	380.17	2.37	9.12	10.21	3.43	122.11	0.40	0.0
4935768	1623.85	63.97	58.80	214.21	1358.61	7.65	7.81	25.87	1.07	121.47	814.60	4.26	28.18	20.04	6.54	181.05	3.57	0.0
3813064	1559.71	69.27	57.13	200.40	1463.22	7.48	8.43	82.09	1.88	276.09	1355.42	5.22	25.77	20.98	6.26	196.58	3.66	0.0
4990142	892.86	42.76	36.96	98.82	993.43	3.65	5.55	12.77	0.62	64.84	272.83	2.07	19.12	11.86	3.30	163.58	0.06	0.0
5103637	769.71	25.73	18.24	132.71	483.43	3.13	3.64	76.04	0.94	118.46	429.53	3.61	7.31	7.02	2.53	34.87	0.00	0.0
3820001	2161.40	77.66	91.43	263.98	1794.55	12.52	9.45	47.54	1.42	250.59	1251.54	5.96	40.96	35.32	8.56	248.61	27.56	0.0
4927674	1107.36	48.79	40.99	139.79	1136.16	4.79	5.54	126.49	1.30	263.08	710.30	3.67	21.49	13.48	3.29	179.14	0.90	0.0
5234763	1723.34	79.97	67.99	202.32	1403.53	9.36	10.13	142.46	1.90	378.04	945.77	4.88	32.83	23.70	6.35	247.18	1.52	0.0
3950444	1494.64	51.70	73.46	162.78	815.47	8.60	6.14	67.11	1.07	193.64	1518.00	6.68	34.69	24.41	9.04	368.45	2.43	0.0
5266112	1757.17	71.15	65.81	228.06	1241.05	7.78	8.49	153.90	2.39	286.99	1304.20	5.67	30.10	23.09	7.56	295.77	0.79	0.0
4835794	940.31	49.28	48.72	77.70	1050.36	3.25	5.97	25.98	0.89	96.39	487.36	2.62	24.96	16.64	3.92	200.79	0.66	0.0
5427813	1006.47	52.68	45.64	98.14	1078.60	4.75	6.11	18.18	0.85	131.96	699.52	2.69	22.55	15.64	4.20	213.59	1.49	0.0
5326619	1317.70	53.54	49.93	169.33	566.78	7.51	6.32	70.48	1.18	182.89	780.73	6.41	17.74	19.86	8.31	171.67	23.30	0.0
5857945	897.87	39.65	38.73	100.39	1112.05	3.28	4.94	25.74	0.62	77.54	638.09	1.95	21.69	11.93	2.77	137.23	0.56	0.0
5832096	1670.36	76.32	75.45	172.53	1196.55	9.14	8.99	45.56	1.10	149.63	577.21	5.91	32.65	28.83	8.17	360.07	1.60	0.0

45582071	1909.21	81.99	93.19	193.50	1076.17	10.21	11.08	128.12	1.87	310.66	1508.47	8.78	38.69	36.43	10.85	433.24	0.28	0.0
0																		
45747055	2253.70	85.18	82.67	304.79	1638.76	8.78	10.70	243.37	1.70	371.06	958.04	12.14	35.66	29.71	10.98	274.20	1.78	0.0
0																		
45972404	1379.02	61.46	55.42	164.16	1587.65	5.42	7.60	49.30	1.10	156.24	868.10	5.49	23.00	21.00	7.57	162.92	11.45	0.0
0																		
48168167	1760.63	52.16	48.52	286.43	750.89	9.38	6.28	248.81	1.57	353.71	532.51	5.64	18.15	19.25	6.75	168.62	3.54	0.0
0																		
45487586	1697.25	41.54	45.37	297.35	844.19	6.77	4.93	127.20	2.11	180.11	768.77	7.60	19.74	15.72	5.80	180.46	2.01	0.0
0																		
45914604	1297.67	49.99	54.41	157.67	768.17	6.61	6.11	127.93	1.47	247.02	835.02	4.12	26.06	18.86	5.11	210.72	0.79	0.0
0																		
46133055	1498.94	64.14	56.65	191.87	689.18	9.04	7.91	149.58	1.62	304.36	1091.94	6.81	22.29	21.85	8.01	171.09	3.55	0.0
0																		
46086808	1568.33	63.30	57.68	208.20	1433.94	6.70	7.99	109.63	1.30	226.07	1513.97	5.26	28.65	18.96	6.30	214.38	6.50	0.0
0																		
46387280	1428.72	69.18	53.97	171.45	981.92	10.94	9.81	51.42	1.91	273.10	4250.34	5.00	24.52	19.06	5.55	362.08	0.76	0.0
0																		
45439842	1270.23	48.27	60.51	137.49	766.13	6.99	6.23	57.58	1.04	172.26	515.84	5.39	24.92	23.83	7.31	273.55	51.79	0.0
0																		
46605616	991.12	38.83	40.30	120.41	1155.05	4.97	4.52	26.57	0.92	142.40	514.70	1.64	22.04	13.30	2.59	131.82	0.28	0.0
0																		
44814582	1826.68	73.58	77.78	214.73	1238.03	7.90	8.78	231.52	1.76	375.83	798.19	8.23	32.32	29.66	9.96	336.90	0.76	0.0
0																		
45821825	848.21	26.89	33.10	114.41	310.37	5.11	3.64	115.63	0.59	174.36	348.38	4.33	11.48	12.41	6.02	106.09	0.71	0.0
0																		
45936145	1479.98	48.87	54.98	202.70	999.70	9.83	5.66	40.88	1.60	261.49	1062.23	6.26	18.91	22.70	8.65	211.04	2.66	0.0
0																		
45783348	2466.05	94.49	109.89	282.96	1913.21	10.21	10.70	92.44	2.21	305.49	824.24	10.50	46.78	39.77	15.64	284.86	12.83	0.0
0																		
46101101	1711.23	62.47	51.65	257.99	831.37	10.57	8.99	160.40	1.42	273.51	1022.62	8.65	18.11	20.56	7.95	313.94	73.53	0.0
0																		
46191623	1127.93	46.94	60.88	99.90	1075.02	4.45	5.70	30.50	0.66	97.97	494.34	3.85	30.19	21.24	5.47	226.77	3.51	0.0
0																		
46147478	1232.50	48.36	53.69	141.05	1460.28	4.67	5.83	20.36	0.79	97.82	692.04	3.38	27.51	18.25	4.77	177.96	0.08	0.0
0																		
45821883	1335.16	51.44	45.25	186.88	897.35	8.62	6.67	84.65	1.30	246.85	1138.65	4.87	19.95	16.22	5.07	303.56	0.74	0.0
0																		
49060429	1914.42	60.73	101.99	197.01	1493.91	7.23	7.47	64.73	1.30	211.22	921.15	6.08	52.84	33.80	8.97	308.49	15.01	0.0
0																		
48976974	1382.88	49.31	56.37	177.13	921.97	6.78	6.10	125.65	1.42	212.86	829.17	5.65	24.16	21.29	6.47	321.81	4.63	0.0
0																		
48146866	1284.16	37.20	47.30	184.54	779.50	6.27	4.51	32.26	0.92	99.51	374.95	4.75	20.02	18.18	5.55	154.19	3.58	0.0
0																		
45997585	851.77	34.35	37.89	94.89	613.16	4.47	4.41	22.50	0.64	87.49	307.52	3.16	16.12	14.64	4.45	152.67	53.26	0.0
0																		
46646355	1361.75	88.69	43.97	154.80	541.31	10.25	8.57	48.76	2.32	240.35	895.24	5.93	16.35	15.79	7.30	293.74	0.97	0.0
0																		
47733010	854.91	37.23	35.70	100.06	1192.97	3.64	4.29	47.89	1.24	220.75	673.26	1.28	21.26	10.62	2.04	144.19	2.82	0.0
0																		
46675049	1426.99	59.83	66.15	151.32	833.90	7.94	7.36	33.11	1.13	141.29	653.65	5.81	29.22	23.95	8.09	235.67	0.74	0.0
0																		
46548593	1353.01	44.78	42.73	204.69	1112.57	5.66	5.61	125.02	1.02	190.38	715.13	3.73	20.92	14.64	4.39	124.60	2.87	0.0
0																		
46508935	1227.99	49.89	48.38	151.57	1120.00	5.30	6.01	38.94	0.97	107.07	602.03	3.03	24.11	16.44	4.29	172.68	3.31	0.0
47870739	815.83	32.72	30.65	105.76	1034.61	3.06	4.22	36.25	0.70	97.93	644.41	1.86	17.80	9.24	1.80	111.70	0.11	0.0
45086396	2537.59	108.57	105.88	298.09	1962.14	11.85	12.79	124.77	2.41	313.62	920.61	9.72	47.80	38.14	12.35	382.11	5.46	0.0
46794154	1233.14	55.60	54.15	133.93	1366.22	5.54	6.43	47.50	1.25	183.45	906.12	3.35	28.90	17.76	4.21	201.62	0.34	0.0
46765973	1235.71	56.63	47.69	147.78	545.90	8.62	7.26	79.35	1.18	171.22	1126.27	4.86	19.17	18.27	5.59	203.70	0.88	0.0
45995810	2135.37	110.40	77.94	256.35	1503.02	11.55	13.57	139.04	2.10	273.94	1260.91	10.33	34.56	26.97	9.99	430.61	0.06	0.0
45703858	1318.89	56.55	47.73	168.79	1079.45	7.48	6.97	25.62	1.10	101.43	1783.91	3.94	21.60	16.47	5.44	214.20	0.45	0.0
45847250	722.86	30.43	30.71	84.96	934.53	1.80	3.60	23.86	0.63	66.36	335.00	1.40	17.24	9.61	1.93	119.80	0.18	0.0
45637701	1093.47	33.57	33.04	170.04	358.43	8.93	4.59	19.43	0.69	111.35	385.36	4.35	9.88	14.07	5.62	178.32	2.48	0.0
45131572	1392.82	51.60	57.59	170.27	868.77	7.80	6.02	75.00	1.01	176.79	570.64	5.21	23.10	22.12	7.66	189.84	19.78	0.0
45581164	980.94	40.62	51.85	90.30	382.66	5.47	4.74	45.51	0.85	106.20	493.47	4.40	21.72	19.52	6.63	188.46	0.68	0.0
45581180	946.98	37.11	35.95	127.95	445.96	5.59	4.72	101.33	1.54	124.96	1979.89	5.86	14.76	12.87	5.10	149.20	0.68	0.0

44935403	1383.98	43.69	49.98	200.44	788.80	6.69	5.56	85.54	1.34	142.29	538.48	5.91	21.35	17.53	6.52	312.33	2.19	0.0
0																		
45716216	1827.96	43.40	43.56	332.74	914.58	8.92	5.57	127.51	2.34	212.58	729.15	8.15	18.53	14.82	6.34	110.69	0.75	0.0
0																		
45906891	1255.28	44.78	46.51	167.97	811.92	6.29	5.40	27.41	0.83	88.85	520.91	4.41	20.28	16.84	6.01	163.20	11.85	0.0
0																		
45581114	713.06	18.80	20.46	118.17	596.42	3.07	2.35	25.34	0.74	63.30	273.70	1.68	10.79	6.33	1.76	71.25	0.00	0.0
0																		
43377169	2122.29	60.14	72.41	318.14	938.17	10.13	7.84	157.91	1.44	256.35	782.18	8.16	29.80	27.58	9.68	240.45	33.70	0.0
0																		
44496489	942.84	37.37	31.32	132.73	744.09	5.08	4.91	49.63	0.77	131.16	664.48	3.68	12.76	12.12	3.79	129.52	1.37	0.0
0																		
44724640	1938.04	81.31	81.51	230.30	1994.77	5.38	10.34	147.83	1.82	260.77	886.26	6.85	43.39	26.39	5.76	457.15	2.10	0.0
0																		
44875542	1510.28	63.45	65.21	172.23	1195.56	7.70	7.66	77.79	1.22	216.20	891.67	6.06	31.19	21.08	8.11	257.58	0.00	0.0
0																		
44907692	792.71	36.46	28.99	99.09	644.45	4.61	4.50	33.19	0.77	98.86	742.86	3.30	12.46	10.95	3.40	94.14	0.54	0.0
0																		
44687898	1256.22	56.35	46.46	155.94	1157.93	6.40	6.81	28.51	1.13	123.49	949.25	4.30	20.63	16.33	5.47	320.22	0.56	0.0
0																		
45012151	985.80	40.83	39.38	119.82	1080.95	4.03	5.28	67.01	0.81	154.51	551.67	2.24	21.25	12.66	2.69	189.90	0.06	0.0
0																		
44875617	1241.09	53.49	55.33	134.87	1081.52	6.57	6.26	24.50	0.84	111.54	521.31	4.07	25.57	19.80	5.74	190.29	2.50	0.0
0																		
44101476	1445.10	56.37	56.11	183.49	1091.85	7.78	7.33	69.59	1.05	163.93	580.65	5.92	24.63	20.83	6.49	155.43	2.69	0.0
0																		
44814582	958.33	39.63	41.89	109.05	975.73	4.13	4.68	34.63	0.79	103.57	768.06	3.68	19.71	14.61	4.23	176.33	0.11	0.0
0																		
44310720	1746.71	62.53	56.45	257.38	901.59	10.38	8.34	97.81	1.72	268.18	994.61	8.52	19.72	21.34	10.16	256.76	0.61	0.0
0																		
45143807	1223.09	54.38	53.11	137.19	1215.94	6.47	6.51	73.71	1.46	212.19	1086.11	4.19	25.27	18.63	5.54	344.39	0.00	0.0
0																		
45032117	960.76	46.59	35.67	116.49	402.76	6.03	5.51	33.84	1.02	92.44	581.54	4.79	12.25	13.92	6.05	160.00	0.42	0.0
0																		
44602995	2311.79	77.06	111.39	259.66	1569.60	9.54	9.68	66.38	1.67	219.18	887.07	8.13	51.65	40.46	12.06	329.46	83.45	0.0
0																		
45086396	1284.46	48.61	46.89	173.80	844.21	6.60	6.31	33.61	1.24	127.83	613.92	5.02	21.78	16.42	4.91	197.21	7.96	0.0
0																		
44935370	804.54	25.60	26.85	119.22	640.45	3.86	3.34	40.48	0.66	91.31	340.10	2.32	12.98	9.31	2.71	134.75	0.18	0.0
0																		
45093747	1216.36	38.53	37.26	193.33	1100.70	4.36	4.73	157.04	1.38	200.57	538.21	5.09	19.41	11.88	3.16	140.09	0.74	0.0
0																		
44875500	1035.13	53.85	42.41	111.60	1180.22	4.33	6.84	29.87	0.89	110.97	661.90	3.46	19.85	15.11	4.17	160.99	17.38	0.0
0																		
45212652	607.03	27.46	23.41	74.24	150.72	4.18	3.18	65.15	0.77	113.83	280.31	3.17	8.28	9.35	3.48	128.69	3.20	0.0
0																		
44301589	980.28	47.42	48.38	89.49	638.52	4.50	5.53	35.68	0.78	111.50	385.62	4.17	20.17	18.53	5.76	333.93	10.50	0.0
0																		
45364875	1343.61	60.70	57.90	148.48	1143.99	6.02	7.29	31.78	1.19	139.22	711.53	4.63	26.80	20.84	5.86	328.66	10.43	0.0
0																		
45386879	1977.17	68.98	71.38	271.66	1305.32	11.13	8.95	94.40	1.96	260.78	687.98	5.71	30.31	26.82	8.90	235.82	0.69	0.0
0																		
45329788	1462.04	46.30	84.05	134.61	1142.17	5.13	5.16	55.80	0.74	148.91	754.85	6.12	41.31	28.72	8.26	389.14	1.78	0.0
0																		
44872522	1336.95	42.55	49.15	188.63	747.22	6.57	5.57	46.55	1.32	136.56	610.34	5.09	20.07	18.75	6.20	159.96	5.69	0.0
0																		
45031531	1331.67	54.79	71.29	121.85	754.85	6.88	6.98	35.96	1.03	140.28	784.12	4.91	35.66	23.79	6.69	250.39	0.95	0.0
0																		
45877373	1565.59	67.62	57.10	203.01	1011.09	9.32	7.94	124.00	1.88	280.80	1094.43	6.89	24.45	20.26	7.92	235.33	0.71	0.0
0																		
45256444	1905.79	90.96	90.94	185.60	1854.91	7.00	11.67	57.63	1.57	180.13	828.84	6.28	43.26	32.37	9.06	342.47	2.16	0.0
0																		
45007425	1221.49	57.16	59.21	117.50	1408.07	5.48	6.87	46.43	1.11	182.09	670.99	3.25	31.50	19.55	4.46	239.96	0.06	0.0
0																		
45317874	2125.77	94.48	96.09	226.36	1821.62	9.52	11.24	143.45	1.83	329.01	961.77	8.71	43.44	35.69	10.68	335.55	0.63	0.0
0																		
45402576	1715.82	79.69	60.32	219.50	1094.89	11.51	12.90	62.57	1.35	175.75	863.79	6.45	26.16	21.72	7.95	203.82	0.92	0.0
0																		
45451234	1335.31	57.60	56.08	153.66	1562.93	4.46	6.57	119.29	1.02	225.91	613.48	3.31	30.11	18.07	4.25	245.05	1.06	0.0
0																		
48364517	2593.93	69.04	104.26	372.24	1222.99	13.00	9.33	233.61	3.08	395.04	2914.06	12.43	48.31	36.54	11.51	361.11	23.06	0.0
0																		
45508770	1399.71	58.57	66.85	150.89	1951.66	2.30	7.32	95.89	1.38	120.17	712.02	2.83	41.20	18.87	2.78	237.07	0.06	0.0
0																		
45395333	2045.67	98.56	87.77	216.26	1602.41	10.89	12.13	34.49	1.41	184.78	900.61	7.50	39.50	31.92	9.83	305.74	0.40	0.0
0																		
45512804	1118.55	44.79	40.08	147.62	639.01	7.01	5.85	22.57	0.99	83.56	744.29	3.83	16.29	15.06	5.22	176.95	0.52	0.0

45469328	911.81	30.27	28.23	137.95	713.47	5.59	3.66	30.58	1.04	143.26	715.38	2.87	12.34	9.44	4.32	70.51	19.72	0.0
0																		
46238425	2167.85	89.90	93.80	250.01	1382.43	11.66	12.58	80.58	1.60	240.91	1742.19	10.01	39.78	34.88	11.53	597.40	0.06	0.0
0																		
45201382	1054.77	46.46	44.48	121.07	699.09	6.83	5.91	48.04	0.97	132.78	1483.96	3.67	17.69	17.88	4.85	305.11	0.42	0.0
0																		
45649128	1097.39	45.97	48.06	123.83	621.51	7.40	5.50	37.99	1.02	195.54	654.79	6.10	17.55	19.07	7.78	231.58	1.01	0.0
0																		
46158665	1528.73	50.72	49.07	226.86	1179.84	8.51	6.14	56.35	1.28	146.35	695.81	3.43	23.14	16.74	5.22	158.28	1.16	0.0
0																		
45726546	2195.36	102.10	84.09	263.13	983.66	13.35	11.87	60.25	2.02	204.28	1135.38	9.72	32.33	32.82	11.26	335.30	2.99	0.0
0																		
45582302	1402.79	48.49	39.18	219.25	1054.54	7.70	5.97	37.17	1.26	99.45	462.30	2.78	19.91	12.29	3.89	181.98	0.75	0.0
0																		
45876292	1898.74	70.57	89.06	208.19	1148.88	9.80	10.06	45.25	1.16	121.06	447.79	6.76	37.67	34.77	10.00	230.18	4.87	0.0
0																		
45964873	1077.45	53.13	47.62	111.95	1443.74	3.67	6.39	34.61	1.01	129.59	695.48	2.51	26.50	15.08	3.33	186.88	0.87	0.0
0																		
46025814	874.39	50.63	32.51	96.31	937.78	3.82	5.81	58.91	0.88	122.09	587.40	2.40	17.25	9.88	3.20	149.50	0.00	0.0
0																		
46063765	1545.49	59.37	65.27	186.26	888.87	8.13	7.43	134.96	1.32	263.76	726.30	6.83	28.09	24.44	7.67	343.82	4.01	0.0
0																		
46066404	981.15	46.81	44.20	103.30	1022.17	3.76	6.00	35.82	1.00	95.03	674.83	3.73	22.03	15.36	3.97	155.00	2.82	0.0
0																		
46064523	772.93	24.69	27.31	108.90	423.89	4.90	3.27	12.68	0.44	47.17	208.71	2.16	10.92	10.41	3.62	76.85	4.31	0.0
0																		
46508951	1639.31	50.08	61.43	231.51	966.56	7.92	6.12	53.16	1.77	192.97	864.23	5.05	25.78	23.59	7.19	136.52	14.19	0.0
0																		
46621993	1478.82	63.74	50.89	196.38	1192.96	7.41	7.85	124.48	1.23	223.30	827.38	4.57	24.34	17.15	5.69	175.17	0.46	0.0
0																		
56513473	1346.35	51.89	52.73	172.72	1262.52	7.80	6.22	97.14	1.37	296.55	1963.16	5.68	24.08	19.07	5.80	322.30	0.74	0.0
)																		
49680475	573.85	36.40	20.06	62.97	582.81	2.87	3.36	12.37	0.76	66.49	446.04	2.68	8.50	6.66	3.24	93.44	0.00	0.0
)																		
46124533	1138.12	52.82	37.34	152.91	1223.53	6.25	6.82	63.88	1.64	217.32	1192.50	2.92	17.56	13.38	3.59	133.43	1.42	0.0
)																		
48246905	1128.92	37.53	33.44	171.76	722.08	5.39	4.65	213.63	1.18	339.28	694.88	4.72	12.42	13.45	5.24	122.20	10.30	0.0
)																		
44719138	1428.12	39.79	35.31	246.80	811.58	9.13	4.36	100.60	2.15	301.88	605.23	3.60	14.92	12.81	4.52	92.77	0.00	0.0
)																		
45087162	1263.84	58.51	58.82	127.77	1170.97	5.56	7.79	67.79	1.17	173.87	761.76	3.20	29.10	21.36	4.51	208.89	52.93	0.0
)																		
45276830	1326.57	67.20	49.73	159.03	1537.57	4.72	7.52	71.92	1.19	184.62	938.77	6.34	27.47	15.31	3.96	220.49	0.22	0.0
)																		
4414035	1636.21	55.38	47.16	257.47	871.61	8.32	6.77	310.62	1.33	387.55	797.25	7.16	18.79	17.66	6.75	192.87	2.70	0.0
)																		
5480233	1682.65	67.84	58.37	227.14	1477.71	9.44	8.43	35.11	1.16	162.68	885.37	6.09	24.39	21.40	8.40	116.73	0.79	0.0
4381169	1097.41	38.20	34.76	161.74	378.89	6.29	5.28	125.08	0.90	179.39	264.47	3.76	13.19	14.15	4.31	128.39	1.42	0.0
5464071	910.11	29.84	28.54	137.04	741.61	6.00	3.53	28.25	0.93	148.98	567.05	1.88	13.77	9.59	3.04	89.71	0.49	0.0
5617779	2319.05	95.34	87.76	299.62	2090.96	14.07	12.43	61.12	1.96	359.09	1552.65	6.59	42.62	30.06	8.53	289.75	2.91	0.0
4238823	1119.91	46.87	38.31	150.54	794.54	6.65	5.53	71.17	1.01	170.23	740.68	4.31	17.60	13.34	4.40	169.81	0.16	0.0
5411717	1680.70	69.51	70.65	197.41	1327.62	7.42	8.42	144.58	1.54	291.01	790.87	6.83	31.13	25.50	9.07	202.96	3.21	0.0
5813509	779.38	23.74	19.13	132.82	235.84	5.45	2.89	71.90	1.06	147.43	606.07	3.11	6.59	7.66	2.72	99.01	0.02	0.0
5855436	947.57	37.08	34.80	125.56	687.15	5.71	4.69	79.43	0.87	189.89	565.06	4.43	15.14	12.95	3.88	135.69	3.00	0.0
5705079	2097.74	77.41	82.01	269.91	1018.01	12.83	10.61	67.24	1.73	198.14	1233.21	8.86	32.62	32.39	9.89	219.64	4.14	0.0
5493294	2553.57	82.00	97.93	353.64	1403.41	11.95	10.64	261.16	2.55	408.48	1910.10	11.36	38.72	37.17	14.62	316.34	2.36	0.0
5675272	951.61	35.26	23.62	154.96	1028.01	4.44	4.60	36.92	1.22	89.41	865.84	2.32	11.88	7.46	2.21	77.29	0.00	0.0
5559103	2046.06	58.67	83.82	274.17	991.37	11.36	7.41	142.03	1.62	299.96	1274.68	7.44	40.49	29.06	8.20	220.98	3.17	0.0
5607217	1444.59	52.88	55.10	193.17	776.04	8.16	6.45	80.69	1.80	245.51	1863.05	5.14	25.75	18.79	6.23	238.42	3.58	0.0
5865386	696.90	16.42	10.77	139.20	326.10	4.25	1.94	140.52	1.10	208.59	443.48	2.01	4.29	3.62	1.67	34.58	0.45	0.0
5617448	1082.89	38.63	26.79	175.93	1068.46	6.07	5.07	43.32	0.83	109.23	842.90	3.44	12.60	8.99	3.02	125.72	3.07	0.0
5390687	2226.69	78.44	93.44	278.29	1304.03	11.24	10.34	153.36	1.48	244.73	870.01	9.96	41.97	32.93	11.18	261.31	151.01	0.0

046548	1419.52	53.25	58.51	175.71	795.43	7.43	6.64	129.80	1.01	236.37	621.64	7.66	23.94	22.84	7.41	194.17	3.29	0.0
046572	1434.81	53.34	58.49	179.87	797.71	7.50	6.64	127.47	1.01	234.59	613.45	7.60	23.94	22.84	7.40	194.17	3.29	0.0
853878	1793.25	63.64	60.14	262.731223.15		8.69	8.20	140.21	2.57	202.38	1354.54	5.70	27.33	21.33	6.80	185.95	2.30	0.0
772002	723.13	31.69	30.76	82.30	997.85	2.33	3.80	18.00	0.60	89.31	541.70	1.79	17.67	9.40	2.01	110.45	0.11	0.0
526508	1696.08	69.75	69.91	203.351810.81		7.77	7.92	37.95	1.47	201.00	929.92	4.96	35.94	22.77	6.57	274.02	0.06	0.0
123577	1546.45	68.05	59.64	189.761019.94		10.44	7.62	54.36	1.91	280.78	1122.55	5.55	25.39	22.32	7.04	246.07	10.99	0.0
123569	1546.45	68.05	59.64	189.761019.94		10.44	7.62	54.36	1.91	280.78	1122.55	5.55	25.39	22.32	7.04	246.07	10.99	0.0
730521	1652.59	61.20	63.83	217.27	930.88	9.71	7.82	100.66	1.48	263.99	1125.17	5.91	25.25	25.42	8.16	211.85	3.43	0.0
436097	976.54	32.71	41.97	122.87	708.70	4.45	3.92	130.56	0.86	114.95	361.75	4.45	18.93	14.80	4.91	110.38	1.33	0.0
690353	1619.74	65.69	60.30	210.551303.47		8.29	7.41	60.22	1.58	207.30	1068.77	6.92	27.09	20.61	8.25	226.25	0.56	0.0
521613	1687.37	68.82	65.78	208.891418.34		9.16	7.70	76.13	1.58	246.22	1720.09	6.07	29.57	23.33	7.81	385.92	0.00	0.0
694419	2008.25	89.89	93.53	208.641066.23		9.57	9.65	154.85	1.88	256.08	1487.21	9.88	38.67	35.30	12.67	319.30	2.48	0.0
106276	727.35	41.57	27.20	79.68	206.71	4.60	4.36	53.73	0.94	113.42	642.59	3.65	9.18	10.97	4.60	116.05	20.56	0.0
876391	2136.44	91.32	72.75	288.191895.31		12.01	10.24	108.56	2.29	343.72	1387.45	8.69	30.14	25.88	10.24	536.03	3.11	0.0
048478	730.23	20.46	25.73	108.33	392.59	4.44	2.47	131.13	1.16	283.73	492.07	2.35	11.60	9.71	2.75	70.24	4.09	0.0
994135	1168.04	38.49	35.68	177.151070.43		6.35	4.48	37.86	0.99	109.02	540.70	1.63	18.63	11.30	2.81	173.37	0.16	0.0
964766	1385.51	55.58	60.47	157.601258.59		5.99	6.58	85.22	1.22	196.88	693.63	4.38	28.52	21.48	6.53	228.57	2.32	0.0
175239	2056.14	80.43	77.52	268.291463.69		11.96	9.61	123.85	2.22	319.12	1579.24	8.79	32.69	28.54	10.28	260.54	0.18	0.0
915149	2380.32	78.46	75.03	370.681916.66		9.48	10.82	325.55	2.58	478.47	1791.81	10.96	32.94	26.79	9.52	223.63	6.65	0.0
358933	1884.51	71.78	52.53	291.721936.60		8.35	9.21	254.41	2.34	509.68	1668.97	5.57	25.28	17.30	6.27	177.81	20.48	0.0
092194	2485.98124.47		79.10	327.561697.37		16.17	13.61	168.85	3.09	475.71	1325.33	8.63	35.71	26.66	9.97	329.40	0.00	0.0
064935	1732.79	55.36	69.67	230.481108.04		7.34	6.89	91.83	1.26	168.47	513.77	8.95	27.42	26.38	10.58	223.49	11.16	0.0
347242	1511.94	59.05	79.72	143.441552.23		4.67	6.85	16.12	0.78	112.08	536.10	4.61	39.53	27.69	7.58	397.47	13.27	0.0
993062	1468.97	51.24	59.97	186.86	961.85	8.13	6.46	50.85	1.36	203.00	894.70	5.40	25.33	22.11	7.67	214.73	0.45	0.0
203999	2352.00	98.38	80.15	319.761590.73		14.27	11.65	86.90	2.14	297.34	1388.89	7.63	35.66	28.54	9.41	287.95	2.28	0.0
304390	878.32	29.55	24.67	140.80	297.64	5.58	3.81	76.60	1.04	140.52	1084.51	4.78	8.97	9.04	4.41	102.18	0.06	0.0
752998	1548.29	65.01	54.19	204.481341.65		8.17	7.44	49.36	1.44	191.44	925.29	4.56	23.05	20.03	6.54	161.31	9.67	0.0
316669	1585.71	70.09	62.56	191.441673.42		7.88	8.55	96.83	1.59	274.25	1556.67	5.37	31.94	20.78	5.64	240.01	0.76	0.0
329745	1686.38	77.00	69.49	196.181285.53		9.59	10.41	76.18	1.61	239.11	1571.97	7.29	31.09	25.12	7.95	228.99	1.16	0.0
861004	1455.81	60.01	67.54	158.89	848.19	8.64	7.63	92.76	1.22	245.84	1347.81	7.74	26.03	26.67	9.49	320.66	0.06	0.0
299120	2050.29	78.68	83.45	255.851338.94		11.44	9.62	83.64	1.74	235.30	1116.16	8.67	36.93	29.39	10.45	417.39	0.58	0.0
417920	1440.73	49.37	38.93	224.41	693.21	10.72	6.09	39.01	0.92	117.14	600.80	4.10	15.45	14.34	5.63	101.25	1.17	0.0
912394	2230.41	98.37	88.48	268.621221.05		12.43	11.67	166.94	1.92	322.97	1723.62	10.77	36.71	32.51	12.25	340.52	2.53	0.0
249597	1829.21	73.15	60.26	256.891498.33		9.53	8.32	55.50	1.63	217.14	1193.85	6.14	29.45	19.71	6.46	272.84	0.90	0.0
981981	1948.35	71.62	64.80	279.191501.72		8.50	8.10	162.89	2.01	301.06	849.28	6.52	28.54	23.89	7.44	267.95	1.16	0.0
047066	1137.58	48.76	49.86	125.75	790.23	6.04	6.17	112.55	0.88	202.81	523.60	5.41	20.94	18.98	6.09	182.24	0.00	0.0
339182	1813.26	80.56	59.91	244.891717.28		9.72	10.21	135.80	1.80	319.91	1364.83	5.84	25.97	20.66	8.13	231.42	21.54	0.0
146967	1080.76	41.62	48.03	123.86	490.55	6.90	5.31	74.60	1.01	212.80	549.36	6.28	16.66	20.84	7.81	129.07	0.75	0.0
419497	2331.27	94.10126.64		209.91	800.50	12.16	11.76	170.56	1.72	212.62	809.26	12.77	45.46	54.52	17.46	334.45	0.80	0.0

46308145	1240.66	55.27	38.48	174.54	847.89	6.06	6.52	45.57	1.56	123.57	1013.25	4.39	17.19	13.81	4.47	155.57	2.48	0.0
0																		
46238988	2311.20	89.45	116.75	231.30	1884.47	9.58	11.89	54.59	1.36	226.98	837.13	7.58	55.91	43.02	9.75	357.76	8.19	0.0
0																		
46414348	1656.82	64.30	68.13	200.02	942.86	10.93	8.29	47.25	1.37	185.50	858.22	5.61	28.11	27.39	7.22	234.94	1.72	0.0
0																		
46001004	873.66	39.31	33.23	107.05	582.71	4.87	5.59	78.63	0.88	134.91	523.24	3.11	15.14	12.27	2.95	126.92	0.22	0.0
0																		
46554475	813.70	23.61	19.14	143.50	281.61	5.17	3.03	21.54	1.06	59.04	512.80	2.99	7.93	6.42	3.02	72.79	1.14	0.0
0																		
46483509	1847.11	76.99	60.04	255.01	1097.03	12.26	10.39	60.43	1.18	165.02	714.88	6.77	25.64	21.34	8.63	165.54	5.29	0.0
0																		
46408557	611.24	32.16	22.84	70.93	982.93	1.71	3.80	16.82	0.60	64.52	522.33	1.77	11.78	7.45	1.99	71.32	3.32	0.0
0																		
46536340	1785.58	76.32	61.74	237.89	756.27	13.35	8.93	62.31	2.03	300.08	1136.80	8.74	22.40	24.28	9.64	299.96	0.93	0.0
0																		
46413069	1570.03	62.47	73.06	172.78	1204.80	7.15	8.06	75.42	1.27	180.87	958.44	6.41	33.79	26.29	7.90	218.80	2.88	0.0
0																		
46383436	1383.41	58.44	52.22	174.31	1329.77	7.15	6.86	103.10	1.38	260.68	772.21	4.04	26.67	17.55	4.47	226.85	0.18	0.0
0																		
46575893	1355.54	48.38	54.26	175.40	1133.19	5.46	6.32	83.47	1.50	184.11	1783.29	3.64	26.37	18.63	5.42	271.39	2.74	0.0
0																		
46446044	1265.70	44.09	41.33	184.67	1198.73	6.03	5.38	130.25	1.30	262.99	890.41	3.67	22.09	13.24	3.29	148.14	0.77	0.0
0																		
46746402	1514.80	62.84	61.34	183.83	1271.27	7.60	7.74	82.64	1.28	195.37	1080.38	5.71	28.00	21.82	6.81	377.47	2.29	0.0
0																		
46640315	2155.39	78.97	80.29	290.38	968.07	12.98	10.95	165.40	2.55	323.59	2315.77	9.28	32.66	30.14	10.68	473.32	2.87	0.0
0																		
46255255	1177.47	51.64	42.49	150.60	1415.19	4.97	6.29	34.95	0.89	101.14	884.40	3.00	24.36	12.61	2.98	171.22	0.76	0.0
0																		
46588127	1736.73	59.53	90.22	177.96	1264.02	8.37	6.87	42.80	1.12	139.63	1243.71	6.83	44.18	30.54	9.10	248.65	0.00	0.0
0																		
46608959	2715.08	103.16	120.77	307.98	2108.54	13.65	12.43	62.04	1.54	195.86	1683.53	8.96	60.82	39.43	12.45	368.05	4.52	0.0
0																		
46640555	731.55	33.93	16.54	116.68	861.69	4.39	3.86	86.25	1.68	266.23	796.58	1.75	7.77	5.59	1.88	100.69	0.54	0.0
0																		
46397669	738.59	27.83	31.13	90.31	582.06	3.46	3.72	18.87	0.56	59.65	292.47	3.07	14.02	11.27	3.67	95.60	0.46	0.0
0																		
46793859	2127.35	98.34	83.11	252.08	2184.18	11.07	12.14	144.61	1.91	346.77	1685.34	7.21	37.89	29.72	9.25	262.43	0.42	0.0
0																		
46715770	838.32	22.11	19.58	146.55	181.56	6.69	3.05	23.38	0.68	50.92	226.07	2.06	6.03	8.04	2.85	74.47	0.41	0.0
)																		
46605450	1402.28	45.19	51.95	196.04	789.32	7.68	6.37	66.75	1.06	133.34	559.23	4.39	21.69	19.94	5.93	186.04	2.27	0.0
)																		
46341236	1844.35	78.05	73.10	228.51	1761.55	7.37	9.75	161.64	2.17	353.01	1202.69	5.60	38.07	23.12	7.28	321.98	0.99	0.0
)																		
46645456	1142.15	44.50	42.07	152.90	1398.88	3.55	5.38	77.67	1.34	160.55	1340.16	2.22	24.32	12.41	2.86	162.46	0.19	0.0
)																		
46768430	765.48	37.77	30.62	88.06	974.33	2.89	4.35	20.56	0.84	97.60	695.90	1.89	17.26	9.26	2.18	152.31	0.00	0.0
)																		
46750312	1424.77	64.96	52.92	180.71	1339.13	8.05	8.20	81.92	1.90	226.26	1555.27	4.63	27.20	16.66	5.19	183.73	0.10	0.0
)																		
46754356	742.46	35.53	27.64	90.01	414.40	5.30	4.68	35.09	0.84	131.41	465.79	2.74	11.22	10.10	3.87	142.55	0.49	0.0
)																		
46809606	2023.69	89.61	88.17	224.07	1767.59	10.39	10.68	94.56	1.78	294.16	2277.88	8.30	39.29	32.71	10.48	324.04	11.44	0.0
46737021	2021.58	71.10	60.19	307.64	1398.85	9.51	8.85	172.29	1.91	279.41	1379.25	6.77	26.84	21.25	6.74	310.78	0.85	0.0
46757475	1822.51	70.67	82.84	205.03	1308.36	8.34	8.73	148.30	1.59	274.83	941.95	6.54	39.84	29.07	7.99	295.13	0.65	0.0
46772986	1173.54	42.50	47.24	150.42	466.13	6.57	5.05	54.39	1.31	137.57	555.94	4.61	20.57	16.85	5.92	157.27	0.30	0.0
45806058	906.07	42.07	43.45	88.71	1380.53	2.11	4.91	22.74	0.70	91.25	512.82	1.74	25.18	13.51	2.48	187.97	3.56	0.0
47008520	1641.94	42.51	43.38	278.91	447.82	12.36	5.55	59.84	1.13	153.56	1031.18	6.43	13.03	18.81	6.97	111.43	8.62	0.0
45746535	1896.98	76.25	69.73	250.73	1638.36	8.52	9.27	155.94	2.04	321.55	1408.60	5.96	33.20	24.76	6.43	441.88	8.84	0.0
45949444	1189.99	50.87	56.38	122.73	1034.70	4.72	6.55	69.44	0.87	142.40	684.29	3.93	28.67	19.28	4.50	238.50	1.35	0.0
46308179	1612.24	56.38	55.99	227.32	1019.91	8.48	7.03	48.50	1.53	160.17	691.39	5.58	22.82	21.43	6.99	265.59	2.50	0.0
47394789	1424.66	61.25	42.56	208.28	1304.14	7.07	8.18	87.05	1.41	211.75	1704.06	5.12	18.09	16.42	5.11	122.40	3.14	0.0
46835610	1399.46	69.12	67.47	131.55	872.58	7.97	8.45	52.91	1.37	166.87	808.94	5.34	28.53	26.39	7.49	251.95	20.49	0.0
46737063	1819.66	61.80	67.28	252.66	1049.50	9.92	7.81	119.02	1.87	266.82	970.89	6.28	29.96	25.25	6.62	279.97	10.65	0.0

46663482	803.88	27.23	36.22	96.11	662.99	3.14	3.47	32.78	0.62	73.88	452.24	3.07	17.34	12.65	3.75	151.51	1.52	0.0
0																		
46776756	1268.49	42.67	57.65	151.01	449.28	6.68	5.46	125.76	0.91	229.93	892.87	8.87	24.05	22.14	6.78	321.71	0.80	0.0
0																		
46994887	1161.50	50.41	44.23	146.65	1125.87	5.45	6.21	49.98	1.18	126.44	1054.66	4.35	22.23	14.30	4.47	196.02	1.13	0.0
0																		
44377530	1926.60	84.02	103.83	168.20	1749.79	8.38	10.33	94.31	1.53	255.37	1356.68	6.14	54.25	34.86	7.88	441.25	0.46	0.0
0																		
44606062	843.28	32.83	39.63	89.87	220.98	4.77	3.97	26.13	0.61	75.66	315.24	4.02	13.42	16.92	5.97	267.85	23.55	0.0
0																		
44434968	614.58	21.06	21.55	86.30	556.82	2.99	2.88	11.14	0.30	39.34	215.17	1.23	11.24	6.92	1.98	67.64	3.63	0.0
0																		
44950716	1153.24	49.24	51.62	127.24	335.34	6.32	6.19	34.71	1.21	80.83	652.84	6.19	19.18	21.79	6.23	271.18	1.35	0.0
0																		
47617785	950.20	42.85	41.44	105.27	1379.84	2.05	4.97	69.84	1.13	147.79	420.74	1.59	24.47	12.51	2.18	165.12	0.28	0.0
0																		
44261379	2062.24	85.78	90.94	231.37	1216.86	10.52	10.42	169.21	1.83	282.18	1010.03	8.19	37.51	35.08	11.24	429.62	3.52	0.0
0																		
43771006	1352.39	54.09	65.10	142.07	726.00	6.65	7.45	65.82	1.09	172.91	609.10	6.08	28.57	24.18	7.28	229.24	80.54	0.0
0																		
46813491	868.43	28.92	26.59	134.20	546.27	4.02	4.10	70.34	0.80	130.42	651.73	3.44	11.05	9.64	3.98	58.23	1.13	0.0
0																		
43791509	1464.14	42.44	65.84	185.36	414.26	6.99	5.15	128.56	1.31	227.00	461.41	7.52	26.16	26.25	8.35	180.79	145.20	0.0
0																		
45086081	954.26	33.56	33.38	134.81	746.89	5.99	4.05	35.26	1.01	157.60	739.84	3.92	15.21	11.38	4.40	139.32	0.68	0.0
0																		
44448175	1117.30	44.46	46.36	135.22	806.29	4.31	5.73	130.11	0.85	184.66	514.75	4.23	21.14	16.57	4.95	142.01	11.50	0.0
0																		
45255222	573.85	22.62	21.62	75.56	559.39	2.63	2.83	42.94	0.64	78.60	517.20	1.98	8.78	8.63	2.60	95.97	0.11	0.0
0																		
45241932	632.37	30.27	25.85	71.32	276.10	3.38	3.50	108.16	0.66	166.32	221.51	3.19	9.66	10.16	3.80	88.90	0.34	0.0
0																		
45275410	1899.84	83.72	79.97	213.96	1366.59	9.87	9.30	143.34	1.72	343.99	1529.96	7.24	34.31	30.02	9.66	451.17	0.62	0.0
0																		
45019032	2420.81	76.66	101.89	309.94	1303.95	12.93	9.37	162.30	1.56	296.52	907.47	9.28	41.66	40.02	12.63	266.69	7.89	0.0
0																		
45286491	1019.86	31.31	15.68	199.43	757.68	4.93	4.45	162.96	0.82	237.91	1399.50	6.02	5.92	5.72	2.25	27.05	0.00	0.0
0																		
43930735	2153.66	79.75	83.06	282.08	950.42	11.93	11.42	191.12	2.53	322.75	880.42	9.93	31.48	33.28	10.86	283.69	2.34	0.0
0																		
45316454	1469.57	59.74	66.59	162.13	1219.55	6.46	7.09	48.87	1.30	166.71	535.70	6.47	29.04	24.46	8.89	181.66	11.86	0.0
0																		
46034526	569.68	24.14	22.21	71.12	539.48	2.22	3.12	63.08	0.48	105.03	253.57	2.07	11.13	7.53	1.87	124.79	1.26	0.0
0																		
44752865	1446.00	59.24	58.28	177.05	1659.40	5.93	7.65	68.27	1.14	154.45	1072.54	4.24	32.30	18.15	4.33	205.83	0.52	0.0
)																		
45003746	979.53	31.53	45.13	113.68	459.40	6.28	4.38	28.55	0.53	69.55	347.14	3.33	18.29	18.52	5.04	87.33	4.09	0.0
)																		
44814045	2467.68	108.23	95.24	306.67	1311.33	16.51	15.16	281.21	2.15	410.91	2466.97	10.79	36.38	40.07	11.41	241.41	1.82	0.0
)																		
44703967	613.23	25.76	24.53	75.42	259.78	4.29	3.06	33.75	0.56	101.21	561.11	3.69	9.42	9.52	3.60	85.73	3.14	0.0
)																		
44660183	1638.50	73.90	57.07	213.41	1367.04	9.06	8.09	142.78	1.67	339.01	1003.49	6.14	26.21	18.96	7.55	368.63	0.92	0.0
)																		
44206664	1672.69	76.68	81.24	163.68	1179.19	7.04	9.02	50.15	1.39	141.34	599.30	7.72	34.87	30.38	10.22	299.23	1.43	0.0
)																		
44861004	1715.00	61.33	58.81	241.15	1072.07	9.77	7.47	39.90	1.41	233.87	839.17	5.71	25.90	20.96	7.40	347.37	72.51	0.0
)																		
44930932	1131.68	50.93	49.67	122.66	1051.50	6.13	5.88	17.25	0.73	100.98	496.40	3.13	22.33	18.01	5.16	157.81	3.86	0.0
)																		
44872085	2051.22	84.61	70.43	282.41	1228.46	13.37	11.39	84.59	2.47	340.90	1654.39	12.20	29.92	25.91	8.52	339.07	0.80	0.0
)																		
43784108	2109.20	78.14	75.84	289.75	1530.15	10.32	9.00	187.97	3.03	439.55	1264.14	6.50	38.86	25.06	6.53	279.40	0.45	0.0
)																		
44923028	1329.64	46.02	48.68	183.81	838.34	6.80	5.70	130.40	1.32	252.64	577.96	5.12	20.96	17.63	5.61	316.72	2.23	0.0
)																		
45049162	1729.50	64.15	72.93	208.60	935.36	9.75	7.66	49.53	1.16	155.77	604.86	6.58	30.56	27.93	8.42	237.39	20.25	0.0
)																		
45118298	2439.42	96.17	93.45	315.36	1738.94	10.83	10.98	167.78	2.77	347.58	1330.01	9.90	40.84	34.75	10.80	472.39	3.27	0.0
)																		
44622696	1411.42	59.04	61.91	160.40	1165.66	5.92	7.43	79.02	1.19	142.69	896.00	5.07	29.16	22.46	5.93	246.31	0.34	0.0
)																		
45032357	1104.91	55.41	43.27	126.44	719.03	6.43	6.77	95.20	1.12	188.84	666.43	5.11	18.19	16.03	5.45	203.06	0.42	0.0
)																		
44928317	1400.32	52.22	42.47	206.60	893.85	9.80	7.45	53.31	1.22	189.70	965.42	3.87	17.27	16.62	4.66	145.18	4.17	0.0
)																		
45168194	1152.11	58.88	54.17	110.01	1169.05	4.28	7.41	73.80	1.04	134.12	1209.17	3.49	27.31	18.72	4.37	205.04	0.19	0.0

47241592	1979.84	105.91	85.55	202.73	1803.35	9.71	13.41	49.35	2.19	213.98	1532.64	5.46	41.69	30.01	8.03	361.09	4.45	0.0
0																		
45255222	502.98	17.26	20.04	64.26	484.37	1.41	2.05	40.95	0.55	78.79	479.68	2.69	6.76	7.69	3.44	28.30	0.00	0.0
0																		
45229657	564.80	24.99	18.52	77.26	588.09	3.20	3.44	43.87	0.55	88.75	1207.30	3.39	8.98	6.65	1.57	60.75	0.00	0.0
0																		
45313690	558.18	26.67	26.35	55.31	937.52	0.61	3.08	79.22	0.46	105.71	262.34	0.92	16.40	7.61	1.00	105.14	0.00	0.0
0																		
45313690	1233.86	51.92	51.00	144.07	1123.15	5.85	5.87	75.77	1.00	184.28	654.34	3.93	23.96	17.69	5.58	272.46	0.68	0.0
0																		
45700160	1035.69	35.53	41.02	134.49	698.20	4.98	4.63	33.40	0.82	91.86	341.43	2.84	18.29	15.35	4.40	164.96	0.62	0.0
0																		
45189489	1510.07	69.84	63.57	167.73	1305.82	7.07	8.03	62.93	1.27	170.13	673.19	5.10	29.89	22.36	6.63	270.93	1.21	0.0
0																		
45339745	1950.89	68.04	84.56	239.04	1063.54	10.04	8.74	129.09	1.65	257.05	1674.61	8.54	36.23	31.61	10.10	377.35	2.63	0.0
0																		
45298579	648.30	27.09	19.57	93.82	533.60	2.85	2.97	119.64	0.68	163.84	447.22	2.49	9.72	6.29	2.04	74.69	0.00	0.0
0																		
43831230	914.93	36.02	34.83	118.18	614.02	4.24	4.60	135.80	0.88	195.73	499.70	3.30	16.02	12.40	3.53	164.69	0.11	0.0
0																		
44238352	643.78	13.93	10.71	128.09	281.03	4.14	1.82	117.38	0.81	195.96	542.29	1.77	4.74	3.75	1.31	23.41	0.56	0.0
0																		
45187011	2014.73	74.11	92.49	228.23	1303.86	9.98	9.66	42.61	1.41	153.62	1019.55	8.08	42.70	33.10	9.80	298.69	6.86	0.0
0																		
45479541	1536.08	43.19	51.26	235.96	550.85	7.35	5.27	51.94	1.44	87.04	511.27	8.44	18.74	20.28	8.03	115.72	1.74	0.0
0																		
45413127	2190.52	85.96	82.80	286.45	1295.23	13.43	12.35	109.96	2.69	303.70	1519.68	8.77	37.10	29.78	9.05	292.81	0.18	0.0
0																		
45317634	1969.83	71.53	84.14	240.14	1443.98	8.84	8.58	121.17	1.57	239.66	1001.99	6.42	40.95	29.45	7.89	285.20	2.84	0.0
0																		
45954387	1194.12	76.91	46.79	116.63	992.33	5.12	7.14	22.11	1.53	80.15	876.13	5.28	20.79	16.19	6.35	242.84	0.11	0.0
0																		
45552214	695.72	27.82	25.41	91.26	926.73	0.96	3.08	198.85	0.52	253.08	270.28	1.56	15.59	7.46	1.03	101.64	2.98	0.0
0																		
45645811	1085.45	33.66	37.78	156.45	664.60	6.23	4.13	27.49	0.75	98.84	1098.19	3.53	16.57	14.53	4.01	153.51	5.29	0.0
0																		
45572543	1319.04	45.88	42.25	199.76	913.87	6.58	5.76	185.44	1.83	314.47	1103.75	6.57	20.41	13.99	4.48	133.46	1.19	0.0
0																		
46765311	1693.74	66.80	65.53	213.90	1030.85	10.01	8.10	40.00	1.76	189.71	680.17	5.72	27.25	23.97	8.92	236.70	13.71	0.0
0																		
45736933	707.91	33.23	32.49	72.77	974.97	1.85	4.00	29.35	0.56	74.09	343.53	1.40	18.43	10.10	2.08	130.86	3.39	0.0
0																		
45619212	915.57	29.93	35.85	124.21	702.97	3.72	3.87	33.29	0.65	104.14	513.45	3.72	17.58	12.04	3.82	139.42	2.43	0.0
0																		
45461530	1599.34	50.49	50.69	244.50	879.11	9.08	7.00	65.44	1.46	169.77	1560.21	5.64	21.25	19.02	6.20	312.91	0.02	0.0
0																		
45549451	589.60	25.40	20.60	76.58	520.51	2.98	2.79	14.99	0.50	50.11	234.06	1.52	10.36	6.62	2.02	132.32	0.00	0.0
0																		
45655860	1161.69	61.38	52.21	114.47	1159.28	5.74	7.56	50.47	0.96	126.66	1657.27	5.95	20.68	20.09	7.66	214.02	1.51	0.0
0																		
45313921	1623.35	53.62	51.95	245.40	1554.46	6.56	6.84	44.01	1.24	129.14	786.26	6.22	27.49	16.33	4.59	189.35	0.68	0.0
0																		
45917913	720.18	15.20	17.80	127.65	127.53	4.99	1.82	72.41	0.57	101.37	291.72	4.00	4.42	7.59	3.94	146.15	0.68	0.0
0																		
48405882	1320.61	71.76	55.49	137.95	1116.38	5.70	8.12	67.84	1.54	147.60	572.24	5.14	25.60	19.41	6.18	275.48	1.41	0.0
0																		
45943900	1227.43	49.46	51.71	145.22	1103.43	5.46	6.18	49.59	0.97	130.76	755.98	3.85	24.71	18.31	4.94	183.02	2.59	0.0
0																		
45994052	620.93	12.38	10.18	126.57	327.79	4.69	1.55	33.85	1.03	169.12	480.72	3.62	5.50	3.03	0.96	33.40	0.00	0.0
0																		
45936830	1098.07	34.39	37.92	159.63	788.02	5.63	4.46	48.40	0.70	93.05	666.59	2.88	17.25	14.13	3.64	148.56	1.81	0.0
0																		
45999200	725.32	28.05	26.59	95.75	665.18	4.54	3.36	23.65	0.75	128.08	400.97	1.69	13.39	9.06	2.33	104.62	1.15	0.0
0																		
46162632	1335.65	52.29	57.66	155.35	1186.32	5.96	6.59	37.59	0.87	100.16	685.08	4.42	27.32	20.53	5.55	299.54	1.18	0.0
0																		
46441408	1322.23	56.58	50.32	163.19	1087.91	8.26	7.48	18.62	0.93	120.97	690.95	3.49	22.87	17.63	5.35	286.35	0.68	0.0
0																		
45999135	1559.59	67.41	81.29	142.34	1160.06	6.68	7.82	61.18	1.28	159.14	801.97	7.71	32.88	30.98	11.34	384.80	1.00	0.0
0																		
46063294	658.78	36.85	23.40	77.02	1003.92	2.33	4.48	31.34	0.63	80.76	668.20	1.63	12.14	7.78	1.85	104.83	0.22	0.0
0																		
48846515	980.28	31.46	37.82	132.75	652.86	5.84	3.44	111.12	0.74	210.66	351.41	2.72	16.05	15.03	3.21	81.95	4.84	0.0
0																		
45653864	732.82	28.09	23.69	105.60	707.98	4.33	3.40	39.17	0.83	152.76	804.76	2.43	10.55	8.62	2.80	100.73	2.42	0.0
0																		
45238821	2048.57	62.57	83.59	268.63	806.71	12.29	7.34	58.79	1.76	245.70	920.86	9.83	31.34	31.22	13.47	322.77	5.14	0.0

46245602	1054.18	60.09	41.85	110.89	1489.65	3.93	6.61	20.59	0.96	112.28	768.25	2.37	19.58	14.64	4.52	165.84	0.68	0.0
0																		
46413712	1022.14	35.85	42.72	128.47	308.23	5.89	4.54	132.29	0.95	195.29	399.57	5.17	15.58	18.33	5.30	93.98	3.08	0.0
0																		
46404399	1393.62	57.79	63.66	151.73	1107.02	5.89	6.76	130.56	1.06	223.92	644.65	4.84	28.85	24.11	6.09	230.28	4.92	0.0
0																		
46287547	1366.83	83.26	49.48	149.17	746.35	7.84	7.80	83.18	1.76	197.60	818.88	6.53	20.51	17.87	6.73	301.98	2.91	0.0
0																		
46429214	1164.08	53.97	55.10	116.08	1227.93	4.65	6.61	36.83	1.04	114.84	779.37	3.49	28.09	18.80	4.53	234.06	1.33	0.0
0																		
46427200	1386.66	51.26	44.17	202.52	1162.49	6.51	6.03	143.13	1.51	274.30	1173.84	3.62	22.81	14.60	3.73	161.66	0.36	0.0
0																		
46679166	1140.68	39.00	27.95	188.66	1090.73	6.33	4.98	31.54	0.77	99.22	1572.61	4.57	12.64	10.04	2.97	69.28	0.41	0.0
0																		
46493201	823.21	25.54	18.43	146.35	263.43	7.82	2.96	125.52	0.75	251.90	951.20	4.28	4.42	8.12	3.52	55.68	2.42	0.0
0																		
46595859	1544.72	72.86	58.17	187.35	1626.73	7.66	8.04	86.48	1.55	250.77	1028.03	4.36	29.70	19.06	5.35	221.27	1.14	0.0
0																		
46184917	929.57	31.09	31.29	135.83	738.36	4.38	3.64	31.44	0.74	101.28	448.78	3.22	12.49	12.30	3.93	108.30	5.90	0.0
0																		
49594121	1973.32	73.28	62.18	287.91	1078.54	11.74	9.35	47.63	1.40	141.99	1501.86	8.47	24.35	23.91	8.77	217.41	6.82	0.0
0																		
46705177	737.72	20.02	16.48	132.26	266.49	4.98	2.74	31.31	0.65	76.69	441.29	2.69	5.78	6.15	2.77	84.94	0.56	0.0
0																		
46705060	737.40	20.03	16.45	132.21	267.16	4.98	2.74	31.15	0.65	78.10	441.28	2.69	5.78	6.15	2.76	84.87	0.56	0.0
0																		
46271904	1248.22	58.83	63.46	111.71	1556.40	4.33	7.21	22.46	0.85	119.36	803.53	3.15	33.82	21.03	4.88	233.43	0.30	0.0
0																		
46777902	1707.99	57.80	43.86	280.19	1355.33	10.66	7.09	145.48	2.00	381.42	1028.16	4.67	21.53	14.15	4.96	149.76	0.22	0.0
0																		
45382348	707.55	38.95	24.76	83.22	675.15	3.81	5.19	13.41	0.59	65.39	338.15	2.24	9.84	9.63	3.07	86.53	27.58	0.0
0																		
45277531	590.09	18.51	19.74	88.73	185.66	3.13	2.19	47.05	0.57	81.58	589.88	3.65	7.05	7.73	3.17	50.83	1.02	0.0
0																		
45426716	873.83	27.82	32.08	123.39	670.41	3.48	3.20	113.54	0.74	192.47	493.00	3.92	14.38	11.59	3.96	81.71	1.96	0.0
0																		
45395804	1972.68	70.13	74.13	262.99	1319.35	13.56	8.11	36.12	1.46	221.33	993.49	6.99	28.43	28.20	10.41	270.30	71.94	0.0
0																		
47265667	2141.96	105.97	88.93	235.23	900.63	12.90	12.63	160.13	2.01	347.50	1685.58	11.64	31.31	34.89	14.59	445.02	5.92	0.0
0																		
45553642	570.65	24.80	20.65	73.21	264.15	3.72	2.97	29.17	0.52	78.32	306.55	2.38	7.62	8.34	2.74	56.54	1.96	0.0
0																		
45331402	1547.78	66.47	76.70	149.59	1192.19	7.03	7.37	65.26	1.08	180.95	681.99	7.11	31.28	29.92	9.75	556.51	2.61	0.0
0																		
44271667	1610.41	72.10	69.01	179.50	1292.44	7.98	8.65	50.17	1.69	198.02	823.81	5.17	31.57	24.68	7.83	274.57	0.97	0.0
0																		
45794585	891.43	30.10	27.91	134.89	241.63	6.03	3.70	21.46	0.61	79.66	710.59	5.41	8.78	11.45	4.86	182.99	141.83	0.0
0																		
45746388	732.86	20.17	24.13	112.05	212.53	4.91	2.59	71.49	0.52	113.58	362.28	3.71	6.84	10.47	4.70	61.02	1.76	0.0
0																		
45791953	1364.97	66.15	58.42	147.58	1246.26	6.30	8.08	56.78	1.31	177.67	901.94	5.57	24.09	22.06	7.95	207.70	2.00	0.0
0																		
45803261	1914.90	71.61	82.05	230.99	920.98	10.37	8.63	105.52	1.32	223.02	545.93	10.05	30.86	32.60	12.43	222.35	3.25	0.0
0																		
45805291	1361.01	57.31	51.98	172.02	685.77	7.99	6.95	67.03	1.39	160.46	804.15	6.25	20.68	19.80	6.97	275.43	1.57	0.0
0																		
44412625	1192.87	43.29	42.39	163.94	808.68	7.35	4.99	124.77	1.05	262.48	744.81	4.03	17.68	14.56	6.74	138.54	0.16	0.0
0																		
45586213	911.49	35.51	39.24	106.58	724.89	4.08	4.46	22.13	0.69	77.19	369.00	2.92	18.71	13.84	4.00	164.13	3.96	0.0
0																		
45768853	1147.68	49.87	42.39	144.88	1039.32	5.34	6.50	72.10	1.01	140.47	751.92	3.88	20.88	14.33	4.04	177.17	0.92	0.0
0																		
46039097	1397.73	54.86	45.35	197.89	1224.56	8.50	7.36	51.94	1.19	143.80	1561.99	3.43	20.06	17.09	4.66	236.15	0.22	0.0
0																		
45833408	1268.35	45.98	48.59	168.21	734.53	7.04	5.98	47.81	1.17	138.93	674.36	3.95	20.32	18.73	5.90	163.31	3.67	0.0
0																		
45969378	1132.71	44.45	44.64	142.27	1069.08	4.70	5.55	28.26	0.94	96.27	592.25	2.78	22.30	15.18	3.86	200.50	0.74	0.0
0																		
45936806	1677.94	68.29	65.17	207.59	1173.65	8.95	8.03	41.30	1.15	140.69	467.29	6.37	28.00	24.11	8.30	225.79	3.37	0.0
0																		
44607375	1901.78	73.14	72.64	249.76	1754.89	9.05	9.42	69.25	1.69	219.25	1098.28	3.97	37.19	23.81	6.92	276.94	3.02	0.0
0																		
45848077	1367.40	50.49	41.20	209.84	384.09	9.07	6.68	148.99	1.70	283.22	1084.68	6.90	13.53	16.59	7.11	148.31	4.52	0.0
0																		
46042967	1947.08	83.86	69.68	251.58	1920.44	10.17	9.95	46.99	1.51	228.64	1178.24	5.72	31.75	25.47	6.76	249.31	7.53	0.0
0																		
46303468	1127.15	46.88	44.26	139.21	1022.42	6.16	5.64	41.76	0.94	182.67	971.85	3.58	22.21	14.30	4.46	309.37	10.17	0.0
0																		

46043030	1170.85	61.73	31.15	164.22	1154.94	6.81	6.98	121.99	1.18	239.72	1364.44	4.47	14.04	10.31	4.11	123.09	0.00	0.0
0																		
46111879	1005.02	42.89	35.83	132.93	786.47	5.73	4.74	84.98	1.18	204.14	1097.73	4.48	15.76	12.20	5.20	164.47	0.56	0.0
0																		
47042065	1073.94	50.09	50.75	106.97	1474.58	3.31	6.14	21.82	0.86	100.95	644.66	2.72	27.84	16.17	3.52	226.01	1.44	0.0
0																		
45918169	1598.65	64.54	63.98	197.84	1732.54	5.98	7.50	69.80	1.34	188.98	929.86	5.21	34.79	20.11	4.61	404.20	1.14	0.0
0																		
45957349	1294.47	47.60	47.45	174.63	1201.48	6.55	5.97	40.39	1.27	169.16	662.11	2.97	24.51	15.88	3.78	181.44	4.22	0.0
0																		
46103123	541.84	20.23	17.90	75.18	274.19	3.78	2.38	14.79	0.31	71.48	479.51	3.17	5.87	7.13	3.30	164.40	9.90	0.0
0																		
47331179	1260.32	48.56	37.22	187.75	859.71	7.58	6.57	37.15	1.43	169.80	1012.89	4.45	15.37	13.19	5.42	162.12	0.86	0.0
0																		
46342614	1362.57	54.43	32.99	224.93	495.23	13.18	6.71	140.41	1.98	357.04	3699.74	12.14	7.95	12.36	9.20	75.74	0.06	0.0
0																		
46491958	1149.96	35.08	31.08	187.44	696.11	6.60	5.02	26.64	1.23	69.36	289.70	2.17	15.02	10.17	3.12	106.41	1.60	0.0
0																		
46441341	1728.30	76.85	68.93	203.97	1719.66	9.43	9.18	50.35	1.38	230.86	777.59	4.45	33.74	23.59	6.45	350.31	0.80	0.0
0																		
46408630	588.11	28.17	22.56	69.87	550.66	2.76	3.41	16.14	0.44	54.15	417.33	2.36	11.37	7.26	2.29	91.55	1.54	0.0
0																		
45455319	1721.83	74.66	69.09	205.14	1207.32	8.96	8.83	59.54	1.35	171.69	947.44	6.91	29.64	25.06	9.23	282.48	2.92	0.0
0																		
46049963	2230.77	84.85	67.02	331.82	1969.25	7.29	11.76	124.12	1.28	262.07	622.95	8.82	31.91	23.49	6.20	399.13	2.64	0.0
0																		
46392445	1019.54	32.38	31.69	159.52	688.39	5.87	4.29	52.27	1.19	136.88	1177.88	5.22	13.18	11.37	4.45	94.92	1.33	0.0
0																		
46334380	898.55	33.26	22.84	148.74	721.12	4.09	4.05	95.69	1.16	112.49	661.39	4.47	9.39	7.50	3.74	64.71	0.02	0.0
0																		
45957464	1380.64	36.52	39.98	224.39	786.74	8.87	4.16	21.16	0.81	87.85	469.09	3.70	14.24	16.00	5.54	107.63	26.09	0.0
0																		
45382348	1242.35	58.76	43.92	159.48	971.02	5.98	7.60	65.34	1.81	152.43	700.78	3.94	19.40	16.30	4.70	140.39	3.58	0.0
0																		
46275047	1720.66	94.59	54.83	221.48	935.76	11.20	11.99	150.97	2.19	247.51	1676.67	8.49	21.55	20.56	7.14	250.71	5.00	0.0
0																		
46721701	1568.31	78.61	56.78	189.83	1342.75	9.56	9.03	44.21	1.68	228.82	1082.86	5.43	26.37	18.95	7.39	257.03	0.02	0.0
0																		
46577451	2459.02	84.91	79.85	366.81	1020.11	15.93	10.77	162.68	2.13	383.89	975.20	11.64	31.39	30.43	11.13	267.36	2.91	0.0
0																		
46577807	1433.04	54.93	64.76	163.56	726.13	7.09	7.03	78.49	1.53	184.94	656.54	5.94	28.72	23.70	7.19	310.30	24.50	0.0
0																		
46680725	1636.94	67.98	71.93	180.62	1261.60	9.18	7.57	40.54	1.01	179.36	684.09	6.40	29.48	27.03	9.23	550.98	0.81	0.0
0																		
45198927	581.94	21.72	13.03	99.08	767.85	1.51	2.77	130.99	0.55	124.38	339.79	1.25	7.83	3.61	0.59	41.40	0.65	0.0
0																		
45198927	2049.63	74.73	83.67	259.46	1048.72	10.11	9.50	165.58	1.90	268.49	1077.17	9.71	32.07	32.65	12.50	331.34	50.66	0.0
0																		
47619351	1271.62	39.94	38.33	198.81	690.04	7.00	4.65	40.05	1.37	125.91	396.26	3.66	15.03	14.06	5.45	145.19	1.16	0.0
0																		
46383238	2133.79	99.99	71.66	278.92	1325.47	11.49	11.56	147.77	1.85	268.09	1104.31	9.81	27.89	26.84	10.81	276.80	1.74	0.0
0																		
46627462	1430.09	64.97	60.63	163.05	1553.10	6.34	8.26	65.45	1.44	166.97	1513.73	5.36	30.57	20.16	5.97	257.31	4.62	0.0
0																		
46595891	703.39	29.61	25.64	90.70	656.73	3.84	3.69	36.66	0.59	101.67	599.98	2.34	11.31	9.31	2.82	119.16	21.37	0.0
0																		
46292231	1606.02	61.46	70.58	187.63	1534.29	5.09	7.26	51.97	0.97	127.53	572.98	4.78	34.60	25.37	6.17	242.23	8.41	0.0
0																		
46716017	957.87	43.14	37.80	115.42	259.95	7.64	5.57	55.73	1.04	154.82	656.24	5.12	12.39	16.51	5.65	91.78	1.84	0.0
0																		
46756857	1580.36	60.85	53.95	225.78	1759.84	4.90	7.80	119.17	1.40	203.85	1376.12	4.10	30.41	15.99	3.71	193.56	0.16	0.0
0																		
46595875	1103.55	43.48	27.29	179.08	363.04	9.71	6.16	91.96	1.07	256.03	1440.74	5.19	7.79	11.00	6.11	90.95	2.00	0.0
0																		
46791639	899.18	33.59	36.01	114.24	682.89	4.08	4.27	32.78	0.75	98.65	336.04	2.91	16.70	13.05	3.52	108.62	1.74	0.0
0																		
46888444	1712.34	64.99	63.38	226.96	1334.70	8.90	8.07	50.88	1.26	145.00	814.22	4.95	27.33	24.70	6.33	206.63	3.11	0.0
0																		
44875112	1366.33	47.82	51.43	188.46	395.99	9.12	5.94	55.42	1.38	181.40	1210.43	8.89	17.23	19.97	9.54	274.96	1.80	0.0
0																		
44272136	1497.82	54.10	39.12	238.49	1103.58	9.85	6.37	61.61	1.99	268.47	1076.76	4.04	15.87	14.75	4.99	160.02	0.68	0.0
0																		
45149178	1190.64	43.07	39.04	172.92	797.32	7.73	5.13	134.89	1.11	285.58	870.60	4.24	17.14	14.49	4.36	104.95	2.44	0.0
0																		
45966200	1198.74	43.04	51.30	146.02	436.75	7.35	5.59	55.30	0.86	131.00	422.24	4.82	20.41	20.38	6.32	164.39	5.38	0.0
0																		
45843599	1826.80	74.35	80.22	207.49	1839.36	6.80	9.83	129.97	1.46	243.13	680.95	4.84	41.43	27.03	6.04	312.03	2.79	0.0

44310324	1133.82	52.43	41.75	142.56	747.14	7.42	6.93	107.56	1.09	159.74	842.77	4.97	17.43	15.30	5.62	192.55	0.93	0.0
0																		
45252004	2376.57	99.23	101.59	273.71	1530.09	12.21	12.46	70.43	2.15	262.12	1048.18	9.41	42.22	37.72	13.84	391.05	2.22	0.0
0																		
45140712	760.63	27.81	31.92	93.74	311.74	3.79	3.23	29.68	0.57	75.90	323.91	3.33	12.52	12.71	4.18	129.28	7.52	0.0
0																		
48102727	1386.88	52.89	48.29	188.72	772.77	7.67	6.19	118.20	0.96	211.81	490.43	5.17	19.79	17.94	6.56	193.15	1.14	0.0
0																		
44084680	1488.48	57.18	61.93	180.79	883.29	8.52	6.85	93.04	1.34	265.71	655.00	6.65	24.64	24.03	8.86	195.20	5.28	0.0
0																		
45460102	1987.65	69.64	81.26	258.18	1733.36	8.31	9.32	52.83	1.14	168.82	942.61	11.99	33.63	31.58	9.73	369.33	3.07	0.0
0																		
44907808	1666.52	69.68	73.88	185.50	1579.54	6.31	8.15	128.35	1.40	235.92	609.54	5.45	35.82	26.29	6.80	261.24	2.73	0.0
0																		
45604487	748.19	13.46	24.38	123.78	173.56	4.67	1.54	60.28	0.50	99.21	523.03	2.39	11.10	8.58	2.31	62.88	0.45	0.0
0																		
46898427	928.44	40.21	28.65	130.76	620.62	5.62	4.58	129.88	0.85	211.94	450.68	3.94	11.74	10.14	4.57	95.43	0.31	0.0
0																		
44163046	2058.94	59.81	79.30	291.38	1027.22	11.44	7.68	117.43	2.13	262.71	1451.90	10.80	31.75	30.35	11.11	190.04	3.13	0.0
0																		
44035261	1240.42	58.01	55.64	129.42	1169.43	5.62	7.24	38.58	0.94	153.27	573.63	3.79	26.94	19.74	5.12	232.82	1.12	0.0
0																		
44606385	587.38	18.31	16.33	94.35	559.61	3.08	2.43	35.19	0.47	70.97	444.01	0.85	9.25	4.86	1.19	57.75	0.06	0.0
0																		
44678946	1379.93	66.12	63.95	139.30	1683.34	4.49	8.09	58.07	1.09	141.25	819.96	3.62	34.48	20.32	5.06	278.57	0.46	0.0
0																		
44920751	564.94	12.72	16.54	93.93	138.52	4.19	1.38	65.73	0.34	95.12	258.54	2.95	4.48	7.35	2.96	6.98	2.44	0.0
0																		
44583088	2517.28	88.37	92.70	346.35	1904.75	14.91	12.54	149.90	2.23	277.10	2711.74	9.05	39.58	30.90	15.82	318.10	6.00	0.0
0																		
44885187	1693.44	64.38	73.39	200.96	929.60	9.67	7.26	130.19	1.73	326.52	1248.98	6.97	32.10	26.71	8.51	372.78	2.87	0.0
0																		
47518230	2033.38	94.12	98.89	198.02	1244.13	10.04	12.59	77.21	1.53	179.98	697.04	13.41	36.97	42.02	13.33	309.01	11.20	0.0
0																		
45188358	1531.97	66.65	60.05	186.13	1598.04	7.20	7.16	149.25	1.18	264.95	856.30	3.61	29.70	20.35	5.27	258.48	19.96	0.0
0																		
44649773	1892.06	49.81	74.23	268.10	1284.10	7.89	6.29	159.83	2.10	309.61	863.22	6.17	36.79	24.37	8.27	208.92	14.58	0.0
0																		
45295773	571.93	21.76	23.28	71.15	159.56	3.82	2.67	24.53	0.47	55.87	464.68	3.38	7.47	9.71	3.98	98.89	0.76	0.0
0																		
44630368	818.64	27.78	18.82	139.24	601.64	6.18	4.25	32.16	1.03	126.27	1703.04	2.01	9.47	5.70	2.14	107.81	0.00	0.0
0																		
45010494	916.45	28.84	33.84	129.04	757.84	3.95	3.34	81.50	0.93	187.32	492.45	3.29	15.99	11.83	3.57	139.03	0.79	0.0
0																		
45442671	1072.30	51.29	41.83	125.04	1175.61	5.06	6.61	41.32	0.84	134.72	737.75	3.50	18.66	15.19	4.75	171.48	1.24	0.0
0																		
45697432	964.81	38.64	33.50	131.30	1014.73	5.02	5.04	29.08	0.76	99.47	700.64	2.80	17.91	10.53	2.80	109.66	0.40	0.0
0																		
46681062	2261.65	79.97	108.03	255.36	1079.06	11.37	10.44	165.09	2.39	304.14	1037.37	11.27	45.85	41.51	12.69	287.58	4.19	0.0
0																		
45645697	2054.15	71.38	87.27	254.30	982.91	14.70	9.71	88.25	1.42	254.78	1178.62	5.59	30.51	33.59	15.67	350.38	60.45	0.0
0																		
45655977	1035.35	45.78	40.31	125.10	677.40	5.40	5.33	45.06	0.87	115.60	536.65	4.11	16.64	15.04	5.38	159.01	6.23	0.0
0																		
44412005	1202.94	33.80	69.17	117.71	748.06	4.81	3.93	74.95	0.87	196.95	690.53	5.86	32.58	24.60	7.77	163.56	0.71	0.0
0																		
46437720	2078.61	86.04	97.98	218.50	1115.69	10.07	10.27	289.82	1.60	346.35	952.35	9.51	38.61	39.39	12.69	428.97	10.99	0.0
0																		
45553957	1706.55	66.25	61.29	229.96	1573.28	9.25	8.51	51.19	1.66	204.16	1467.11	4.21	32.28	19.39	5.29	195.48	1.83	0.0
0																		
45830107	1641.82	59.65	58.25	227.32	1334.29	9.50	7.73	49.45	1.47	207.73	686.73	5.21	28.01	20.01	6.00	150.35	2.61	0.0
0																		
45757707	998.76	44.06	42.81	112.39	1040.46	4.13	5.09	32.34	0.93	105.01	496.96	2.77	21.47	14.18	4.35	173.52	0.58	0.0
0																		
48584321	1296.90	53.83	50.19	162.60	1176.70	5.75	6.45	130.63	1.15	246.63	806.19	5.05	23.80	17.49	5.53	180.72	4.15	0.0
0																		
45410347	1624.33	68.97	76.75	169.11	1632.44	6.08	8.82	141.37	1.30	244.22	922.20	5.11	38.50	27.54	5.86	288.42	0.95	0.0
0																		
45769075	1468.75	64.29	53.28	186.71	1228.10	8.02	8.17	61.95	1.47	179.29	853.84	3.74	26.26	18.34	4.72	198.58	0.45	0.0
0																		
45950898	985.23	29.04	26.03	164.74	494.72	6.58	3.98	34.08	1.01	142.95	650.30	2.62	11.70	8.86	3.26	82.55	3.39	0.0
0																		
45897884	903.23	40.94	34.04	111.99	780.66	3.76	5.12	120.84	0.89	185.43	603.54	3.26	16.84	11.36	3.28	148.72	0.56	0.0
48320246	2277.09	98.29	135.93	170.72	1309.83	11.40	13.19	58.38	1.90	257.30	2400.97	9.20	60.69	50.83	14.59	606.85	53.59	0.0
45751709	1243.44	53.09	51.57	144.73	1194.39	6.49	6.58	32.55	1.16	148.53	648.14	2.81	26.45	17.12	4.52	179.50	0.16	0.0

45999193	975.21	35.65	25.13	157.37	793.38	6.53	4.31	42.49	1.38	206.13	959.61	3.92	13.91	7.32	2.23	103.57	0.00	0.0
0																		
46215663	1342.42	44.55	46.60	193.63	1122.88	6.02	5.53	38.66	1.28	98.55	634.42	3.86	22.04	16.43	4.42	162.19	2.48	0.0
0																		
46063335	1734.66	59.46	78.15	205.13	1316.93	7.50	7.25	136.80	1.16	224.37	959.24	5.98	37.63	27.51	7.30	395.84	1.21	0.0
0																		
45994234	670.43	27.01	20.66	94.96	206.90	4.68	3.57	105.27	0.52	162.53	302.47	2.82	7.09	8.53	3.06	67.86	0.10	0.0
0																		
46148210	1025.49	52.91	51.61	89.24	1009.92	3.43	6.07	30.48	0.88	98.94	633.79	3.56	25.35	17.52	5.18	225.61	0.93	0.0
0																		
46194057	2072.64	50.07	73.76	317.50	883.27	10.87	6.32	275.66	1.53	359.02	654.75	9.98	27.71	29.88	11.03	102.11	6.49	0.0
0																		
45271103	1137.05	49.88	48.41	130.39	746.33	6.27	5.89	90.41	1.14	194.48	938.64	5.52	19.08	18.12	7.59	186.76	0.36	0.0
0																		
46206034	1039.90	25.15	28.61	172.75	196.70	7.13	3.02	21.30	0.73	27.84	120.24	2.54	10.84	10.80	4.22	107.40	1.05	0.0
0																		
44892356	1827.40	101.09	77.56	184.57	970.58	11.96	12.34	59.57	1.82	220.18	698.10	7.76	31.05	29.22	10.93	287.68	0.62	0.0
0																		
46066230	534.36	14.18	13.48	93.44	514.66	1.94	1.73	71.26	0.74	67.86	145.41	0.86	8.08	3.71	0.70	51.18	0.06	0.0
0																		
46066230	886.36	26.36	23.82	147.90	606.55	5.25	3.50	42.54	1.01	108.62	965.98	3.58	10.95	8.02	3.13	65.36	0.06	0.0
0																		
46066206	886.36	26.36	23.82	147.90	606.55	5.25	3.50	42.54	1.01	108.62	965.98	3.58	10.95	8.02	3.13	65.36	0.06	0.0
0																		
46375996	776.61	34.01	32.02	90.88	945.42	2.78	4.22	32.15	0.59	82.15	507.48	1.97	17.61	10.10	2.45	122.42	0.11	0.0
0																		
44901537	2130.73	88.10	78.92	276.00	969.59	12.16	9.71	111.20	2.25	316.45	699.74	10.15	29.54	30.50	12.19	365.82	5.17	0.0
0																		
46229870	1385.91	58.20	67.96	137.58	768.75	8.33	7.86	48.55	1.19	158.14	557.64	4.40	28.83	27.75	7.09	217.03	0.46	0.0
0																		
46375409	1559.16	64.08	57.80	203.45	1316.72	7.98	8.23	150.87	1.93	308.90	924.22	4.23	27.41	20.24	5.70	203.25	0.02	0.0
0																		
46514198	1340.57	58.19	59.90	144.69	1463.39	5.22	6.99	40.73	1.03	124.04	704.22	3.01	31.50	19.65	4.51	262.77	0.74	0.0
0																		
45059153	1239.16	56.87	57.64	127.56	1552.75	4.75	7.24	77.91	1.16	213.14	953.44	2.89	31.02	18.98	4.00	209.71	0.16	0.0
0																		
46253887	2443.97	102.13	101.16	289.14	1529.56	13.02	12.65	71.35	2.35	254.05	1108.33	9.58	42.49	37.75	12.55	482.40	3.32	0.0
0																		
46427656	2415.43	93.28	116.17	260.81	1121.98	12.88	11.92	87.75	2.23	321.12	2404.18	13.02	46.36	45.26	16.47	351.89	14.98	0.0
0																		
46383288	758.54	32.56	27.60	98.71	628.77	3.79	3.62	23.44	0.72	73.42	356.59	2.80	13.33	9.25	2.96	101.36	0.90	0.0
0																		
46442638	1767.08	73.87	68.75	219.49	1620.08	8.41	8.79	56.26	1.72	201.00	1251.45	6.73	32.84	23.34	7.16	264.47	3.57	0.0
0																		
46050845	1571.22	79.85	74.35	147.63	1621.80	6.53	9.36	44.06	1.26	171.21	716.47	4.81	36.58	25.55	6.76	397.47	4.42	0.0
0																		
46321155	1606.23	76.50	76.50	157.05	1273.75	7.98	10.57	39.33	1.30	156.07	768.94	5.73	36.54	27.55	6.49	307.36	1.37	0.0
0																		
46343076	758.70	30.64	36.39	78.95	279.79	5.11	4.07	29.68	0.89	113.49	338.60	2.39	15.01	14.83	3.69	144.84	0.88	0.0
)																		
44990233	1458.83	56.56	71.08	151.66	1040.41	4.93	7.34	43.09	0.97	85.48	644.50	3.82	33.01	27.48	6.30	263.46	21.21	0.0
)																		
45762251	1987.09	74.83	82.27	246.14	1306.30	10.66	9.97	52.13	1.39	201.70	686.46	7.92	36.42	32.03	8.04	254.38	13.98	0.0
)																		
45142106	1352.38	60.79	53.36	160.74	799.60	7.71	7.22	59.43	1.15	137.55	600.92	5.74	21.80	19.87	7.40	222.35	2.23	0.0
)																		
45142156	1314.44	58.91	52.19	155.92	781.89	7.50	7.02	57.81	1.11	134.18	592.72	5.65	21.28	19.56	7.12	218.40	2.23	0.0
)																		
46817427	679.09	29.51	29.41	75.09	396.99	3.62	3.31	20.22	0.75	69.74	272.35	2.72	12.02	11.25	3.81	136.84	0.02	0.0
)																		
45645168	2399.90	86.15	105.70	285.69	1831.29	8.86	10.73	77.71	1.63	194.33	876.02	8.75	48.18	38.74	11.93	345.80	12.69	0.0
)																		
46651809	907.19	35.40	40.85	102.97	667.78	4.08	4.50	27.19	0.72	95.05	370.15	4.18	17.49	14.78	5.84	144.58	5.50	0.0
46673986	1587.05	64.23	65.43	190.69	936.02	7.63	8.06	123.21	1.25	228.99	706.20	6.07	28.38	24.39	7.83	232.71	5.84	0.0
46669745	1236.70	44.40	24.74	220.66	1460.84	3.97	5.48	173.44	2.01	237.28	1171.63	3.61	14.11	6.93	1.65	83.58	0.00	0.0
46715267	1450.56	51.83	64.60	170.20	1178.60	7.43	6.53	26.81	1.04	138.09	930.87	4.85	32.30	21.68	6.00	233.58	0.46	0.0
46615748	1391.88	59.13	52.42	175.75	1039.87	7.60	7.27	31.33	0.84	124.53	692.48	5.95	21.43	19.68	7.02	310.26	13.14	0.0
45189537	576.39	28.25	28.38	53.01	543.80	2.55	3.42	14.45	0.53	67.50	341.80	1.98	13.42	10.39	2.59	142.93	0.93	0.0
45762929	947.02	36.90	46.18	99.08	1011.88	3.29	4.54	23.62	0.77	86.39	548.79	3.01	21.58	16.24	5.52	134.12	20.75	0.0
45708494	1187.05	52.44	53.12	128.74	1501.93	4.34	6.29	24.38	0.96	125.26	725.95	3.31	28.55	17.24	4.03	227.40	0.88	0.0

46834033	995.81	49.04	38.24	117.16	1083.58	4.77	5.78	25.53	0.90	115.08	1099.58	4.38	16.99	13.57	4.77	163.28	11.16	0.0
0																		
46380127	1579.98	84.97	76.53	139.29	830.28	7.21	8.24	119.12	1.57	224.87	938.95	8.87	30.57	28.10	11.58	308.71	0.54	0.0
0																		
46888337	1301.84	43.06	55.01	165.25	1183.48	5.37	5.04	128.32	1.32	276.17	794.26	3.90	27.67	17.92	6.06	212.16	3.32	0.0
0																		
46816479	1785.82	63.19	49.99	280.49	1345.35	10.80	8.05	87.93	1.60	218.29	2727.02	8.09	23.48	16.45	6.30	165.11	0.62	0.0
0																		
46925098	1908.44	75.03	78.70	230.80	1358.61	8.91	9.03	143.56	1.48	268.22	819.63	6.93	34.73	28.93	8.74	403.81	2.23	0.0
0																		
46913944	626.58	25.05	24.53	78.65	567.76	2.97	3.32	16.47	0.60	67.41	274.02	1.46	11.91	8.81	2.14	82.00	1.13	0.0
0																		
46924107	1883.10	75.69	65.40	255.66	2011.99	7.21	9.44	131.41	1.49	312.63	989.33	6.49	33.52	21.94	5.93	232.81	1.03	0.0
0																		
45822782	1069.30	46.99	41.88	133.06	1467.21	3.10	5.75	89.99	1.31	193.41	1114.50	2.71	25.10	12.31	2.19	165.82	0.00	0.0
0																		
45435486	1373.28	56.92	60.11	155.60	703.81	9.45	7.17	71.38	1.27	246.33	770.71	8.10	21.15	23.96	10.63	308.10	0.59	0.0
0																		
48881933	1574.44	65.93	73.53	165.52	1038.48	7.84	8.42	50.79	1.07	136.18	612.37	6.99	31.31	26.80	9.86	323.52	1.50	0.0
0																		
45176163	1474.23	57.87	56.68	188.58	1021.29	8.24	6.86	60.70	1.37	199.12	855.72	5.43	26.03	19.96	6.45	222.20	1.13	0.0
0																		
46096237	1707.76	62.29	64.12	226.00	1188.74	8.56	8.15	68.48	1.64	143.22	1182.16	5.02	29.91	22.43	6.85	270.64	0.42	0.0
0																		
45610492	2312.56	96.53	109.07	243.99	1838.42	11.15	12.75	50.29	1.49	194.43	1289.58	8.85	50.01	39.63	12.26	337.18	4.90	0.0
0																		
46030475	998.83	40.71	31.59	142.33	612.34	5.13	4.98	72.86	1.19	183.32	408.49	2.99	13.24	12.22	3.45	102.80	1.45	0.0
0																		
46212023	1407.45	52.59	43.02	211.55	865.41	9.27	6.26	55.19	1.70	205.48	1241.63	5.07	16.33	16.54	6.39	117.20	3.34	0.0
0																		
44674506	2138.12	94.16	83.86	259.40	1251.64	11.00	10.44	112.49	2.14	246.39	859.59	9.97	32.64	31.38	12.81	433.01	0.62	0.0
0																		
48533518	1752.68	70.06	74.75	205.47	1597.26	7.64	7.74	43.24	1.55	165.85	2112.66	7.42	34.60	25.44	9.54	261.67	2.93	0.0
0																		
48995007	1532.65	43.09	47.42	242.01	722.93	8.56	5.01	36.76	1.31	91.39	354.94	5.61	20.55	16.94	5.87	169.89	1.10	0.0
0																		
46098077	1319.02	60.30	42.52	177.67	852.31	8.10	6.85	42.24	1.44	134.38	617.32	4.80	18.77	14.99	5.12	162.34	0.06	0.0
0																		
45766758	1021.64	32.18	32.42	157.65	678.97	4.85	3.93	32.57	0.97	72.81	923.51	5.98	15.35	11.18	3.64	96.96	0.00	0.0
0																		
46183688	1395.64	46.46	45.48	211.33	1131.56	6.37	6.12	49.07	1.03	130.49	1302.12	4.92	21.34	15.68	5.14	150.60	4.43	0.0
0																		
45996355	1057.59	34.54	33.43	157.59	660.63	6.51	4.73	54.79	0.60	109.18	394.26	3.34	13.93	12.27	4.61	126.77	0.76	0.0
0																		
45996347	1057.59	34.54	33.43	157.59	660.63	6.51	4.73	54.79	0.60	109.18	394.26	3.34	13.93	12.27	4.61	126.77	0.76	0.0
D																		
49000756	1182.52	36.39	38.01	177.50	705.76	6.49	4.61	75.04	0.77	144.38	390.75	4.05	15.02	14.77	5.28	96.23	0.95	0.0
0																		
46191821	1757.06	69.75	69.49	219.60	1371.61	9.53	8.08	144.86	1.60	319.02	820.65	6.04	29.78	25.75	8.35	195.94	0.69	0.0
D																		
46127991	679.31	30.72	22.61	91.08	589.58	4.13	3.45	29.91	0.70	104.90	697.41	2.94	11.15	7.35	2.46	107.91	0.06	0.0
D																		
46127834	679.31	30.72	22.61	91.08	589.58	4.13	3.45	29.91	0.70	104.90	697.41	2.94	11.15	7.35	2.46	107.91	0.06	0.0
D																		
46103967	1106.84	38.84	43.50	142.62	1108.34	4.22	4.90	22.20	0.77	70.73	439.81	2.51	21.97	14.75	4.17	138.67	3.51	0.0
D																		
49023972	1676.10	63.69	53.98	240.89	672.61	9.90	7.23	228.28	1.97	395.44	557.55	7.73	19.83	21.68	8.02	199.39	4.96	0.0
D																		
49057145	2275.80	84.75	76.80	320.54	1805.77	12.68	10.90	111.99	2.23	296.42	1968.61	7.21	35.80	27.32	8.43	280.57	0.91	0.0
D																		
46006640	1350.39	55.45	53.63	166.69	1202.90	5.57	6.51	70.96	1.13	181.61	606.61	4.50	25.21	19.16	5.71	195.24	2.40	0.0
D																		
46274825	1029.26	46.79	33.68	138.84	1165.10	5.12	5.55	35.28	1.21	151.76	1473.21	3.72	15.77	11.77	3.54	158.18	0.34	0.0
)																		
47569035	786.65	22.18	20.79	130.11	118.45	5.92	3.33	14.97	0.68	52.04	633.34	5.05	5.01	9.46	4.52	43.77	0.69	0.0
)																		
47596195	690.37	23.00	19.40	110.62	381.32	3.54	2.79	114.50	0.56	173.88	253.84	3.03	7.79	7.06	2.79	76.09	0.56	0.0
)																		
46327012	744.12	37.69	30.30	82.66	634.07	3.92	4.18	20.12	0.83	97.52	1217.42	2.68	14.23	10.62	3.27	126.82	1.21	0.0
)																		
46006690	1350.71	59.96	53.36	162.17	1112.46	6.17	7.31	77.70	1.07	169.70	440.22	4.53	25.10	18.44	6.02	205.97	0.62	0.0
)																		
46019932	1241.54	47.24	52.01	150.94	442.49	7.31	6.09	134.27	0.89	216.89	408.58	5.41	22.57	19.00	6.15	137.85	1.03	0.0
)																		
48641113	1927.37	89.21	77.28	220.99	1293.25	11.10	11.14	46.03	1.61	162.36	920.86	7.00	31.52	29.23	10.45	360.85	2.08	0.0
)																		
47393476	1793.93	69.47	72.81	226.33	1545.88	8.11	8.49	138.99	1.88	280.69	1089.80	8.37	35.22	24.25	8.46	257.43	1.06	0.0
)																		

46392586	1930.65	75.53	78.10	237.32	1669.37	9.20	8.80	149.26	1.45	284.80	1476.08	6.48	37.37	27.40	7.62	282.60	2.50	0.0
0																		
46324117	1467.49	66.74	57.27	176.04	1236.59	7.57	8.12	90.81	1.53	247.28	732.49	5.43	26.89	20.20	6.07	209.80	0.32	0.0
0																		
46569680	1254.87	57.44	51.63	143.91	1268.45	5.12	6.96	117.13	1.17	205.89	751.89	3.45	27.58	16.61	3.73	183.66	0.11	0.0
0																		
49365449	1688.91	60.24	59.64	231.25	1104.43	9.89	7.44	69.10	1.33	210.15	720.73	4.82	27.05	21.05	6.66	288.97	0.68	0.0
0																		
46430782	2109.53	82.27	69.67	299.96	1424.60	10.82	9.70	80.84	2.48	221.29	906.98	6.37	30.00	25.14	8.27	352.32	1.14	0.0
0																		
46297356	1119.54	36.01	32.36	177.16	702.61	6.72	4.42	69.62	0.64	164.32	598.05	4.77	10.11	13.72	5.64	93.86	0.68	0.0
0																		
46466323	1169.58	48.22	42.05	154.07	1142.25	4.17	5.42	212.66	1.07	316.79	659.17	3.78	21.67	13.67	3.93	172.11	0.34	0.0
0																		
49401748	1738.89	61.30	58.81	251.19	843.62	9.73	7.29	154.26	2.31	305.71	746.25	7.92	21.50	20.62	11.29	210.06	0.34	0.0
0																		
45261849	948.15	27.55	22.79	169.18	677.75	3.82	3.60	37.19	1.14	69.51	441.62	4.23	10.01	7.78	2.98	62.21	7.00	0.0
0																		
46610483	1026.46	50.11	43.52	111.61	713.03	6.02	6.40	37.72	1.07	147.57	821.29	4.98	18.98	15.22	5.85	197.62	0.34	0.0
0																		
46469971	793.26	28.59	28.96	108.75	456.48	4.99	3.60	76.17	0.94	155.34	568.34	3.49	11.16	11.08	3.76	196.75	0.00	0.0
0																		
46622678	1351.20	74.91	50.65	153.74	505.57	7.56	8.60	135.06	1.78	185.66	1029.70	7.74	18.13	19.78	7.63	261.98	0.56	0.0
0																		
48053459	701.09	24.04	18.70	113.26	571.52	3.81	2.69	34.54	0.74	84.63	407.60	1.73	9.62	5.86	1.62	75.12	0.11	0.0
0																		
46510972	1388.95	46.16	49.46	194.77	799.80	8.40	5.75	70.16	0.90	158.23	470.81	4.20	19.37	18.71	7.45	144.39	6.44	0.0
0																		
46510964	1537.66	53.78	52.68	217.63	825.17	10.12	7.24	71.28	0.97	169.00	585.43	4.76	20.25	19.97	8.24	149.65	6.44	0.0
0																		
45761641	2211.07	86.00	82.11	283.08	1310.48	11.50	9.11	258.70	1.76	352.68	1257.44	12.66	25.98	33.31	15.16	907.36	0.11	0.0
0																		
46750578	696.52	28.69	24.06	92.89	263.91	4.77	3.74	14.28	0.59	50.65	271.49	2.49	9.01	9.26	2.94	202.32	0.68	0.0
0																		
46513398	537.20	29.05	25.30	49.25	528.97	2.12	3.36	12.95	0.44	54.48	193.26	2.01	12.54	8.56	2.46	101.61	0.55	0.0
0																		
46576065	2175.10	71.11	58.89	350.46	692.54	15.27	8.42	79.25	1.60	226.50	1351.83	11.68	16.58	24.17	12.06	293.24	0.42	0.0
0																		
46567197	1569.19	73.57	57.74	192.21	1347.15	7.99	8.80	58.67	1.18	155.60	668.13	4.72	24.40	22.02	6.71	230.14	3.83	0.0
0																		
46642361	1360.53	52.68	51.02	179.71	1183.94	7.07	6.20	34.56	1.33	177.89	716.97	4.39	24.64	17.85	5.21	160.61	2.17	0.0
0																		
49512941	1244.90	43.51	35.62	193.45	815.60	7.03	5.84	35.75	1.09	90.36	532.20	3.25	16.50	12.14	4.10	125.47	2.54	0.0
0																		
48527925	1090.06	33.73	32.47	173.77	828.89	4.33	4.68	78.94	1.09	128.96	434.31	4.63	15.29	10.92	3.67	103.89	0.16	0.0
0																		
45351509	1090.87	45.91	41.66	140.72	708.74	5.95	5.99	63.65	1.19	148.30	973.62	6.09	15.74	16.48	6.31	127.49	1.02	0.0
0																		
46309945	1314.27	53.54	61.64	140.65	1142.41	4.60	5.80	119.22	0.93	202.61	693.64	3.70	32.52	19.72	4.76	386.51	0.00	0.0
0																		
46182523	1802.81	61.83	65.36	247.23	799.90	11.13	8.12	45.69	1.29	149.18	773.84	7.16	25.00	25.93	8.58	350.46	15.48	0.0
0																		
45378545	2136.97	84.79	89.46	259.33	1787.04	8.24	10.36	169.13	2.10	307.24	845.87	7.37	42.28	30.83	9.62	410.55	5.34	0.0
0																		
46873776	2468.67	95.62	107.07	295.27	1606.34	13.66	10.93	77.60	2.47	388.34	1343.33	12.50	40.18	42.44	16.77	279.52	2.44	0.0
0																		
46469278	1200.57	44.68	40.67	169.07	720.71	7.58	5.14	42.43	1.09	114.37	726.99	4.37	16.71	14.88	5.47	144.15	0.56	0.0
0																		
48450184	734.09	32.39	28.21	90.05	437.03	4.14	4.07	24.50	0.68	82.71	310.81	2.90	11.62	10.63	3.74	93.61	1.97	0.0
0																		
48138524	604.21	16.47	26.07	80.10	315.80	2.72	2.29	50.35	0.53	86.82	436.89	3.14	10.76	10.01	3.42	101.13	70.32	0.0
0																		
46858588	1692.55	60.52	62.03	230.43	1320.07	7.36	7.57	139.45	1.29	271.77	1160.45	7.12	24.40	25.12	8.03	191.38	9.63	0.0
0																		
47443065	672.29	33.05	13.65	108.12	1094.79	1.88	3.99	132.43	0.76	190.68	701.96	2.15	7.01	4.45	1.28	37.42	1.90	0.0
0																		
49554571	1593.46	63.88	64.02	196.68	1145.21	8.12	7.91	109.70	1.40	212.92	1020.22	6.58	27.22	23.14	8.91	213.36	0.56	0.0
0																		
45640597	2191.45	77.45	89.98	271.27	1468.60	12.06	9.78	87.99	2.40	325.17	1354.08	8.82	36.70	34.81	12.37	393.23	0.77	0.0
0																		
43301105	2009.98	76.48	85.91	240.28	1812.58	8.67	9.47	68.27	1.44	197.92	1247.81	7.79	38.74	30.74	11.16	263.39	1.45	0.0
0																		
43113493	905.58	34.59	27.77	135.15	324.13	5.88	4.91	87.35	1.36	205.24	367.78	4.28	7.72	10.76	6.71	59.02	1.50	0.0
0																		
40010532	1566.49	72.42	66.68	168.48	1083.61	7.64	7.69	35.30	1.28	153.20	690.55	5.94	27.31	26.33	8.03	404.33	0.00	0.0
0																		
43329349	863.09	41.43	41.88	82.87	1008.89	2.87	4.96	21.95	0.84	93.97	532.13	2.58	21.91	13.98	3.32	197.07	3.51	0.0

46766757	971.71	43.69	26.46	143.35	721.08	6.79	4.82	32.68	1.14	146.15	836.07	2.88	12.91	8.28	2.97	118.84	0.22	0.0
0																		
49686382	913.35	45.74	41.25	91.57	1002.95	3.63	5.37	33.98	0.84	96.08	491.41	2.77	20.69	13.75	4.08	200.13	0.18	0.0
0																		
46858504	1346.11	66.16	43.66	177.77	663.34	9.32	7.85	91.18	1.79	235.99	1443.91	5.76	16.91	15.80	6.80	227.98	0.10	0.0
0																		
46567832	1497.86	54.45	64.50	178.79	1275.27	7.93	6.41	53.20	1.15	206.29	994.56	5.97	27.77	24.17	7.47	319.19	2.85	0.0
0																		
48850061	2520.78	91.67	108.84	304.60	1899.36	11.32	11.62	88.00	1.82	271.14	1190.91	9.17	47.87	39.63	13.98	327.16	81.79	0.0
0																		
45402302	1798.15	76.59	76.47	209.20	1065.36	12.23	10.03	63.83	1.54	267.53	1187.61	8.47	30.48	28.85	11.01	373.86	1.03	0.0
0																		
48713607	1328.80	58.47	52.27	162.09	1088.55	6.50	6.34	104.29	1.41	197.69	759.78	5.71	22.81	18.45	6.71	220.22	3.54	0.0
0																		
48301759	1555.82	61.96	64.99	188.73	1668.37	7.34	7.26	69.05	1.52	235.67	1291.79	5.63	31.58	22.32	6.97	235.85	0.11	0.0
0																		
46964963	1838.21	88.10	72.93	211.79	1803.34	10.38	10.36	62.52	2.30	310.75	1848.98	4.49	36.83	24.22	6.84	326.81	0.00	0.0
0																		
46964947	1917.86	91.62	79.99	211.24	1657.27	9.68	9.53	36.05	1.89	201.66	980.70	5.99	37.34	28.38	8.54	312.59	4.84	0.0
0																		
46765436	1985.59	60.79	89.76	244.18	1013.85	10.86	7.84	57.31	1.66	195.94	1343.86	10.18	37.24	34.14	11.81	222.92	2.48	0.0
0																		
49617345	1456.85	64.55	48.85	195.38	1296.65	8.22	7.13	48.52	1.32	156.99	1159.50	6.32	20.10	17.16	7.61	183.06	0.00	0.0
0																		
46874774	822.27	54.82	35.67	72.11	1050.80	3.46	5.56	23.98	1.20	125.79	752.66	2.30	19.63	10.89	2.84	209.86	0.00	0.0
0																		
46794310	2159.98	63.52	93.94	272.11	1531.97	9.17	8.17	44.40	1.12	166.53	769.23	5.41	47.64	32.17	7.56	245.01	3.88	0.0
0																		
49077630	1122.66	49.79	44.84	135.70	756.11	5.54	5.88	53.46	1.43	144.34	669.90	4.24	19.71	15.91	5.75	197.31	0.71	0.0
0																		
49402118	720.64	33.69	19.13	106.71	1037.74	2.87	4.29	18.61	0.71	74.98	638.11	1.76	9.12	6.46	2.06	62.67	0.32	0.0
0																		
46807767	1455.65	49.34	69.21	162.19	833.08	7.51	5.89	46.64	0.88	122.45	412.91	5.68	26.91	26.84	10.59	170.84	1.65	0.0
0																		
45697250	1758.72	68.37	71.28	215.07	829.10	8.12	8.23	34.76	1.17	134.52	524.44	6.41	27.03	28.72	10.05	324.45	43.69	0.0
0																		
46507599	973.33	46.17	39.41	112.07	706.88	5.68	5.94	34.39	0.91	107.96	633.52	4.48	17.78	14.29	4.24	187.92	0.08	0.0
0																		
43302819	1533.74	47.53	68.86	188.72	815.21	7.28	5.88	50.69	1.09	128.93	769.70	6.88	29.36	25.47	9.30	145.01	8.46	0.0
0																		
44461903	1008.96	30.62	23.69	174.37	401.25	6.79	3.61	30.44	1.08	117.08	360.14	3.68	8.11	9.17	3.99	102.37	1.99	0.0
0																		
45115228	1153.88	45.64	38.43	160.76	806.78	6.63	5.44	53.85	1.20	131.37	536.54	3.99	17.79	13.23	4.41	166.63	0.46	0.0
0																		
45744647	1831.60	58.40	87.41	208.10	1261.62	8.27	6.54	81.71	1.33	284.18	914.09	5.52	41.45	29.14	11.31	272.58	0.00	0.0
0																		
43259036	1877.31	73.13	73.00	238.49	1495.02	9.33	9.07	120.03	1.37	230.84	1019.76	7.24	33.95	25.17	8.72	241.86	0.34	0.0
0																		
44589557	996.32	42.33	40.03	122.08	1191.99	4.39	5.25	73.89	0.94	152.82	1319.64	4.44	22.45	12.34	2.74	186.10	0.40	0.0
0																		
44551423	1191.29	48.85	54.97	129.05	783.32	6.56	6.01	44.28	1.16	177.01	760.32	3.86	26.53	18.80	5.41	219.52	1.77	0.0
0																		
44674506	1042.94	37.19	47.09	120.86	474.71	5.98	4.51	38.66	0.61	113.09	511.87	4.53	19.19	17.87	5.91	285.66	0.28	0.0
0																		
45176163	1518.76	59.82	51.33	210.83	761.80	9.53	7.34	56.17	1.50	162.72	829.29	7.24	20.09	19.21	7.82	195.24	0.18	0.0
0																		
45994218	1179.33	46.83	45.57	150.23	568.14	6.31	5.87	234.15	1.06	328.07	964.17	6.37	17.36	17.79	6.41	298.26	1.74	0.0
0																		
47543279	1842.86	77.26	46.65	290.02	1496.05	9.77	8.85	248.50	2.70	361.77	1042.29	5.79	20.07	16.42	5.72	277.58	3.49	0.0
0																		
44411677	1857.50	80.69	83.01	201.13	1262.22	9.86	12.10	46.69	1.37	144.92	492.13	5.63	37.82	30.50	7.04	315.67	0.62	0.0
0																		
44499277	1184.81	54.25	44.85	144.64	711.44	7.09	6.35	32.60	1.43	138.57	417.82	4.60	18.60	16.47	6.02	150.97	0.18	0.0
0																		
44727587	1176.98	45.82	35.75	172.92	394.12	7.45	5.10	121.44	1.13	201.45	1044.89	5.66	11.71	13.74	6.86	108.93	4.02	0.0
0																		
44607143	1471.69	49.94	61.26	184.80	1351.31	7.56	5.88	24.30	0.89	116.95	468.46	2.39	30.04	21.57	4.82	169.93	1.17	0.0
0																		
44699942	2243.99	86.61	77.45	311.69	1213.10	18.20	9.80	97.65	2.93	521.62	1454.05	11.14	27.46	29.81	13.81	354.66	0.95	0.0
0																		
44836081	1800.28	89.24	85.25	174.14	1740.00	7.66	11.00	74.74	1.92	202.77	809.79	6.50	41.30	30.12	8.00	315.59	0.00	0.0
0																		
44591833	1814.64	65.82	63.48	255.54	1621.99	8.27	7.93	43.39	1.93	142.80	1083.04	4.08	31.88	20.89	5.67	204.44	1.81	0.0
0																		
44186840	2297.56	77.02	74.74	342.96	1415.23	10.55	10.51	223.00	2.23	240.72	1006.16	6.77	34.37	25.94	7.82	241.74	2.66	0.0
0																		
46339801	1123.15	40.14	42.66	148.15	700.85	6.51	4.86	25.82	0.72	100.52	711.04	4.12	16.81	17.12	5.37	115.96	0.68	0.0
0																		

47655008	2071.08	102.20	85.21	230.19	1914.67	10.48	12.63	88.07	2.14	279.35	1109.04	6.71	41.15	29.67	7.40	440.31	0.22	0.0
0																		
44836099	1534.98	63.73	67.37	176.66	1298.79	6.97	7.47	82.63	1.50	256.25	1274.98	9.29	28.58	24.60	9.82	176.16	0.02	0.0
0																		
44717554	817.05	34.02	23.04	121.43	590.14	5.08	4.11	92.57	0.73	138.01	682.71	3.52	10.42	7.75	2.97	81.92	0.02	0.0
0																		
46275146	1601.96	64.63	72.72	177.54	1307.33	7.69	7.99	40.95	1.43	175.31	656.51	5.51	33.49	26.25	7.82	269.01	0.50	0.0
0																		
43634105	1741.55	62.17	75.09	209.52	840.58	9.67	7.52	93.15	1.26	197.50	802.74	6.38	35.58	25.91	7.48	280.76	0.85	0.0
0																		
44895334	1771.34	70.93	69.69	223.06	1011.57	10.10	8.17	97.89	2.11	285.62	1817.58	7.96	27.56	26.50	10.15	387.41	2.18	0.0
0																		
44858978	1099.51	35.17	39.02	154.75	262.98	8.15	4.01	11.46	0.61	78.72	289.22	5.94	10.23	16.29	8.87	70.41	1.29	0.0
0																		
44901107	720.94	20.45	20.86	117.57	173.46	4.17	2.37	123.50	0.56	164.89	311.55	3.64	7.50	8.29	3.11	51.37	2.18	0.0
0																		
43766081	1331.47	48.89	40.86	198.81	992.67	8.54	5.72	107.67	1.39	237.85	725.30	4.21	18.73	14.07	4.63	176.06	3.93	0.0
0																		
44492510	643.67	23.40	25.62	82.31	167.29	3.89	3.06	32.14	0.57	67.66	251.66	2.83	8.98	11.08	3.73	53.29	0.80	0.0
0																		
44309939	1834.47	64.78	63.30	258.43	1354.76	10.63	7.06	123.02	1.25	337.86	744.76	6.24	27.35	23.23	8.30	198.47	1.15	0.0
0																		
44387000	1444.30	66.15	61.27	161.23	1290.94	7.30	7.88	51.35	1.15	161.00	910.30	5.61	29.48	21.34	6.19	226.84	0.18	0.0
0																		
44681725	2268.54	82.97	81.50	314.18	1421.95	13.37	11.80	70.93	2.37	281.90	1119.49	9.14	34.88	30.76	8.98	351.12	5.71	0.0
0																		
47891537	2363.08	117.97	101.24	251.52	924.50	14.48	13.54	165.56	2.33	366.58	722.02	10.47	37.59	41.07	13.94	313.89	2.50	0.0
0																		
46512746	2065.30	89.36	65.45	288.59	1703.68	11.46	9.91	92.76	1.89	293.33	1443.86	6.57	30.89	21.55	7.77	235.94	1.76	0.0
0																		
45885491	1607.68	80.79	62.42	187.45	1594.32	7.69	10.07	86.78	2.24	259.19	1775.30	5.90	32.16	20.65	5.11	257.50	12.96	0.0
0																		
47930252	1123.01	50.19	58.08	102.50	1063.43	3.95	5.88	25.51	0.79	98.41	490.32	3.97	28.85	19.80	5.68	236.70	0.74	0.0
0																		
48000517	1957.96	70.95	73.61	263.84	1511.06	9.42	8.83	104.52	2.26	261.54	845.15	7.27	33.86	25.54	9.07	207.79	1.33	0.0
0																		
46469278	1487.34	78.22	60.74	160.03	1185.90	8.23	9.50	54.40	1.65	171.00	909.00	4.50	28.51	21.29	5.92	251.41	0.22	0.0
0																		
44263797	1186.38	43.03	42.51	162.34	923.69	7.69	4.91	43.15	1.34	228.36	674.34	3.05	19.66	15.50	4.38	174.98	0.10	0.0
0																		
44019182	1148.98	30.42	21.80	220.82	798.46	4.35	3.76	277.42	1.83	268.52	437.03	3.30	10.51	6.81	2.26	70.58	0.59	0.0
0																		
47670246	2009.56	73.51	82.82	253.50	1547.67	7.65	8.87	62.84	1.76	161.39	631.87	7.74	37.70	29.49	9.98	291.29	2.58	0.0
0																		
45138577	837.99	29.52	22.08	140.86	793.86	5.15	3.79	52.02	1.77	248.75	1388.33	2.93	13.25	6.16	1.35	83.79	0.00	0.0
0																		
45138543	837.99	29.52	22.08	140.86	793.86	5.15	3.79	52.02	1.77	248.75	1388.33	2.93	13.25	6.16	1.35	83.79	0.00	0.0
0																		
45138593	312.89	7.56	1.34	75.73	108.99	2.10	1.23	89.53	0.81	109.11	873.91	2.74	0.44	0.26	0.35	0.79	0.00	0.0
0																		
46464658	2340.83	85.83	89.10	312.08	1417.96	11.93	9.72	86.08	1.85	216.26	916.70	9.47	38.91	31.36	12.18	287.84	1.12	0.0
0																		
45214666	1689.12	67.96	60.51	225.12	1304.31	9.93	8.42	48.09	1.89	218.59	1411.04	4.79	26.59	21.08	8.42	206.41	0.00	0.0
0																		
45338664	1407.50	53.66	62.45	162.62	806.68	7.22	6.83	59.89	1.04	151.16	538.98	6.54	26.34	23.37	8.28	202.19	3.40	0.0
0																		
45297604	2410.64	108.67	90.98	296.91	1023.06	13.46	12.41	173.82	2.33	294.49	986.15	11.68	34.89	34.35	13.85	355.92	0.46	0.0
0																		
45266542	1589.73	59.41	67.62	192.69	813.29	8.91	7.84	45.73	1.36	137.84	697.26	6.80	27.26	25.41	9.27	221.41	4.31	0.0
0																		
45245140	2081.12	102.58	81.59	240.11	1339.69	11.58	11.99	114.36	1.91	242.97	1187.04	10.33	33.48	29.94	11.33	324.18	13.58	0.0
0																		
45220944	1366.10	55.42	56.47	163.01	1630.46	5.60	6.57	38.32	1.25	168.71	768.89	2.96	31.17	18.01	3.85	246.72	0.68	0.0
0																		
45375228	2294.02	85.98	54.04	376.58	1428.08	17.54	10.21	183.07	2.99	583.92	2003.27	7.58	24.35	17.81	7.54	211.69	3.00	0.0
0																		
45378545	1595.97	59.11	73.95	180.72	1250.10	5.96	7.32	69.91	1.48	191.60	641.06	6.71	33.59	27.01	7.92	326.63	6.90	0.0
0																		
45139541	965.32	42.78	43.77	103.88	1120.12	3.26	5.22	24.14	1.05	90.97	481.81	2.41	23.69	14.04	3.27	171.27	0.91	0.0
0																		
45389013	1108.36	48.64	41.43	140.27	1183.77	4.83	6.02	66.33	1.01	140.74	1582.29	7.93	20.93	13.23	4.40	163.01	0.00	0.0
0																		
45230480	649.89	26.48	25.04	83.00	704.57	2.90	3.17	54.07	0.77	138.94	512.69	1.97	12.05	8.68	2.55	110.93	1.80	0.0
0																		
46878271	2192.45	94.34	91.24	257.71	1889.17	9.06	11.72	205.58	2.05	349.98	999.95	8.77	41.07	33.32	10.14	409.28	1.05	0.0
0																		
45465037	1750.83	64.24	65.86	235.88	1791.27	7.73	7.83	87.94	2.41	287.04	1296.66	4.48	34.01	21.32	6.66	202.58	0.34	0.0

46580579	865.10	42.46	37.38	91.74	1030.76	2.80	5.14	35.78	0.83	89.05	626.74	2.64	19.59	12.16	3.12	149.37	0.11	0.0
45402302	1695.69	79.28	50.06	246.96	817.28	8.92	7.87	116.16	2.85	264.62	911.21	9.94	19.53	18.04	7.97	219.75	0.52	0.0
48291653	1574.70	68.30	55.48	204.73	1843.10	6.95	8.53	119.16	1.17	231.77	1653.43	4.06	27.68	18.42	4.76	336.64	0.00	0.0
47845287	2026.42	72.85	70.47	284.96	1417.79	11.07	9.23	52.08	1.51	140.52	932.32	5.52	30.56	25.92	8.40	205.96	4.42	0.0
48301105	1647.38	67.57	68.72	195.60	1297.84	8.15	8.38	89.32	1.58	261.53	1393.06	7.02	31.25	24.88	7.92	237.30	2.86	0.0
45475250	2406.80	83.08	100.37	304.80	1644.57	12.22	10.83	97.44	2.32	299.52	1438.66	8.36	48.19	34.30	10.10	311.40	4.97	0.0
45165356	1624.91	62.46	58.43	219.09	1244.76	6.56	8.35	37.08	1.02	136.32	803.33	6.13	27.11	19.89	6.95	242.76	22.02	0.0
48308010	1793.78	71.04	55.74	269.26	1612.41	7.60	8.49	179.26	1.41	269.49	1373.26	6.31	27.65	18.62	5.70	223.17	27.56	0.0
48339106	1468.90	65.08	58.50	174.66	653.99	7.84	7.11	113.99	1.70	208.66	367.74	6.41	22.43	21.90	8.96	230.05	0.88	0.0
44956623	1946.95	69.58	90.64	221.02	1300.55	9.47	7.96	57.35	1.69	179.66	875.58	5.47	45.74	30.36	7.66	324.47	1.11	0.0
44898289	1570.14	71.47	73.47	158.23	1120.16	8.73	10.10	39.52	1.07	156.50	1050.58	6.88	30.86	28.77	8.19	252.93	1.29	0.0
45862051	2126.57	89.49	96.71	231.12	1880.02	9.67	11.27	95.70	2.17	319.91	972.44	6.33	47.67	33.78	8.75	356.92	9.14	0.0
45464360	1089.60	41.56	47.97	128.94	1103.35	3.67	5.65	76.65	1.23	168.23	432.01	5.53	22.96	17.30	4.90	136.67	0.63	0.0
46738813	1807.06	69.88	92.19	178.19	1309.05	8.47	9.25	70.40	1.22	155.36	858.50	5.20	41.54	36.46	8.31	292.86	0.87	0.0
45669655	1003.85	33.95	34.84	146.23	266.13	6.10	3.81	94.23	1.41	183.65	886.27	6.63	9.62	14.57	7.69	182.23	0.34	0.0
45364263	928.66	25.76	36.69	126.88	469.08	5.97	3.23	15.41	0.46	50.92	195.92	2.57	14.65	15.32	3.62	66.62	4.84	0.0
48444939	985.44	38.95	42.11	114.96	587.73	4.92	4.24	25.15	0.71	65.48	225.06	3.32	17.32	17.35	4.56	132.44	0.36	0.0
47214333	583.75	29.27	29.12	51.97	909.04	1.08	3.41	11.63	0.45	50.04	257.51	1.02	16.74	9.04	1.72	120.41	1.60	0.0
44661735	1242.26	60.41	43.99	154.45	536.77	8.84	7.28	81.23	1.23	181.70	795.51	6.40	16.64	16.48	6.68	272.40	0.00	0.0
48504113	1784.34	73.03	77.53	205.44	1126.01	9.37	9.07	154.11	2.03	332.25	768.96	6.66	34.52	28.53	8.87	220.68	2.86	0.0
45605451	1754.30	60.91	44.41	281.81	713.69	12.85	9.07	28.83	0.93	110.84	278.01	5.22	16.35	16.04	7.88	96.94	11.94	0.0
45603900	2127.97	91.74	84.76	253.20	1521.46	11.99	11.01	85.21	1.84	253.17	821.97	7.24	38.05	30.07	8.98	640.52	0.02	0.0
45214658	562.96	19.25	22.67	72.80	159.67	2.98	1.96	52.36	0.65	94.76	196.53	2.51	8.44	8.90	3.34	108.37	1.08	0.0
44645721	2458.50	88.87	105.59	300.79	1107.65	14.58	12.90	183.73	2.20	369.85	709.27	16.60	37.61	42.70	17.01	332.12	11.01	0.0
48617651	2098.52	77.39	75.21	291.97	1912.53	6.98	10.03	153.99	1.41	280.78	1107.12	6.49	39.39	24.69	6.23	279.21	15.55	0.0
46286523	1007.48	45.85	33.81	134.86	230.42	6.92	5.29	82.84	1.32	165.27	603.15	5.43	10.20	14.31	6.02	147.20	0.76	0.0
45894278	2117.76	74.91	63.15	325.37	1274.03	10.96	9.88	285.79	1.89	333.65	972.92	7.90	28.05	23.05	6.55	217.41	4.02	0.0
44460343	728.57	12.08	17.08	137.25	112.28	3.70	1.59	113.83	0.63	149.41	250.13	3.65	4.70	7.05	3.76	24.23	1.08	0.0
45244332	1530.18	61.21	67.54	172.94	1164.77	7.50	6.77	29.78	1.08	130.38	715.55	5.51	32.76	22.89	6.82	392.19	1.68	0.0
47567261	2146.29	70.55	71.94	316.68	1445.08	9.46	8.08	245.15	1.67	349.92	1569.51	11.53	30.82	27.42	8.68	216.25	8.17	0.0
47338753	1710.26	63.88	73.94	203.70	932.64	9.28	7.31	124.94	1.28	280.04	637.88	9.73	27.10	29.48	11.37	507.54	0.92	0.0
45927342	1887.82	85.53	69.30	235.11	906.35	11.53	9.59	72.24	1.75	184.70	1024.96	9.14	25.54	25.65	11.78	408.61	0.24	0.0
45765213	2469.11	83.71	97.43	326.65	1251.01	13.74	11.83	113.81	2.05	341.66	1237.80	13.40	34.16	38.81	17.86	253.32	23.25	0.0
45382017	24.43	1.05	1.33	2.16	31.90	0.03	0.15	0.08	0.01	0.92	13.41	0.04	0.83	0.38	0.05	4.34	0.06	0.0
45382017	1527.59	64.58	50.52	209.64	1273.02	8.39	7.63	142.42	1.50	323.78	1042.22	5.85	24.38	17.12	5.22	178.83	2.18	0.0
44107325	2293.58	102.41	123.81	200.92	1189.29	11.28	11.93	87.32	1.97	255.01	1048.30	9.84	54.23	47.65	13.38	533.38	23.57	0.0
44304567	1706.15	80.47	95.72	133.55	1282.17	7.36	10.15	41.49	1.70	186.47	703.49	6.01	44.31	35.59	8.75	472.02	3.56	0.0
44216605	1594.85	68.72	69.10	180.11	1012.39	9.88	8.87	39.60	1.43	246.49	1429.04	7.18	29.73	25.43	8.87	268.69	1.72	0.0
45032860	1341.77	57.29	58.78	149.63	912.01	7.79	7.43	51.40	1.02	161.51	1335.66	5.69	25.57	21.76	7.04	233.01	3.48	0.0

45387405	1535.06	53.69	66.50	182.69	1471.30	5.67	6.46	71.07	1.07	151.05	738.57	5.78	32.05	23.35	7.34	232.20	0.36	0.0
0																		
44366715	1922.41	73.77	78.34	239.62	1394.11	9.90	9.86	47.19	1.09	142.05	884.46	9.03	36.04	27.43	8.94	232.40	0.16	0.0
0																		
45374808	1123.89	28.18	26.57	203.58	582.07	5.37	3.35	285.99	1.81	330.45	269.68	4.50	10.73	9.42	3.73	55.69	3.20	0.0
0																		
44521335	2036.16	60.77	62.94	319.51	874.69	13.01	7.56	193.55	1.60	355.02	1110.25	11.14	19.84	25.47	12.32	144.29	1.13	0.0
0																		
45410371	668.19	20.92	25.92	90.34	542.58	2.92	2.40	12.34	0.53	52.35	302.27	2.45	11.51	9.51	3.06	118.61	3.39	0.0
0																		
45349273	897.21	45.71	42.91	83.55	1104.01	3.90	5.43	18.03	0.80	122.96	576.87	2.89	22.36	14.09	3.59	175.71	0.00	0.0
0																		
44892356	2205.58	90.28	91.64	263.63	1617.04	11.83	10.80	101.26	2.19	262.57	1275.19	8.47	40.52	33.12	11.34	383.39	2.31	0.0
0																		
45804269	1304.55	52.01	60.59	143.30	1484.54	4.58	6.23	34.61	1.32	152.80	597.62	3.41	33.20	19.16	4.65	215.83	0.93	0.0
0																		
45384261	1215.44	38.37	45.64	167.17	762.62	7.05	4.86	114.19	0.77	185.08	588.21	4.02	19.34	17.58	4.65	103.26	2.64	0.0
0																		
45465011	1112.68	53.46	49.20	117.91	1267.81	5.11	6.44	68.91	1.14	199.67	817.83	3.06	26.38	15.86	3.56	180.50	0.36	0.0
0																		
45148782	911.49	36.83	31.99	121.96	1033.87	3.79	4.56	21.63	0.61	73.53	626.68	2.62	17.45	9.67	2.68	164.93	0.02	0.0
0																		
45895961	1284.74	46.54	39.15	196.09	1171.08	6.32	6.11	51.04	1.51	156.89	1417.18	4.92	17.73	13.24	5.32	94.65	1.74	0.0
0																		
45610898	1224.80	57.69	47.19	146.04	1354.40	5.57	7.00	76.28	1.32	241.94	815.41	3.36	24.08	15.74	4.25	221.07	0.52	0.0
0																		
48618550	951.24	39.49	27.60	141.98	765.27	5.81	4.78	56.36	1.13	177.92	927.95	3.75	11.79	9.41	3.84	75.24	0.00	0.0
0																		
45848233	1192.35	56.01	38.90	159.04	1107.65	6.13	7.63	139.40	1.10	220.37	1086.01	4.46	17.47	13.82	4.11	144.75	21.09	0.0
0																		
45753284	1229.00	46.24	51.71	147.27	822.93	6.03	5.67	123.95	0.91	214.34	587.13	5.61	21.86	19.58	6.49	180.83	70.02	0.0
0																		
44422749	1372.73	48.10	47.28	194.47	828.89	7.04	5.55	121.76	1.07	225.51	394.65	5.52	20.32	17.06	6.35	175.08	0.74	0.0
0																		
46020690	2116.37	75.60	72.20	301.25	1567.43	9.49	9.77	256.21	2.17	441.16	1186.77	6.80	34.91	24.87	6.96	280.38	11.95	0.0
0																		
45917442	814.15	22.98	18.12	147.53	280.20	5.38	2.62	145.42	1.56	248.05	789.46	3.97	6.28	6.92	3.05	64.38	0.02	0.0
0																		
46011558	1533.73	61.96	57.37	196.55	1215.61	6.95	7.43	133.19	1.27	236.91	739.80	4.82	26.97	19.90	6.02	240.72	3.07	0.0
0																		
46108280	1434.28	68.39	66.57	144.44	1196.28	6.33	8.92	149.02	1.30	255.45	602.28	6.22	29.51	24.92	6.99	325.97	0.00	0.0
0																		
46178142	1452.12	77.73	60.01	151.93	1560.14	6.90	9.87	35.80	1.16	146.78	976.08	5.08	25.56	22.17	7.68	222.42	0.68	0.0
0																		
46099851	1201.67	43.66	48.14	153.79	1182.61	5.47	5.08	129.68	1.17	289.99	969.92	4.69	23.03	17.06	5.08	188.43	3.52	0.0
0																		
46034930	1139.79	46.79	44.75	139.64	780.32	6.48	5.97	131.38	1.10	265.68	673.94	3.73	18.47	18.13	4.74	117.60	0.46	0.0
0																		
4643098	1919.84	87.15	99.00	175.67	658.19	9.56	9.28	77.08	1.70	167.90	644.14	10.76	37.35	39.92	14.47	324.09	15.59	0.0
0																		
6276623	981.71	44.00	39.83	115.81	610.09	4.90	5.89	113.43	0.87	186.51	369.52	4.07	17.43	14.30	4.38	183.90	0.68	0.0
0																		
6298247	1537.59	59.71	45.42	232.78	1138.81	7.47	6.47	243.72	2.41	406.10	1681.52	8.94	22.66	15.45	3.97	214.78	4.84	0.0
4855304	2028.43	81.46	82.76	242.85	1510.55	11.13	9.63	59.25	1.71	226.43	992.34	7.75	35.44	30.09	11.11	402.91	73.77	0.0
6302824	1239.61	41.89	36.91	191.71	1010.12	5.75	5.37	129.47	1.36	207.64	606.52	2.64	19.06	12.02	3.15	143.72	0.00	0.0
6408573	1555.49	67.97	66.31	175.48	1706.89	6.82	8.44	46.36	1.31	170.70	1022.96	4.23	32.19	23.00	5.49	359.08	21.14	0.0
6293362	1536.91	61.93	61.94	189.22	1605.10	6.38	7.27	145.72	1.27	268.51	994.50	5.73	31.32	20.97	5.52	235.44	2.64	0.0
5804558	1723.62	82.46	77.81	178.88	1866.08	7.12	9.35	106.60	1.59	273.96	930.95	6.25	38.27	26.32	8.12	301.67	0.24	0.0
5995604	1509.41	70.25	73.55	144.54	1786.85	5.50	8.65	77.86	1.10	206.84	696.19	4.23	38.55	24.43	5.91	287.92	0.00	0.0
5461307	878.63	38.89	37.30	99.67	1108.24	4.40	4.44	24.44	0.84	152.78	494.34	1.50	19.87	11.89	2.89	175.57	0.10	0.0
5492724	1637.72	71.40	78.66	166.36	1234.03	6.67	8.70	145.11	1.65	253.75	900.17	7.17	35.93	29.48	7.54	411.38	10.54	0.0
6633162	1567.99	76.33	57.36	189.85	1712.57	7.32	8.94	136.08	1.51	304.24	1080.84	4.50	25.41	20.54	6.81	169.35	3.25	0.0
6837194	1888.10	110.78	74.60	196.77	1528.81	9.30	11.49	29.28	1.84	140.06	938.65	9.68	34.07	25.95	8.46	386.23	2.44	0.0
7749521	969.80	40.14	41.26	113.12	1232.16	4.52	4.70	35.77	1.25	213.82	740.78	1.69	23.35	13.00	2.61	169.68	21.59	0.0
595595	2232.06	87.91	99.38	253.97	1388.56	11.97	10.60	146.28	1.55	331.86	1468.97	8.88	42.89	36.40	12.10	396.98	1.67	0.0

46777225	1679.42	76.59	58.05	221.941351.13	8.68	9.42	265.64	1.29	329.38	1001.48	7.26	27.15	18.64	7.99	188.49	0.75	0.0
0																	
46705523	1854.14	82.31	70.90	227.941853.07	9.07	10.11	92.66	1.69	296.89	1096.67	5.20	35.21	23.57	6.84	290.97	0.24	0.0
0																	
46893732	1299.56	47.71	58.27	149.911070.45	5.48	6.05	27.31	0.99	85.37	752.49	3.49	30.64	19.19	4.39	196.76	1.17	0.0
0																	
44774158	2153.08	80.97	91.81	260.741528.14	9.59	10.54	150.46	2.29	274.56	1086.17	7.72	44.64	32.28	8.55	299.85	74.15	0.0
0																	
45183431	1997.85	99.70	91.73	196.441630.65	9.13	12.10	70.89	1.76	191.50	791.65	7.42	40.60	33.81	9.84	370.76	1.27	0.0
0																	
45207067	2294.10	82.96	77.68	327.841607.22	13.51	10.25	220.04	1.47	369.64	1062.94	7.50	33.68	28.93	8.56	357.05	6.63	0.0
0																	
45510311	1052.81	41.50	35.04	149.561039.66	5.12	5.48	124.33	1.23	236.06	858.13	2.62	18.68	11.28	2.58	173.98	0.52	0.0
0																	
45686906	2122.19	86.23	78.46	272.751598.24	12.03	9.79	88.47	1.82	241.51	1149.30	7.37	34.66	27.90	9.69	345.38	2.17	0.0
0																	
45508168	1385.69	66.42	40.00	195.371474.61	5.10	8.40	47.18	1.32	156.90	1554.45	3.71	18.14	13.99	4.57	171.27	4.01	0.0
0																	
45299858	1055.70	40.86	41.11	133.171006.89	3.89	4.76	117.88	0.87	180.40	553.19	2.53	21.22	13.80	3.43	171.58	19.91	0.0
0																	
45189439	2388.82119.98	89.72	282.471605.84	14.78	13.79	81.21	2.45	324.11	1817.70	9.82	35.18	34.48	12.22	451.69	3.07	0.0	
0																	
45630664	1034.41	43.94	44.27	118.741430.81	3.18	5.33	25.65	0.90	108.32	740.44	2.42	25.18	13.78	2.79	163.41	0.74	0.0
0																	
45244811	1256.29	51.84	54.85	143.241166.41	5.27	6.33	29.37	1.01	118.26	887.20	4.79	26.81	18.75	5.48	224.85	2.53	0.0
0																	
45348803	846.93	42.11	42.84	75.121440.22	1.87	5.13	14.46	0.56	86.11	609.38	1.40	25.93	12.73	2.06	172.05	0.54	0.0
0																	
45811123	1064.25	41.28	45.61	123.721082.52	4.06	4.90	33.86	0.78	101.58	406.49	3.49	21.40	15.52	5.66	117.23	0.00	0.0
0																	
45419703	1661.57	72.12	67.61	195.411675.55	7.24	8.81	67.01	1.34	187.98	787.65	4.45	34.04	22.88	6.10	275.28	0.85	0.0
0																	
45890862	968.94	39.43	42.79	111.351113.61	2.89	5.09	30.28	1.06	116.97	515.24	2.96	22.69	13.49	3.95	145.80	3.57	0.0
0																	
45267706	1637.30	69.78	67.01	194.121490.80	7.33	8.30	35.87	1.24	162.19	1021.64	6.10	31.57	23.05	7.89	249.17	10.93	0.0
0																	
45352424	1163.39	49.50	44.22	145.73 837.28	6.28	6.29	28.38	0.84	90.39	910.18	3.81	18.88	16.15	5.50	179.57	22.38	0.0
0																	
45282514	1427.65	67.35	69.40	135.681131.13	5.90	7.62	49.17	1.04	123.60	606.43	6.03	31.74	24.91	7.85	276.97	2.81	0.0
0																	
45484946	1322.34	50.53	59.52	151.65 578.63	7.90	6.81	71.92	1.07	195.12	713.63	6.07	23.60	23.36	7.80	266.73	24.74	0.0
0																	
45765255	1834.69	73.49	74.13	223.641696.73	8.72	8.59	81.69	1.51	241.50	814.39	5.79	35.65	26.42	7.16	257.69	3.96	0.0
0																	
45852292	1697.49	78.57	54.34	229.721150.69	9.89	10.66	95.03	1.74	191.08	701.04	6.21	24.36	18.95	6.72	199.21	0.76	0.0
0																	
45853555	822.43	23.89	24.52	131.46 304.64	4.93	3.02	73.09	0.74	130.66	530.59	3.48	9.42	9.52	3.55	55.46	2.02	0.0
0																	
46048676	1344.85	61.52	60.45	141.231627.66	5.83	6.99	32.68	1.23	188.70	637.97	3.44	31.73	19.63	5.48	230.67	1.29	0.0
0																	
44631449	1829.13	76.62101.89	157.02 850.56	8.27	10.61	55.77	1.24	145.59	618.10	9.44	41.63	39.78	13.03	264.13	1.14	0.0	
0																	
45461449	1087.53	45.90	44.16	131.89 916.11	6.02	5.41	41.59	1.47	231.48	786.76	3.35	21.36	15.24	4.64	193.12	1.69	0.0
0																	
44970920	1027.85	47.02	52.07	95.391403.33	2.36	5.53	20.00	0.67	77.43	467.37	2.60	28.50	17.20	3.50	185.69	2.66	0.0
0																	
45170090	1794.72	67.80	83.39	197.971210.28	7.62	9.20	134.08	1.50	214.66	599.61	5.81	39.60	30.34	7.23	300.02	1.14	0.0
0																	
45965631	1206.53	56.72	59.16	115.571084.04	4.43	6.57	47.86	1.08	125.45	523.39	4.80	27.41	20.65	7.05	218.59	4.64	0.0
0																	
45460623	1177.81	48.02	55.19	125.911135.22	4.92	6.26	36.61	0.69	127.10	742.32	7.09	24.62	20.80	6.45	148.65	9.92	0.0
0																	
45919927	1772.77	73.08	71.78	218.961738.94	6.58	9.11	57.11	2.24	176.94	940.99	4.85	37.54	23.41	5.75	294.07	1.99	0.0
0																	
46026060	2153.31	99.29107.67	203.931349.85	10.12	12.80	67.11	1.75	198.63	768.97	10.67	43.05	41.89	14.75	419.16	14.37	0.0	
0																	
46205854	1962.11	75.42	85.54	229.481407.23	10.30	8.81	57.81	1.30	210.33	849.48	8.63	35.87	32.36	10.79	334.87	6.47	0.0
0																	
45399640	1222.15	41.60	44.80	170.931080.31	4.98	5.47	36.55	1.80	124.70	405.12	2.71	23.20	15.14	3.40	145.56	6.06	0.0
0																	
45697383	1937.57	60.99	70.21	278.051845.64	6.75	7.92	79.16	1.20	155.57	897.46	5.15	35.70	23.42	6.78	202.58	15.44	0.0
0																	
45645275	1459.91	60.06	58.29	177.881130.84	7.60	7.19	61.06	1.14	169.78	654.18	5.12	26.69	20.69	6.14	365.93	10.14	0.0
0																	
45266914	2513.48127.29110.25	262.87	722.43	15.82	15.52	264.33	3.16	427.51	4521.23	17.03	38.69	41.31	20.50	470.57	4.16	0.0	
0																	
46049476	908.24	35.43	30.80	125.65 431.57	5.93	4.87	21.62	0.73	80.88	339.47	3.42	12.16	11.54	4.18	129.36	1.13	0.0
0																	

45508324	1275.44	51.82	52.37	154.271123.79	5.98	6.10	28.06	1.00	128.66	535.19	4.96	24.60	18.79	4.93	215.01	23.66	0.0
0																	
45869198	1625.85	92.45	68.99	160.46 720.95	9.86	10.21	55.78	1.62	143.01	692.46	8.05	26.60	26.22	9.57	439.51	2.90	0.0
0																	
45751618	1750.87	78.90	76.52	189.621221.90	9.88	9.73	40.42	1.28	166.14	774.81	6.88	32.99	29.32	8.28	415.68	3.95	0.0
0																	
45794139	1338.80	66.19	69.73	113.791474.51	4.84	8.05	26.09	0.97	136.11	626.81	4.80	33.65	24.68	6.90	361.03	3.33	0.0
0																	
46154069	929.61	46.08	36.18	108.07 138.71	6.08	4.99	67.16	1.00	95.75	675.56	5.03	12.26	15.62	4.92	178.18	2.84	0.0
0																	
45936046	1768.26	58.42	75.30	222.401522.83	8.08	6.83	120.87	1.14	250.46	697.02	4.98	35.20	28.47	6.00	200.43	12.53	0.0
0																	
46233582	1146.25	45.21	42.92	149.511148.23	4.96	5.32	63.71	1.08	179.84	747.68	3.31	22.19	14.16	3.83	195.51	3.69	0.0
0																	
45938092	1393.70	53.83	59.29	168.051197.88	5.17	6.51	68.90	1.42	150.50	586.13	4.59	27.10	21.53	6.59	302.81	13.68	0.0
0																	
46394144	2046.27	76.67	83.33	253.951041.96	12.08	9.86	70.14	1.89	225.01	855.99	7.64	33.99	31.71	10.52	264.33	5.26	0.0
0																	
45957597	2154.73	71.27	77.60	300.42 893.38	13.16	9.18	38.46	1.60	147.44	698.94	8.76	26.52	32.41	12.26	218.36	5.71	0.0
0																	
46120086	540.59	17.02	18.24	78.76 527.82	2.45	2.16	13.77	0.40	43.72	209.48	0.88	9.97	5.73	1.26	87.83	0.71	0.0
0																	
45561819	1554.92	69.23	66.09	176.241315.77	7.91	8.42	62.42	1.46	211.42	971.94	5.73	30.07	23.83	7.79	258.65	2.92	0.0
0																	
45117191	1665.12	52.07	71.02	211.97 785.86	8.43	6.54	51.59	1.25	123.22	626.92	6.40	30.46	26.23	8.92	205.92	2.54	0.0
0																	
46420501	1977.62	88.35	95.38	194.971791.72	8.32	11.73	55.51	1.63	212.52	796.69	6.13	46.00	33.74	8.93	349.98	11.50	0.0
0																	
46541191	1141.07	57.26	48.45	122.461573.14	3.49	6.63	37.91	1.01	138.29	1067.77	4.19	23.05	16.36	5.53	264.40	0.88	0.0
0																	
46248862	775.30	32.17	29.36	100.31 244.63	4.97	4.11	53.00	0.74	109.25	1115.37	4.38	10.28	11.49	5.11	110.95	12.34	0.0
0																	
49302011	1565.78	66.73	59.04	194.671233.69	8.72	7.83	30.33	1.09	145.12	850.91	7.40	22.13	22.94	9.07	321.32	52.57	0.0
0																	
46073003	1250.39	53.21	43.69	166.16 870.70	7.44	6.60	121.79	1.35	248.32	688.73	4.26	19.50	15.58	4.60	185.99	0.00	0.0
0																	
45749671	1793.43	73.58	81.73	197.731327.37	7.81	9.27	115.58	1.39	236.52	1308.45	8.02	36.14	30.11	8.85	404.74	15.32	0.0
0																	
45456771	1561.48	38.66	49.42	248.13 763.67	8.91	5.17	61.82	1.06	98.17	1025.56	5.74	19.88	19.63	6.20	109.79	5.64	0.0
0																	
46315752	1034.25	41.99	42.97	123.63 710.51	6.54	5.05	21.54	0.88	131.11	501.85	3.63	18.41	15.60	5.25	165.30	1.01	0.0
0																	
46509230	1332.67	52.00	37.80	203.89 713.07	8.96	6.09	145.81	1.87	312.00	980.73	4.90	15.12	13.64	5.67	146.36	3.95	0.0
0																	
46111473	1745.09	67.28	68.17	219.281462.80	8.32	7.98	37.17	1.35	187.89	664.57	5.30	32.22	23.42	7.62	242.26	73.86	0.0
0																	
46757946	1064.07	45.13	49.59	114.111384.46	2.62	5.35	34.55	0.83	101.40	605.33	3.96	27.15	16.40	3.26	192.26	13.91	0.0
0																	
46800183	1080.79	48.26	32.17	157.18 614.53	8.29	6.12	79.58	1.95	292.99	1666.43	4.33	13.54	11.43	4.54	154.10	0.34	0.0
0																	
46790623	1535.33	44.05	40.15	260.111030.56	9.33	5.56	88.52	1.26	240.33	1015.46	5.52	17.42	14.62	4.53	105.33	4.24	0.0
46234548	757.61	33.63	30.27	91.761069.93	3.17	4.10	31.33	0.89	145.54	1082.35	1.47	18.19	8.97	1.55	116.60	22.55	0.0
46685238	535.67	36.80	13.38	70.04 84.46	4.74	5.29	19.43	1.21	73.90	861.42	3.44	4.11	5.09	2.47	86.38	0.06	0.0
46184264	1568.38	58.83	58.10	208.051319.03	7.74	7.24	126.39	1.43	293.69	921.39	5.07	26.09	20.18	7.95	195.71	2.35	0.0
45620333	1681.64	63.40	77.80	188.071529.84	7.39	7.73	54.54	1.49	201.34	1015.07	4.27	41.81	25.03	5.75	371.60	6.84	0.0
45493574	1129.56	58.28	55.89	100.231162.34	4.83	7.26	27.43	0.97	118.46	623.95	3.37	27.95	18.91	5.26	186.82	0.00	0.0
45696764	1485.88	62.60	51.86	197.76 987.66	9.23	7.25	68.66	1.54	180.92	785.18	4.95	23.67	17.95	6.18	224.74	0.85	0.0
45771369	2034.23	77.98	77.88	264.241265.12	10.13	9.59	88.85	1.91	219.00	1038.03	6.87	33.39	28.18	10.34	283.02	4.70	0.0
45648484	1211.33	50.29	51.30	139.801441.69	4.32	6.29	29.61	0.80	97.14	556.30	2.99	27.70	16.80	3.77	221.20	2.05	0.0
45936572	1932.23	84.68	72.60	241.302026.84	8.75	10.19	69.17	1.43	215.95	1262.88	6.60	32.42	26.25	8.80	213.65	2.20	0.0
45564036	1204.96	58.15	60.43	109.421548.31	3.65	7.05	60.04	0.96	161.87	836.64	3.55	32.27	19.72	4.36	397.19	0.11	0.0
45584482	2164.47	89.97	87.23	268.241721.74	7.99	10.32	179.70	2.55	262.67	658.07	9.16	40.16	31.16	9.67	331.08	2.26	0.0
45211638	2356.64	102.91	100.99	268.161454.28	12.79	12.02	56.19	2.54	270.98	1674.34	9.50	40.74	37.84	13.84	478.74	3.11	0.0
45882258	2418.42	100.52	105.53	273.701197.16	12.33	12.25	54.34	2.04	221.92	837.59	8.73	42.38	40.69	14.12	448.86	34.14	0.0

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44924414    713.79 32.22 25.24  92.53 399.10  4.44  3.90  41.54  0.66  96.05  503.95    3.15 10.89  8.81  3.44 125.79  0.56  0.0
0
45189231   1163.04 47.69 40.90 158.32 1119.86  5.35  5.97  85.12  1.09 177.96 1308.78    3.49 21.25 13.44  3.59 156.38  1.13  0.0
0
44970889   1182.33 35.67 34.83 189.30 786.31  5.93  4.30 206.18  1.34 288.38  756.35    4.65 15.37 11.90  4.90 129.07  4.40  0.0
0
44924430   1162.73 46.88 44.77 148.79 746.22  5.57  5.61  38.95  0.81  82.24  764.72    5.02 20.12 15.68  5.53 184.34  4.59  0.0
0
44979899   1562.17 60.04 67.16 186.50 1030.32  7.06  7.92  63.59  1.15 135.77  683.53    5.75 30.01 23.61  8.70 239.61 10.37  0.0
0
44959627   1660.39 47.61 52.42 258.02 1222.28  8.92  5.80  48.87  1.02 120.12  666.99    6.37 15.95 22.47  9.52  54.99 11.34  0.0
0
45237014    559.22 19.22 23.58  69.35 270.29  3.48  2.44  11.28  0.37  49.06  166.70    2.67  8.51  9.46  3.55  95.84  2.21  0.0
0
45155638   2712.20 100.21 108.25 343.41 2101.91 13.54 12.30 138.68  1.93 324.42 1253.13    8.32 50.33 39.21 10.86 328.32 12.59  0.0
0
45117191    782.04 32.01 28.50 101.26 248.16  5.46  4.06  19.20  0.70  82.95  354.31    3.31  9.60 11.87  4.44 131.18  0.80  0.0
0
44064921   1538.00 70.08 72.66 156.05 1540.11  6.35  8.21  91.03  1.12 213.00 1313.87    6.68 33.69 25.52  8.27 422.49  0.06  0.0
0
44720581   1795.26 70.32 78.92 207.47 1917.48  6.95  8.62  67.04  1.13 189.03  807.53    4.96 40.81 26.15  7.16 288.16  8.34  0.0
0
```

Table 1. Mean nutrient intake of pregnant women participating in North Dakota WIC in 1996-1997 by family size (preliminary analysis).

	Family size	
	Small (<4) (n=1351)	Large (≥ 4) (n=1343)
Mean Income	$11,724	$18,438
Calories	2088	2099
Calcium	1218	1220
Iron	11	11
Zinc	10	11
Vitamin A	1516	1546
Vitamin B	2	2
Vitamin C	146	145
Folate	304	308

Table 2. Mean nutrient intake of children 3 to 5 years old participating in North Dakota WIC in 1996-1997 by family size (preliminary analysis).

	Family size	
	Small (<4) (n=1289)	Large (≥ 4) (n=3188)
Mean Income	$10, 034	$17,903
Calories	1825	1840
Calcium	1083	1099
Iron	10	10
Zinc	9	9
Vitamin A	1154	1213
Vitamin B	2	2
Vitamin C	137	137
Folate	275	284

Table 3. Mean nutrient intake of pregnant women participating in North Dakota WIC in 1996-1997 by annual family income (preliminary analysis).

	Annual Family Income ($)			
	0-10k (n=827)	10-20k (n=1096)	21-30k (n=675)	31-40k (n=92)
Mean Income	$5,754	$15,195	$23,628	$33,116
Calories	2126	2058	2125	1988
Calcium	1212	1213	1246	1153
Iron	11	11	11	10
Zinc	11	10	11	10
Vitamin A	1548	1486	1563	1727
Vitamin B	2	2	2	2
Vitamin C	147	146	144	139
Folate	306	304	311	289

Table 4. Mean nutrient intake of children 3 to 5 years old participating in North Dakota WIC in 1996-1997 by annual family income (preliminary analysis).

	Annual Income ($)			
	0-10k (n=1342)	10-20k (n=1666)	21-30k (n=1291)	31-40k (n=168)
Mean Income	$5,943	$15,188	$23,805	$33,037
Calories	1858	1846	1809	1764
Calcium	1091	1101	1085	1120
Iron	11	11	11	10
Zinc	9	9	9	9
Vitamin A	1224	1185	1186	1166
Vitamin B	2	2	2	2
Vitamin C	135	140	136	138
Folate	281	284	279	278

Appendix G: Calibration Study Recruitment & Follow-up

1. Hispanic Calibration Study Subject Recruitment & Follow-up Chart
2. African American Calibration Study Subject Recruitment & Follow-up Chart

FFQ1	Recall1	Recall2	Recall3	FFQ2	Comments
6/5/2000	10/12/2000	11/5/2000	11/17/2000	4/10/2001	
6/19/2000	7/25/2000	7/30/2000	8/10/2000	9/20/2000	
5/20/2000	6/19/2000	7/3/2000	7/23/2000	10/12/2000	
5/17/2000	6/16/2000	6/27/2000	7/8/2000	8/21/2000	
6/8/2000	8/1/2000	8/14/2000	8/22/2000	12/9/2000	
4/11/2000	10/12/2000	11/5/2000	11/17/2000	4/10/2001	
5/17/2000	6/16/2000	6/27/2000	7/8/2000	8/21/2000	
5/19/2000	7/7/2000	7/17/2000	9/18/2000	10/15/2000	
6/27/2000	10/10/2000	10/26/2000	11/12/2000	8/20/2000	
5/20/2001	7/5/2000	7/10/2000	7/17/2000	8/20/2000	
5/15/2000	6/16/2000	7/27/2000	8/5/2000	9/8/2000	
6/8/2000	8/1/2000	8/14/2000	8/22/2000	12/9/2000	
5/20/2000	6/19/2000	7/3/2000	7/23/2000	10/12/2000	
4/27/2000	6/10/2000	7/3/2000	7/12/2000	9/6/2000	
7/17/2000	8/5/2000	8/16/2000	8/22/2000	9/12/2000	
6/1/2001	7/19/2000	7/31/2000	8/7/2000	10/16/2000	
4/11/2000	6/17/2000	6/30/2000	7/7/2000	8/21/2000	
5/8/2000	6/16/2000	7/16/2000	7/27/2000	8/20/2000	
6/22/2000	8/22/2000	8/30/2000	9/9/2000	10/16/2000	
4/11/2000	6/21/2000	6/30/2000	7/9/2000	8/21/2000	
6/16/2000	4/12/2001	4/19/2001	4/23/2001		Incomplete/unwilling to complete.
5/17/2000	6/10/2000	7/3/2000	7/12/2000		Incomplete/unwilling to complete.
6/20/2000	10/18/2000	11/2/2000	3/8/2000		Incomplete/unwilling to complete.
5/16/2000	12/31/2000	1/23/2001	1/31/2001		Incomplete/unreachable
8/1/2000	8/16/2000	9/9/2000	9/22/2000		Incomplete/unwilling to complete.
5/20/2000	6/15/2000	7/1/2000	7/7/2000		Incomplete/unwilling to complete.
8/23/2000	11/5/2000	11/17/2000	12/14/2000		Incomplete/unwilling to complete.
8/24/2000	9/17/2000	9/28/2000	10/26/2000		Incomplete/unwilling to complete.
5/25/2000	7/1/2000	7/7/2000	7/21/2000		Incomplete/unwilling to complete.
5/20/2000	6/15/2000	7/1/2000	7/7/2000		Incomplete/unwilling to complete.
5/19/2000	9/12/2000	9/18/2000	9/22/2000		Incomplete/unwilling to complete.
8/2/2000	8/20/2000	9/15/2000	9/28/2000		Incomplete/unwilling to complete.
5/16/2000	6/13/2000	7/3/2000	7/9/2000		Incomplete/unwilling to complete.
5/12/2000	7/13/2000	9/12/2000	9/22/2000		Incomplete/unwilling to complete.
5/12/2000	10/12/2000	10/16/2000	10/23/2000		Incomplete/unwilling to complete.
7/10/2000	8/31/2000	9/10/2000	9/28/2000		Incomplete/unwilling to complete.
5/16/2000	4/26/2001	4/29/2001	5/3/2001		Incomplete/unwilling to complete.
9/13/2000	10/24/2000	10/30/2000	11/3/2000		Incomplete/unwilling to complete.
5/19/2000	7/16/2000	8/22/2000	9/4/2000		Incomplete/unwilling to complete.
6/21/2000	10/7/2000	11/11/2000	11/20/2000		Incomplete/unwilling to complete.
5/15/2000	6/10/2000	7/3/2000	7/27/2000		Incomplete/unwilling to complete.
6/14/2000	8/31/2000	9/22/2000	11/11/2000		Incomplete/unwilling to complete.
6/20/2000	10/25/2000	11/5/2000	11/11/2000		Incomplete/unwilling to complete.
6/28/2000	8/16/2000	9/9/2000	11/15/2000		Incomplete/unwilling to complete.
6/7/2000	7/19/2000	9/21/2000	9/28/2000		Incomplete/unwilling to complete.
8/26/2000	3/8/2001	4/20/2001	4/23/2001		Incomplete/unwilling to complete.
5/15/2000	7/6/2000	7/10/2000	7/14/2000		Incomplete/unwilling to complete.
6/19/2000	9/12/2000	10/11/2000	10/18/2000		Incomplete/unwilling to complete.
7/5/2000	8/15/2000	8/27/2000	9/15/2000		Incomplete/unwilling to complete.
5/12/2000	10/12/2000	10/16/2000	10/23/2000		Incomplete/unwilling to complete.
6/8/2000	7/18/2000	8/5/2000	8/15/2000		Incomplete/unwilling to complete.
9/11/2000					Incomplete/unreachable
7/5/2000					Unreachable.
7/21/2000					Incomplete/unreachable
6/23/2000					Incomplete/unreachable

7/15/2000					Unreachable.
5/16/2000					Incomplete/unreachable
9/6/2000	4/18/2001	5/30/2001			Incomplete/unreachable
5/12/2000					Incomplete/moved, unreachable/Missing recalls.
7/10/2000					Incomplete/unreachable
8/24/2000					Unreachable. Phone disconnected.
7/27/2000					Incomplete/unreachable
6/23/2000					Incomplete/unreachable
8/22/2000					Incomplete/unreachable
6/13/2000					Unreachable. Wrong number. ML
8/18/2000					Incomplete/unreachable
6/7/2000					Incomplete/unreachable
7/5/2000					Incomplete/unreachable
8/7/2000					Unreachable. Phone disconnected.
8/30/2000					Incomplete/unreachable
6/1/2000					Incomplete/unreachable
5/11/2000	6/13/2000				Incomplete/unreachable
6/6/2000					Incomplete/unreachable
5/12/2000					Incomplete/moved, unreachable
8/15/2000					Unreachable.
6/6/2000					Incomplete/unreachable
9/11/2000					Unreachable.
6/21/2000					Incomplete/unreachable- phone disconnected.
8/7/2000					Unreachable. No phone #.
5/11/2000	6/13/2000				Incomplete/unreachable
Lost	12/31/2000	1/23/2001	1/31/2001		Lost FFQ1.
8/15/2000					Incomplete/unreachable
8/24/2000					Incomplete/unreachable
5/20/2000	6/16/2000				Incomplete/unwilling
8/30/2000					Unreachable.
5/20/2000	7/6/2000				Incomplete/unreachable.
8/24/2000					Unreachable.
7/5/2000	8/16/2000				Unreachable.
9/27/2000					Unreachable. Had beeper number.
8/19/2000					Unreachable.
6/21/2000					Incomplete/unreachable
6/14/2000	7/11/2000				Incomplete/unwilling- staying in shelter.
Lost	12/13/2000	1/7/2001	1/24/2001		Incomplete/unreachable
5/22/2000					Unreachable.
5/20/2000	7/6/2000				Incomplete/unreachable.
5/20/2000	7/6/2000				Incomplete/unreachable.

FFQ1	Recall1	Recall2	Recall3	FFQ2	Comments
11/29/2000	12/14/2000	12/21/2000	12/23/2000	1/6/2001	
11/7/2000	11/26/2000	12/8/2000	12/13/2000	1/6/2001	
11/14/2000	11/28/2000	12/8/2000	12/23/2000	1/6/2001	
12/1/2000	12/13/2000	12/17/2000	12/21/2000	1/6/2001	
11/15/2000	11/30/2000	12/12/2000	12/23/2000	1/6/2001	
11/17/2000	12/11/2000	12/18/2000	12/27/2000	1/7/2001	
11/30/2000	12/14/2000	12/18/2000	12/19/2000	1/8/2001	
11/16/2000	11/28/2000	12/8/2000	12/23/2000	1/8/2001	
11/22/2000	12/13/2000	12/19/2000	12/27/2000	1/8/2001	
12/4/2000	12/12/2000	12/21/2000	12/23/2000	1/12/2001	
11/29/2000	12/13/2000	12/18/2000	12/23/2000	1/12/2001	
11/12/2000	11/28/2000	12/9/2000	12/18/2000	1/14/2001	
11/20/2000	12/13/2000	12/28/2000	1/2/2001	1/15/2001	
11/6/2000	12/5/2000	12/27/2000	1/3/2001	1/16/2001	
11/14/2000	11/29/2000	12/12/2000	12/23/2000	1/17/2001	
11/29/2000	12/13/2000	12/20/2000	1/2/2001	1/18/2001	
12/4/2000	1/3/2001	1/7/2001	1/17/2001	1/25/2001	
11/15/2000	11/30/2000	12/13/2000	12/17/2000	1/26/2001	
12/6/2000	1/1/2001	1/7/2001	1/18/2001	1/26/2001	
12/2/2000	1/1/2001	1/7/2001	1/16/2001	1/28/2001	
11/30/2000	12/13/2000	12/18/2000	12/21/2000	1/29/2001	
11/20/2000	12/13/2000	12/27/2000	1/3/2001	1/29/2001	
12/18/2000	1/1/2001	1/7/2001	1/16/2001	1/31/2001	
12/4/2000	12/19/2000	12/22/2000	12/23/2000	2/1/2001	
12/27/2000	1/17/2001	1/20/2001	1/22/2001	2/6/2001	
1/9/2001	1/21/2001	1/25/2001	1/30/2001	2/6/2001	
1/2/2001	1/15/2001	1/24/2001	1/27/2001	2/6/2001	
12/29/2000	1/17/2001	1/25/2001	1/28/2001	2/6/2001	
12/20/2000	1/2/2001	1/16/2001	1/27/2001	2/6/2001	
12/18/2000	1/2/2001	1/7/2001	1/17/2001	2/7/2001	
11/15/2000	11/30/2000	12/11/2000	12/15/2000	2/9/2001	
1/29/2001	2/6/2001	2/9/2001	2/12/2001	2/23/2001	
1/17/2001	1/31/2001	2/12/2001	2/20/2001	2/24/2001	
1/16/2001	1/26/2001	1/30/2001	2/4/2001	2/24/2001	
1/26/2001	2/1/2001	2/6/2001	2/12/2001	2/24/2001	
1/22/2001	2/5/2001	2/9/2001	2/13/2001	2/26/2001	
12/28/2000	1/16/2001	1/24/2001	1/27/2001	2/26/2001	
1/17/2001	1/31/2001	2/4/2001	2/15/2001	2/26/2001	
1/25/2001	2/5/2001	2/9/2001	2/13/2001	2/26/2001	
1/20/2001	1/26/2001	1/31/2001	2/7/2001	2/26/2001	
1/17/2001	1/30/2001	2/5/2001	2/8/2001	2/28/2001	
1/29/2001	2/1/2001	2/9/2001	2/12/2001	2/28/2001	
1/19/2001	1/30/2001	2/5/2001	2/7/2001	3/2/2001	
1/22/2001	2/1/2001	2/9/2001	2/12/2001	3/8/2001	
1/23/2001	2/5/2001	2/9/2001	2/13/2001	3/9/2001	
11/20/2000	1/18/2001	1/22/2001	1/24/2001	3/9/2001	
1/11/2001	1/17/2001	1/22/2001	1/27/2001	3/9/2001	
1/19/2001	2/3/2001	2/5/2001	2/7/2001	3/9/2001	
11/6/2000	2/12/2001	2/14/2001	2/21/2001	3/21/2001	

2/12/2001	2/20/2001	2/26/2001	3/11/2001	3/21/2001	
2/12/2001	2/21/2001	2/26/2001	3/3/2001	3/21/2001	
2/26/2001	3/5/2001	3/10/2001	3/14/2001	3/21/2001	
2/28/2001	3/4/2001	3/9/2001	3/14/2001	3/21/2001	
2/28/2001	3/5/2001	3/9/2001	3/14/2001	3/21/2001	
2/2/2001	3/3/2001	3/5/2001	3/12/2001	3/21/2001	
2/28/2001	3/6/2001	3/9/2001	3/14/2001	3/21/2001	
3/19/2001	3/26/2001	3/30/2001	3/31/2001	4/5/2001	
3/21/2001	3/26/2001	3/30/2001	4/1/2001	4/5/2001	
11/8/2000	3/25/2001	3/28/2001	4/1/2001	4/5/2001	
11/9/2000	3/25/2001	3/28/2001	3/31/2001	4/5/2001	
11/8/2000	3/25/2001	3/28/2001	3/31/2001	4/5/2001	
11/9/2000	3/26/2001	3/28/2001	3/31/2001	4/5/2001	
11/8/2000	3/25/2001	3/28/2001	3/31/2001	4/5/2001	
3/26/2001	4/16/2001	4/20/2001	4/24/2001	5/3/2001	
3/29/2001	4/16/2001	4/24/2001	4/26/2001	5/3/2001	
3/28/2001	4/20/2001	4/24/2001	4/26/2001	5/3/2001	
2/5/2001	2/22/2001	3/1/2001	3/11/2001	5/7/2001	
3/22/2001	4/16/2001	4/20/2001	4/24/2001	5/9/2001	
4/18/2001	5/11/2001	5/14/2001	5/19/2001	5/15/2001	
3/29/2001	4/30/2001	5/2/2001	5/4/2001	5/17/2001	
4/12/2001	4/26/2001	4/30/2001	5/4/2001	5/18/2001	
4/5/2001	4/26/2001	4/30/2001	5/4/2001	5/21/2001	
4/2/2001	4/27/2001	4/30/2001	5/4/2001	5/23/2001	
4/5/2001	4/26/2001	4/30/2001	5/4/2001	5/23/2001	
4/16/2001	5/11/2001	5/14/2001	5/19/2001	5/25/2001	
4/17/2001	5/10/2001	5/15/2001	5/19/2001	5/25/2001	
4/17/2001	5/14/2001	5/17/2001	5/19/2001	5/25/2001	
4/25/2001	5/11/2001	5/14/2001	5/19/2001	5/25/2001	
4/12/2001	5/14/2001	5/17/2001	5/20/2001	5/25/2001	
5/10/2001	5/29/2001	6/1/2001	6/3/2001	6/13/2001	
3/9/2001	5/16/2001	5/18/2001	5/29/2001	6/13/2001	
3/14/2001	5/21/2001	5/25/2001	5/29/2001	6/13/2001	
5/9/2001	5/29/2001	6/1/2001	6/3/2001	6/13/2001	
5/11/2001	5/29/2001	6/1/2001	6/3/2001	6/13/2001	
3/12/2001	5/16/2001	5/26/2001	5/30/2001	6/13/2001	
4/3/2001	4/27/2001	5/1/2001	5/4/2001	6/14/2001	
3/8/2001	5/21/2001	5/26/2001	5/29/2001	6/14/2001	
3/8/2001	5/16/2001	5/18/2001	5/20/2001	6/21/2001	
4/16/2001	5/10/2001	5/14/2001	5/19/2001	7/11/2001	
6/5/2001	6/18/2001	6/21/2001	6/24/2001	8/13/2001	
7/10/2001	7/20/2001	7/23/2001	7/28/2001	8/13/2001	
6/5/2001	6/19/2001	6/21/2001	6/24/2001	8/13/2001	
7/12/2001	7/19/2001	7/22/2001	7/26/2001	8/19/2001	
7/10/2001	7/19/2001	7/26/2001	7/28/2001	8/22/2001	
5/8/2001	5/29/2001	6/1/2001	6/3/2001	8/23/2001	
6/18/2001	7/20/2001	7/23/2001	7/28/2001	8/23/2001	
4/16/2001	5/11/2001	5/15/2001	5/19/2001	8/24/2001	
7/17/2001	7/20/2001	7/23/2001	7/26/2001	8/24/2001	
7/19/2001	8/3/2001	8/8/2001	8/14/2001	8/30/2001	
7/10/2001	7/19/2001	7/23/2001	7/28/2001	9/13/2001	
8/7/2001	8/17/2001	8/20/2001	8/27/2001	9/14/2001	

8/21/2001	9/4/2001	9/9/2001	9/12/2001	9/18/2001	
8/28/2001	9/4/2001	9/9/2001	9/12/2001	9/19/2001	
8/23/2001	9/4/2001	9/9/2001	9/12/2001	9/19/2001	
8/23/2001	9/4/2001	9/9/2001	9/12/2001	9/19/2001	
8/7/2001	8/17/2001	8/22/2001	8/27/2001	9/20/2001	
8/14/2001	9/4/2001	9/9/2001	9/12/2001	9/20/2001	
7/26/2001	8/8/2001	8/12/2001	8/14/2001	9/20/2001	
8/16/2001	9/4/2001	9/9/2001	9/15/2001	9/20/2001	
8/9/2001	8/17/2001	8/20/2001	8/27/2001	9/21/2001	
7/21/2001	8/1/2001	8/5/2001	8/8/2001	9/28/2001	
8/14/2001	9/23/2001	9/25/2001	9/29/2001	10/11/2001	
8/28/2001	9/20/2001	9/25/2001	9/29/2001	10/15/2001	
8/30/2001	9/20/2001	9/23/2001	9/29/2001	10/15/2001	
8/30/2001	9/20/2001	9/25/2001	9/29/2001	10/15/2001	
12/14/2000	1/3/2001	1/14/2001	1/19/2001		
11/29/2000	12/19/2000	12/21/2000	12/23/2000		
8/23/2001	9/12/2001	9/16/2001	9/18/2001		
2/4/2001	2/19/2001	2/28/2001	3/2/2001		
2/4/2001	12/13/2000	12/25/2000	12/27/2000		
11/6/2000	12/5/2000	12/13/2000	1/5/2001		
1/11/2001	1/21/2001	1/29/2001	1/31/2001		
7/24/2001	8/1/2001	8/5/2001	8/8/2001		
6/12/2001	6/21/2001	6/23/2001	6/24/2001		
8/7/2001	8/17/2001	8/22/2001	8/27/2001		
11/27/2000	12/11/2000	1/3/2001	1/15/2001		
11/28/2000					Not interested.
11/6/2000					Difficult to reach.
11/6/2000					Never w/child; doesn't know diet.
11/8/2000					7 tries- never answer
1/27/2001					6 tires- doesn't know what kid eats.
2/4/2001	1/3/2001				
2/4/2001	2/1/2001	2/23/2001			
3/13/2001					Unreachable.
5/9/2001					Wrong #; tried 5 times
11/9/2000					
3/15/2001					8 tires; unreachable.
1/3/2001	1/15/2001				
3/2/2001					5 tries; unreachable.
11/7/2000	12/5/2000				
12/21/2000					Not interested; 8 tries.
1/19/2001	1/26/2001	2/1/2001			
3/12/2001					Unreachable.
11/6/2000					ER in family- no time to participate.
11/30/2000	12/15/2000				
12/20/2000					# not in service.
11/8/2000					
12/27/2000	1/23/2001	1/26/2001			

Appendix H: Prospective Analysis Abstracts

1. **Abstract 1:** Dietary composition and changes in body mass index among low-income preschool children

2. **Abstract 2:** Beverage consumption and changes in body mass index among low-income preschool children

ABSTRACT 1

Title: Dietary composition and changes in body mass among low-income preschool children

Authors: P. K. Newby, Karen E. Peterson, Catherine S. Berkey, Jane Gardner, Jill Leppert, Walter C. Willett, and Graham A. Colditz

ABSTRACT

Background: Childhood obesity continues to rise in the United States and internationally. Little scientific consensus exists regarding dietary determinants despite important implications for prevention and treatment.

Objective: We examined prospectively the relation between dietary composition and subsequent changes in body mass index (BMI) among children 2-5 y. We tested several hypotheses, considering both nutrients (total fat, animal fat, vegetable fat, and fiber) and pre-defined North Dakota (ND) food groups (fruits, vegetables, breads/grains, and "fat foods") used in the North Dakota Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).

Design: Dietary, anthropometric, and sociodemographic data were collected from 628 children participating in the North Dakota WIC Program on 2 visits between 6 and 12 months apart. Our outcome variable was annual change in BMI.

Results: In multiple regression analyses, no significant relations were found between total fat, animal fat, vegetable fat, fiber, or predefined food groups fruits, vegetables, or breads/grains and annual change in BMI regression analyses. Recalling that BMI is generally decreasing during preschool years, there was a 0.046 kg/m^2 (CI: 0.007, 0.085, $P = 0.02$) smaller decrease in BMI per year with each additional daily serving of ND "fat foods," adjusting for sex and baseline measurements of age, BMI, and height and additional sociodemographic variables.

Conclusions: Only ND "fat foods" intake, but not dietary fat per se, was significantly related to BMI changes among preschool children. Further research is needed to further evaluate the relations between diet and adiposity in early childhood.

KEYWORDS: obesity, overweight, fat, fiber, fruit, vegetables, children, BMI, preschool, prospective, longitudinal

ABSTRACT 2

Title: Beverage consumption and changes in body mass among low-income preschool children

Authors: P. K. Newby, Karen E. Peterson, Catherine S. Berkey, Jill Leppert, Walter C. Willett, Graham A. Colditz

ABSTRACT

Background: Childhood obesity is a major public health problem in the United States whose etiology may be related to changes in beverage consumption patterns.

Objective: We prospectively examined the relation between beverage consumption and yearly changes in body mass index (BMI) among children 2-5 y. Our hypotheses were that fruit juice, fruit drinks, milk, soda, and diet soda would be positively related to changes in BMI.

Design: Dietary, anthropometric, and sociodemographic data were collected from 609 preschool children participating in the North Dakota Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) on two consecutive visits approximately 9 months apart. The outcome variable, difference in BMI, was calculated between visits and divided by the time interval to estimate a change in BMI per year. We considered beverage intakes as both continuous servings as well as categorized into ≥ 12 oz intake for juices and milk.

Results: Changes in BMI were not significantly related to intakes of fruit juice, fruit drinks, whole milk, soda, or diet soda in either univariate or multivariate analysis. Results did not change when further adjusted for sociodemographic variables. Similar findings were seen when intakes of milk and juices were dichotomized into excessive (≥ 12 oz) consumption categories.

Conclusions: We found no relations between beverage intakes and changes in BMI in this population of preschool children. The influence of beverages on body weight may be more important for older children who consume a more varied diet.

KEYWORDS: obesity, overweight, soda, juice, milk, children, BMI, preschool, prospective, longitudinal