Tell Us About Your Home:

Three Years of Surveying Housing Quality and Satisfaction in the Housing Choice Voucher Program

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EXECUTIVE SUMMARY

This report presents information on the quality of housing occupied by participants of the Section 8 tenant-based rental assistance, or Housing Choice Voucher (HCV) program. In fiscal year 2006, Congress provided $14.52 billion (after carryover and rescissions) for this program, which helped approximately two million low-income households obtain decent, affordable housing in the private market. The HCV program is administered locally through approximately 2,500 public housing agencies (PHAs). Each PHA is responsible for ensuring that all housing in the program is decent, safe, and sanitary. Tenants lease units that have been inspected by PHA staff before move-in. HUD requires PHAs to re-inspect each unit at least once annually thereafter. The inspection requirement is part of how HUD oversees the program and verifies that Section 8 tenants live in decent housing that meet the program's identified Housing Quality Standards (HQS).[1]

An obvious source of independent information about the quality of Section 8 units is the residents themselves. Prior research has shown that residents can provide valid assessments of the characteristics of their homes. As part of two pilot tests conducted during the 1990s, HUD designed a mail-back customer survey of Section 8 program participants that provided feedback on the quality of their housing and their satisfaction with aspects of the program.[2] The pre-tested version of this survey instrument was implemented in a program of customer surveys that began in 2000.[3] This report presents findings from three years of surveying conducted over the period of calendar years 2000-2002.

The primary goal of the surveys was to provide participant feedback to PHAs to help them improve their Section 8 programs. This required a sample design that would yield statistically significant information for each PHA, initially and on an ongoing basis. The sample design employed for this project was stratified element sampling. A simple random sample of elements was taken from each stratum, the individual PHA that submitted a form HUD-50058 Family Report. The sample elements were the households participating in the Section 8 tenant-based program.

The sampling strategy and methods used for surveying evolved over the three years of operation. During the first year of the survey, for PHAs with more than 220 occupied units, the survey was mailed to 220 program participants. For PHAs with 220 or fewer units, the survey was mailed to all participating families. During the second year, over-sampling was performed for large PHAs with 1,000 or more occupied units, and for State agencies. The third year of the survey again over-sampled for State agencies, and also over-sampled for non-State PHAs operating programs

[1] See: 24 CFR 982.401

[2] See: Anderson, James R., 1995. *Consolidation Report; HQS Section 8 Mail Survey Study.* Office of Policy Development and Research, HUD, Washington DC. And: Building Research Council, 1998. *Resident Assessment of Housing Quality: Lesson from Pilot Surveys.* Office of Policy Development and Research, HUD, Washington DC.

[3] See Appendix D, *Customer Survey of Section 8 Tenant-Based Program Participants – OMB Approval 2528-0170 expires 9/30/2002.* Notice PIH 2000-02 (HA). Issued January 4, 2000.

in States that had been found to have higher rates of housing inadequacy, based on results from the first year of data collection. Complete details on sampling strategy are found in Appendix A.

Surveys were mailed throughout the year. On average, initial surveys were mailed about 147 days (about 4 and a half months) after the move-in or re-certification date. The survey is not intended to measure of the quality of PHA inspections, but rather to measure of the quality of housing typically obtained by program participants throughout the year.

In 2000, during the first full year of operation, surveys were mailed to almost 280,000 families, and responses were received from 173,362 families (62.2 percent response rate). Surveys were sent to households assisted by 2,409 PHAs that were responsible for administering approximately 1.5 million occupied units. In the second and third year, the number of surveys mailed was similar, but response rates declined, to 49.0 percent in 2001 and to 45.0 percent in 2002. The overall response rate for the three years was 51.7 percent.

Sampling was triggered by receipt of tenant data reports from PHAs. As a result, not all PHAs are represented in the findings in this study. The sampling frame does include 95 percent of the PHAs and 99 percent of the occupied units for the three years of the survey.

As seen in Tables 1-2 through 1-5, response rates varied by household type, although were generally clustered around the overall average of 51.7 percent. Response rates were higher among elderly, persons with disabilities, and non-minorities. Conversely, response rates were lower than average among the lowest-income families, and were also lower than the overall average for families with primarily wage or primarily welfare income.

Nationally, percentage differences are almost always statistically significant, due to the very large sample size. Appendix C presents selected results with confidence intervals for a sample of PHAs, surveyed by year and for the three years combined.

The questionnaire used in this survey included 51 items on housing quality, of which 44 measured the types of problems included in HQS. The survey measured all types of physical defects, ranging from minor to major. The survey also asked about customer satisfaction of home, landlord, and PHA, as well as several quality-of-life questions about their neighborhood. Images of the actual questionnaire appear in Appendix D.

Guidance that HUD provides to PHAs has perhaps led to an unreasonable expectation that housing occupied by Housing Choice Voucher program participants will always remain in good condition between the time of a unit's initial passing inspection and the next annual re-inspection. However, program units are not immune to the normal wear and tear that occurs in all occupied housing, whether HUD-assisted or not. Further, some units may not be entirely free of reportable defects even after passing inspection, because inspectors are allowed to make judgments regarding the suitability or desirability of the unit. These judgments are in part based on consideration of the tenant's expressed needs.

When housing units are completely free of HQS defects at the time that a unit passes inspection, it is reasonable to assume that such units will remain free of defects for at least some minimal

period of time. These units can, of course, develop one or more defects that will be identified and corrected at the time of the next inspection. A few defects that were included in the questionnaire may have developed after the time of a passed inspection and may result from normal wear and tear caused by tenants, especially if children are residing in the unit.

The survey instrument was designed to ask questions that closely relate to HQS. Over three years of surveying, households reported an average of 4.8 HQS-related defects in their unit. For households that were surveyed within 60 days of the inspection, tenants reported an average of 4.1 HQS-related problems in their unit. It is our judgment that the deficiencies found in this survey are not just the result of normal wear and tear between initial and annual inspections. Many of these deficiencies must have been present at the time that the unit last passed inspection.

Most units occupied by participating families are in reasonably good condition, having few identified defects. Most participating families expressed strong satisfaction with their home and neighborhood. Survey results do indicate, however, that there are serious housing quality problems for a surprisingly large percentage of units. About 22.8 percent of households report eight or more HQS-related defects in their dwelling unit, and 13.1 percent report defects that represent severe problems using a measure of critical defects patterned after the definition of severe inadequacy used in the American Housing Survey (AHS)[4].

The percentage of deficient units varies considerably, depending on location and household composition. Elderly households are less likely to experience severe housing deficiencies than non-elderly, whereas families with children are significantly more likely to report deficiencies. The highest rates of deficient housing often are experienced by families with children living in higher poverty census tracts. Units in the West and Midwest Census Regions had on average fewer defects than units in the Northeast and Southeast Regions.

PHAs have access to the on-site inspection reports performed by their own staff (or by their contractors), but they do not have the kind of independent information provided by this survey. PHAs need to be aware of the concentrations of severe problems within their jurisdiction, and need to take steps to improve housing quality. These steps may include improving communication; improving training for inspectors and landlords; commanding more oversight of the judgment exercised by inspectors; and performing inspections more frequently than once every 12 months, particularly for identified groups within their jurisdiction that report higher than average rates of problems. HUD's present system for reimbursing PHAs for administrative expense does not cover the cost of these additional inspections.

HUD could identify program design changes that would help to improve housing quality. Rates of housing inadequacy among program participants are higher than average in central cities and among minority households. Families with children living in higher poverty census tracts experience much higher rates of severe housing inadequacy than other households. This

[4] The critical defects definition uses concepts and procedures that are similar to those used to describe severely inadequate housing in AHS publications, but the estimates of critical defects are not comparable to estimates of severe inadequacies as reported in the AHS.

underscores the need for counseling and additional support to households living in areas where it is more difficult to obtain good quality housing.

In addition to program-wide statistics on housing quality, this report also provides detailed results at the individual PHA level. The housing quality findings presented here and in Appendix C should not be considered performance ratings of PHAs and is not a part of the Section 8 Management Assessment (SEMAP) program used to evaluate PHA performance. These findings can nonetheless help to identify the potential need for technical assistance, training, and increased on-site monitoring by HUD staff. The findings also provide to PHAs a means of assessing their own performance, allowing them to compare their results on housing quality and resident satisfaction with results for their peer agencies. Additionally, HUD could use survey results to identify best practices by PHAs who have very low rates of housing deficiencies.

Information on observed physical defects collected in the Section 8 housing quality survey could, in the future, become a part of SEMAP. Currently, SEMAP uses five indicators that are directly or indirectly related to PHA compliance with program inspection requirements. This performance measurement system is based entirely on information generated by the PHA itself. The system could be augmented to include independently collected information resulting from resident assessments collected under the Section 8 housing quality survey.

In addition to including selected results from the Section 8 survey in SEMAP, HUD could conduct more intensive monitoring of housing quality using staff from HUD Field Offices and contractor staff that are independent of the PHA. In order to improve housing conditions of program participants, this monitoring effort should focus on PHAs with significantly higher than average incidence of critical housing problems. For the most part this effort would entail monitoring a limited number of larger PHAs, although when a small PHA appears on a list such as Table 3-3, it also should warrant close attention.

Besides HUD's own monitoring of physical conditions, the survey offers a significant potential for improving conditions as a result of PHA self-assessments. At present, PHAs have no independent means of reviewing their own performance, or comparing their results with results for other PHAs.

Key Results

- Two pilot studies and three years of survey collection demonstrate that residents can provide reliable information about the housing conditions of their HCV unit. The mail survey instrument and methodology used is a cost-effective, reliable way to monitor housing conditions in the Section 8 HCV program.

- Overall, a vast majority of tenants residing in Section 8 HCV units experience decent, safe, and sanitary conditions. However, a significant number report substantial housing quality problems that directly relate to HUD's Housing Quality Standards (HQS).
    - 43% of all households reported at least 1 HQS deficiency

- 23% of all households reported 2-7 HQS deficiencies
- 14% of all households reported 8 or more HQS deficiencies

- Rates vary widely by type of household.
  - 29% of households with children reported 8 or more HQS problems.
  - 18% of households with non-elderly disabled members had 8 or more HQS-type problems.
  - 10% of households classified as elderly reported 8 or more HQS deficiencies.
  - Among families with children:
    - 16% reported holes or large cracks in ceiling, allowing in rain;
    - 15% reported the home cold for 24 hours or more during last winter;
    - 21% reported that the unit does not provide enough heat;
    - 19% reported water leaking on day of survey from kitchen or bathroom.

- The mean number of HQS-related problems was 4.8 defects per unit and the median was 3 reported defects. Households with children reported the most problems (5.7 defects per unit), while elderly households reported the fewest (2.8 defects per unit).

- 15.5 % of all households were unsatisfied with quality of routine repairs and maintenance.

- Inspectors found some of the units with serious deficiencies. However, they passed nearly 85% of units at the initial inspection, while the survey revealed less than 20% have zero HQS problems. This discrepancy needs to be addressed by HUD.

- Over the three years of the study, reported rates of HQS-related problems has shown no tendency to decline.

- The survey methodology can be used to monitor housing quality at the PHA level.
  - Generally, the proportion of units with severe problems increases with the size of PHA, and is highest, on average, for the largest PHAs (6,000 or more units).
  - However, the survey identified many medium-sided and small PHAs, located in non-metropolitan, suburban, and central city locations, with high rates of observed defects.
  - Most HCV residents of programs administered by large PHAs lived in good quality housing with few physical defects.
    - 23% percent of all units in large PHAs had 8 or more HQS-type defects.
    - 10 large PHAs had more than 35% of units with 8 or more HQS defects.

- Approximately 100 PHAs had one-third of more units with 8 or more HQS-type defects.
  - These PHAs administered a total of 194,237 units (13% of program total).
  - These PHAs vary widely in size and geography.
  - Virtually all of these PHAs had rates of AHS-based critical defects above the national average rate of 13.1%.
  - Half of these PHAs had AHS-based rates of critical defects of 20% or greater.
  - Examples:

    - Two agencies in New York City (NY005 and NY110)
    - New Orleans, LA
    - Baltimore, MD
    - Hartford, CT
    - Region VI Mississippi Regional agency;
    - Fort Worth, TX
    - Kansas City, MO
    - Houston, TX
    - Atlanta, GA

- Some PHAs, including some large PHAs, did a very good job maintaining housing quality during 2000-2002. The following are examples of large PHAs with a small proportion (less than 13%) of units with 8 or more HQS problems:
    - San Diego County, CA
    - Brown County (Green Bay), WI
    - Kentucky State Housing Corporation
    - San Jose, CA
    - Los Angeles County, CA

I. INTRODUCTION, BACKGROUND, AND METHODOLOGY

Introduction

This report presents information on the quality of housing occupied by participants of the Section 8 tenant-based rental assistance program, currently known as Housing Choice Vouchers. In fiscal year 2006, Congress provided $14.52 billion (after carryover and rescissions) for this program, helping approximately two million low-income households obtain decent, affordable housing. This assistance is provided through approximately 2,600 public housing agencies (PHAs). Each participating household selects housing from available, private sector housing. Each PHA is responsible for administering the local Section 8 program and ensuring that all housing utilized in the program is decent, safe, and sanitary.[5] Tenants lease units that have been inspected by PHA staff. These units are required to be re-inspected annually. HUD is responsible for providing program oversight and verifying that PHAs are assuring that Section 8 recipients live in decent housing that meets program standards.

Besides information available at the PHA level, an obvious source of independent information about the quality of Section 8 units is the residents themselves. Prior research has shown that residents can provide valid assessments of the characteristics of their homes.[6] HUD and individual PHAs need these resident assessments to help fulfill their oversight responsibilities for the Section 8 program. As part of two pilot tests conducted during the 1990s, HUD designed a mail-back customer survey of Section 8 tenant-based program participants that provides feedback on the quality of their housing and their satisfaction with aspects of the program.[7] The pre-tested version of this survey instrument was implemented in a program of customer surveys that began in 2000.[8] This report presents findings from three years of surveying conducted over the period of calendar years 2000-2002.

This chapter describes the origin of the survey and the methods used. Chapter Two presents national findings on the quality of housing occupied by Section 8 participants. Chapter Three describes housing quality results at the PHA level, and demonstrates how HUD and the PHAs can use survey data for ongoing monitoring of housing quality.

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[5] See: 24 CFR 982.401.

[6] See: Anderson, James R., 1995. *Consolidation Report; HQS Section 8 Mail Survey Study.* Office of Policy Development and Research, HUD, Washington DC. And: Building Research Council, 1998. *Resident Assessment of Housing Quality: Lesson from Pilot Surveys.* Office of Policy Development and Research, USHUD, Washington DC.

[7] See: United States Department of Housing and Urban Development, *Implementation of Customer Survey of Section 8 Certificate and Voucher Participants Supporting Statement for OMB Review Phase II.* Unpublished manuscript.

[8] See Appendix D, *Customer Survey of Section 8 Tenant-Based Program Participants – OMB Approval 2528-0170 expires 9/30/2002.* Notice PIH 2000-02 (HA). Issued January 4, 2000.

Pilot Tests

In 1995, HUD considered whether a tenant survey might offer a valid and reliable means of independently assessing if units leased under the Section 8 tenant-based programs meet the Department's Housing Quality Standards (HQS). This effort aligns with Executive Order 12862: "*Setting Customer Service Standards*," directing Federal agencies to ensure they are providing the highest quality of service to the American people. HUD and other agencies were instructed to "survey customers to determine the kind and quality of services they want and their level of satisfaction with existing services." HUD designated this project as HUD's customer survey for the Section 8 Certificate and Housing Voucher programs.[9]

From 1995 to 1998, HUD's Office of Policy Development and Research (PD&R) developed a mail survey questionnaire that could provide information about housing quality and could be a mechanism for customer feedback about the Section 8 program. PD&R tested the questionnaire in two large pilot studies on a wide range of housing and resident types. The pilot studies sampled over 5,000 households, including a variety of household types: families and single-person households of all races, and households with elderly or disabled members. The studies were conducted in eleven counties in three states, including detached and multifamily housing, low rise and high-rise units. Specific sites ranged from inner cities (e.g., St. Louis, MO and Gary, IN), to suburbs (e.g., Ellisville, MO and Batavia, IL), to moderate sized cities (e.g., Peoria and Springfield, IL), to smaller communities (e.g., LaSalle, IL and Vincennes, IN). The sample included PHAs that were listed by HUD as distressed, as well as other PHAs with outstanding performance records.[10]

PD&R considered the pilots successful because of high response rates and high confidence in the findings. Rates of return for Section 8 tenant based participants in the initial pilot study were 76 percent. Response rates in the second pilot, sent to residents of public housing and multifamily assisted properties, ranged from 58 to 74 percent, depending on housing program and method of delivery of the survey.

In both pilots, resident ratings were compared with evaluations of their units by professionally trained on-site inspectors. Rates of agreement were consistently high. Resident and inspector ratings were compared for 64 dichotomous, direct assessment items that appeared in both the resident survey and the on-site inspection form. On an item-by-item basis, there was strong agreement between the findings of the inspections and the questionnaires. For 24 dichotomous items, rates of agreement were greater than or equal to 90 percent, and for an additional 15 items,

[9] In October 1998, Congress passed housing reform legislation, including a full merger of the Section 8 Certificate and Housing Voucher programs. This legislation eliminated all differences, and required that the subsidy types merge into a single program. In May 1999, HUD published an interim rule providing for the complete merger of the two programs into the new Housing Choice Voucher program. The certificate program was to be phased out by October 2001, although some project-based certificates contracts have not yet expired. The interim rule was effective October 1, 1999, which is known as the merger date. See: Chapter One *of the Housing Choice Voucher Guidebook*, available at: http://www.hud.gov/offices/pih/programs/hcv/forms/guidebook.cfm

[10] Anderson op cit.

rates of agreement were between 80 and 90 percent. Similar results were obtained for non-dichotomous items – rates of agreement were 80 percent or above for 16 out of 20 items. Equally important, residents' and inspectors' assessments were found to agree as much as inspector assessments of the same unit at two different times. Analyses of resident expressions of satisfaction showed consistent relationships with other questions and discrimination among types of housing. The mail survey format was found to be successful across all housing developments, regardless of their performance. There were no patterns in the data to suggest that accuracy varies across demographic groups, such as by age, gender or employment status.

In developing the mail survey instrument, consideration was initially given to data collection by telephone or by face-to-face interview. HUD determined that both of these alternatives were less than ideal for several reasons. First, these alternatives required substantial labor costs to achieve a satisfactory sample and response rate. Second, these alternatives are more intrusive and less convenient for respondents. Interviews must occur at a time and place beyond the resident's control, causing difficulties for people who work outside the home, have family responsibilities, or are involved in out-of-home activities. Additionally, these methods could introduce bias that might be caused by an interviewer's presence in the home.

HUD also considered using electronic web-based surveys as a very low-cost method, but determined that too few HCV households had internet access to make this a reliable and non-biased data collection method. Several years have passed since the survey was last operated. The internet is increasingly accessible, and if the survey is operated again in the future, HUD could consider electronic web surveys as an alternative, cost-effective method.

HUD determined that an automated mail survey would be the most cost-effective way to elicit a large response rate. Almost all of the survey budget could be spent directly on printing and postage, keeping labor and administrative costs under 10% of total cost. A mail survey can be completed when convenient for the resident, and can be carried around the home for quick assessment of conditions. This method also eliminates the possibility of interviewer bias.

HUD used the two pilot studies to test alternative distribution methods. Two distinct options were tested: 1) centralized distribution by mail and 2) distribution by the staff of individual PHAs. These tests demonstrated that a centralized, mail-delivered questionnaire had higher rates of return than questionnaires distributed by PHAs. In addition to high rates of return, centralized mail distribution has two other major advantages. First, it diminishes the opportunity for a PHA to identify the responses from specific residents, providing a higher assurance of confidentiality. Considerable research indicates that respondents change the way that they respond when anonymity of response is absent. They answer in ways that will reduce any possible threat to their tenancy and in ways that will be socially acceptable. In short, tenants are unlikely to be candid with their landlords. A second major advantage to a centralized mailing process is inherent efficiencies. Centralizing the process avoids the redundancy of some 2,600 PHAs having to develop, administer, enter by keyboard, and analyze non-comparable reports from residents. Administration by PHAs would be particularly burdensome for smaller PHAs.

During the pilots, HUD developed an automated method of survey distribution. The primary features of the process were designed to include: 1) sample selection from HUD's tenant data

collection system[11], 2) automated mailing with return tracking to trigger necessary follow-up mailings, 3) scanner data entry by optical mark recognition (OMR), 4) automated data cleaning and report generation, and 5) Internet based report access for PHAs and HUD offices through an already existing system. The last feature may soon be developed as part of an effort to provide feedback directly to PHAs.

Sampling

To achieve the survey's objective, providing participant feedback to PHAs to help them improve their Section 8 programs, it was necessary to design a sample that would yield statistically significant information for each PHA, initially and on an ongoing basis. The sample design employed for this project was stratified element sampling. A simple random sample of elements was taken from each stratum, the individual PHA that submitted a 50058 Family Report. The sample elements were the households participating in the Section 8 tenant-based program.

PHAs differ widely in terms of the number of families assisted under their programs. It was determined on the basis of the pilot surveys that responses by at least 133 households would provide statistically significant results for individual PHAs. To achieve this number, and adjusting for anticipated response rates, the survey was designed to randomly sample from families assisted by PHAs with more than 220 occupied units, and to conduct a census for families assisted by PHAs with 220 or fewer occupied units. The actual number of surveys sent was driven by the number of 50058 Family Reports received by HUD throughout the year. In order to avoid excessive respondent burden on families, a mailing to a particular family would be done only once in any 18 month period.

The sampling strategy and methods used for surveying evolved over the three years of operation. During the first year of the survey, for PHAs with more than 220 occupied units, the survey was mailed to 220 program participants. For PHAs with 220 or fewer units, the survey was mailed to all participating families. During the second year, over-sampling was performed for large PHAs with 1,000 or more occupied units, and for State agencies. The third year of the survey over-sampled non-State PHAs operating programs in States that had been found to have higher rates of housing inadequacy, based on results from the first year of data collection. In order to support the over-sampling while staying within the budget for this project, sample sizes were reduced for PHAs operating in states with relatively fewer problems reported.

There were three distinct waves of the survey. Mailings were conducted over a period of about 3.5 years, at a cost of approximately $1.2 million for each wave. In this report, for ease of presentation, the first-year through third-year waves are referred to as the 2000, 2001, and 2002 surveys. For each of these waves, most households were sampled from tenant data records reported to HUD for the indicated year. Full details of the sampling strategy and methods used during survey operations are presented in Appendix A. Information on data collection and

[11] Through May 2001, tenant data were provided through the Multifamily Tenant Characteristics System (MTCS). Beginning in September 2001, tenant data were provided through the Public and Indian Housing Information Center (PIC).

processing methods, including methods used to boost response rates, and the use of a telephone hotline to take calls from households receiving the survey are presented in Appendix B.

Timing of the Mailings

Surveys and responses were distributed throughout the year. Nationally, the average initial survey was mailed to a sampled household on average 147 days (about 4 and a half months) after the time of the inspection. The survey is thus not a measure of the quality of PHA inspections, but rather a measure of the quality of housing typically obtained by program participants throughout the year.[12]

The survey was originally designed to send mailings on the basis of weekly processing of tenant data reports. The trigger for a mailing would be the PHA's transmission of 50058 Family Reports of new admissions and annual re-examinations. Mailings would occur as soon as possible after the time of the PHA's own housing quality inspection – an average of 25 days after the effective date during the first year. However, in May 2001, during the second year of the survey, due to a processing change in HUD's tenant data collection system, it was no longer possible to conduct weekly mailings. For the remainder of the survey, mailings were done on the basis of samples that were drawn three times per year, each time using tenant data records from the latest available three months of tenant data. During the last two years, surveys were mailed on average 202 days (6 and a half months) after the effective date.

Another objective of the survey was to distribute mailings throughout the year, to allow for more efficient mail handling, scanning, and hotline operations. Because of the transition to periodic (as opposed to weekly) sampling, and also because mailings were spread out over a period of months once the sample was drawn, the timing of the mailings does <u>not</u> coincide with the timing of the PHA's housing quality inspection. Implications of this result are discussed in Chapter Two.

Response rates and weighting

In 2000, during the first full year of operation, surveys were mailed to almost 280,000 families, and responses were received from 173,362 families, with a response rate of 62.2 percent. Surveys were sent to households in 2,409 PHAs that were responsible for administering approximately 1.5 million occupied units (Table 1-1).

HUD mailed a similar number of surveys in the second and third year, although response rates declined, to 49.0 percent and 45.0 percent respectively. The overall response rate across all three years was 51.7 percent. HUD believes this is a very high response rate for a mail survey. The large response adds further weight to the importance of tenant feedback: tenants want a say in their housing conditions.

[12] Timing of inspections and implications for the findings on housing quality are discussed further in Chapter Two.

The survey relies on receipt of tenant data reports from PHAs to trigger the sampling, and as a result not all PHAs are represented in the findings in this study. However, the sampling frame included 95 percent of the PHAs and 99 percent of the occupied units for the three years of the survey.[13]

Table 1-1:
Survey Information

	2000	2001	2002	3 Year Total
Number of Surveys Mailed	279,314	340,487	267,888	887,689
Number of Responses	173,362	166,844	119,092	459,298
Response Rate	62.2%	49.0%	45%	51.7%
Number of PHAs included in survey	2,409	2,448	2,378	
Total Number of Section 8 Households	1,500,532	1,588,607	1,708,012	

This survey utilized an unusually large sample, and one that was designed for administrative use. In this report, responses are weighted, reflecting the number of occupied units for each PHA during each survey year. Weighted results are used to report results for the nation, PHAs, and other specified groups such as central cities and suburbs. Nationally, percentage differences are almost always statistically significant, due to the very large sample size. In Appendix C, selected results are presented with confidence intervals for a sample of PHAs, for each year of the survey, and for the three years combined.[14]

As seen in Tables 1-2 through 1-5, response rates vary by household type. Response rates are clustered reasonably well around the overall average of 51.7 percent. Response rates were higher than average among elderly, persons with disabilities, and non-minorities. Conversely, response rates were lower than average among the lowest-income families, and were also lower than the overall average for families with primarily wage or primarily welfare income.

[13] PHAs not part of the sampling frame may be missing for several reasons, including: a) PHA did not submit any tenant data (form 50058) to HUD during survey period; b) no tenants completed the survey; c) technical problems in constructing the database; d) the PHA was not required to submit tenant data to HUD, such as Tribal housing authorities or agencies participating in the Moving to Work (MTW) Demonstration; e) the PHA was formed after the survey's initiation; and f) the PHA disbanded or merged with another PHA. The most common reason for not being represented in the data presented below is that the PHA had not submitted any 50058 family data reports to HUD during the sampling period.

[14] A dataset with selected results and their confidence intervals for all PHAs will be posted electronically at PD&R's research clearinghouse website, http://www.huduser.org, in an accessible, sort-able, searchable format.

Response rates by State ranged from 34.6 percent to 59.0 percent, as seen on Map 1-1. The response rates were highest in Pennsylvania, Minnesota, Iowa, South Dakota, Nebraska, Oregon and California. States with response rates below the national average were New Mexico, Oklahoma, and seven States in the southeast region. A Spanish language version was not available, partially explaining the low response rate (32.5 percent) received from Puerto Rico.

Tables 1-6 through 1-8 report household type frequencies for surveyed households and respondents. Higher response rates for elderly, non-minorities, and higher-income households result in over-representation for these groups among the survey responses. For instance, households with income above $7,500 represented 55.1 % of surveyed households and 55.7 % of responding households.

The weighting procedure used to tabulate responses helps mitigate the impact of varying response rates. For instance, black headed households represent 29.4 % of responding households. Yet they represent 39.1 % of weighted responses.

Table 1-2:
Response Rate by Type of Household

Household Composition	Responded	No Response
Families with children	45.0%	55.0%
Elderly*	68.2%	31.8%
Nonelderly with disabilities*	60.8%	39.2%
Other	52.9%	47.1%
All households	51.7%	48.3%

*Based on head or spouse. Elderly are age 62+.

Table 1-3:
Response Rate by Race and Ethnicity of Household Head

Race/Ethnicity of Household Head	Responded	No Response
White, non-Hispanic	56.7%	43.3%
Black, non-Hispanic	45.6%	54.4%
Hispanic	47.3%	52.7%
Other	51.4%	48.6%
All households	51.7%	48.3%

Table 1-4:
Response Rate by Per Capita Income

Per Capita Income	Responded	No Response
Under $2,500	43.1%	56.9%
$2,500-$7,500	53.2%	46.8%
Over $7,500	47.6%	52.4%
All households	51.7%	48.3%

Table 1-5:
Response Rate by Primary Household Income Source

Primary Source of Income	Responded	No Response
More than half of family income from wages	45.4%	54.6%
More than half of family income from welfare	48.8%	56.2%
More than half of family income from other, or no primary source	58.2%	41.8%
All households	51.7%	48.3%

The reader should keep in mind that the estimates presented in this report are based on a sample of households receiving Housing Choice Vouchers, and, as with all surveys, the results are influenced by the characteristics of those who actually respond. Overall, about half who received a survey responded, which raises the question of whether the results overstate the actual percentage of households with poor quality. In other words, one might be concerned that only those with poor quality housing would respond to this survey.

Unfortunately, no independent data are available on non-reporting households. We have reason to believe, though, that reporting is probably a function of many factors, including housing quality. As noted above, reporting rates are higher for the elderly. This is perhaps not surprising, given that they tend to have more leisure time than families with children. Reporting rates are also higher for non-minorities and higher income groups. As discussed in the next chapter, these groups report higher levels of housing quality and satisfaction. This would tend to bias upward estimated housing quality. In short, while we place high confidence in the survey, we acknowledge that the effect of non-response by our sampled households on our estimates is hard to predict.

Looking Forward

In the future, HUD could consider the feasibility of operating customer satisfaction and housing quality surveys electronically over the internet. However, the advantages of web surveys (significantly reduced costs, simplification of data processing, and environmental benefits of consuming less paper) must be carefully weighted against their disadvantages (possible low response rate and survey bias due to too few residents with internet access).

More research on non-response would also be extremely helpful. Research could focus on boosting response rates, as well as insuring survey responses reflect conditions in the general population of HCV households.

Table 1-6:
Type of Household for Surveyed Households and Respondents

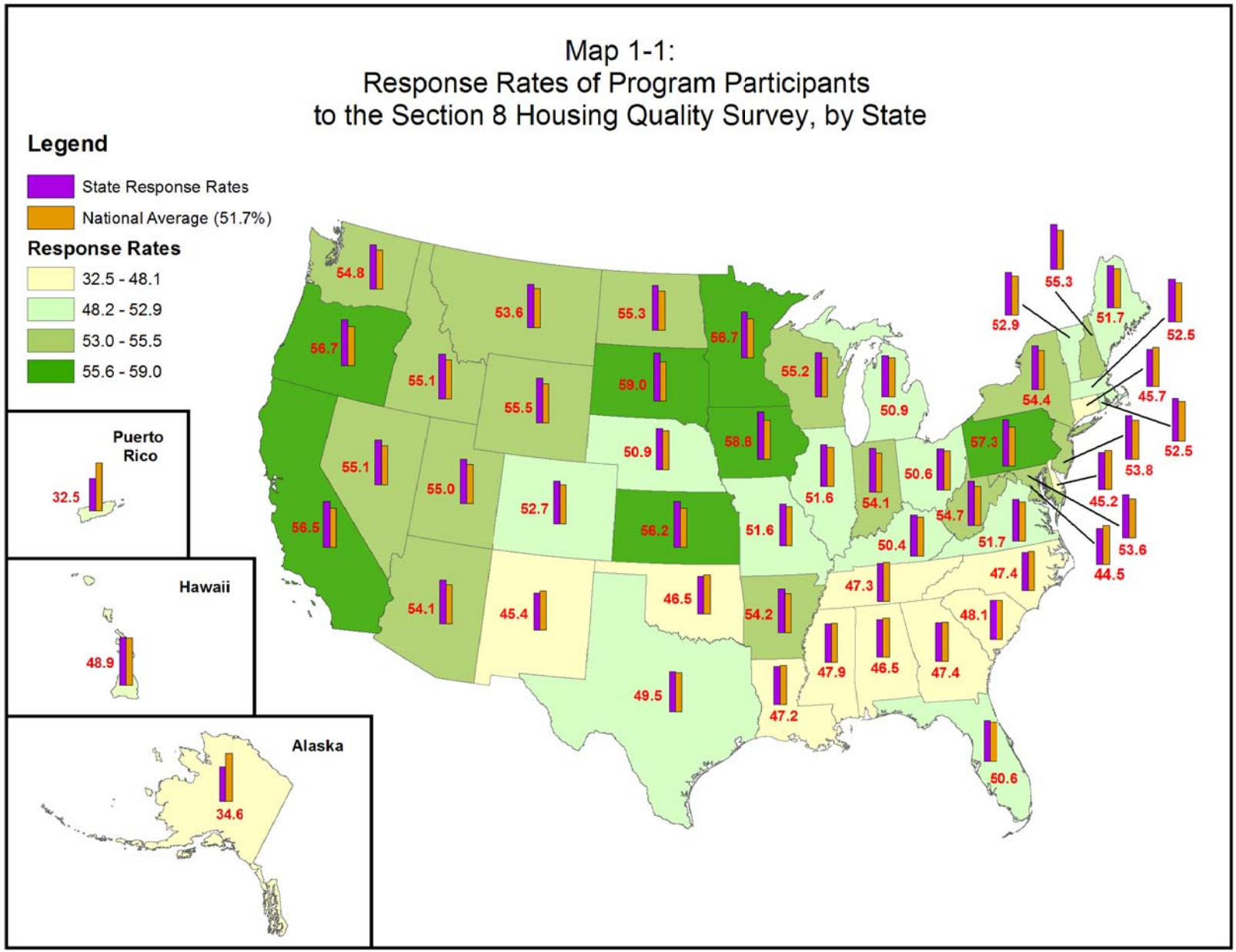
Household Composition	Surveyed Households	Respondents
Families with children	60.3%	52.5%
Elderly*	14.8%	19.5%
Nonelderly with disabilities*	16.8%	19.8%
Other	8.0%	8.2%
All households	100%	100%

Table 1-7:
Race and Ethnicity of Surveyed Households and Respondents

Race/Ethnicity of Household Head	Surveyed Households	Respondents
White, non-Hispanic	52.4%	57.4%
Black, non-Hispanic	33.4%	29.4%
Hispanic	12.0%	10.9%
Other	2.2%	2.2%
All households	100%	100%

Table 1-8:
Per Capita Income of Surveyed Households and Respondents

Per Capita Income	Surveyed Households	Respondents
Under $2,500	9.7%	8.1%
$2,500-$7,500	35.1%	36.0%
Over $7,500	55.1%	55.7%
All households	100%	100%


Map 1-1:
Response Rates of Program Participants
to the Section 8 Housing Quality Survey, by State
Legend
State Response Rates
National Average (51.7%)
Response Rates
32.5 - 48.1
48.2 - 52.9
53.0 - 55.5
55.6 - 59.0
Puerto Rico
Hawaii
Alaska
54.8
56.7
53.6
55.3
55.1
55.5
59.0
58.7
55.2
50.9
58.6
55.1
55.0
52.7
50.9
56.5
56.2
51.6
54.1
50.6
54.7
50.4
51.7
54.1
45.4
46.5
54.2
47.3
47.4
48.1
47.9
46.5
47.4
49.5
47.2
50.6
52.9
55.3
51.7
52.5
54.4
45.7
57.3
52.5
53.8
45.2
53.6
44.5
32.5
48.9
34.6

II. HOUSING QUALITY AND RESIDENT SATISFACTION

This chapter presents national, weighted results describing housing quality and resident satisfaction for households receiving Section 8 tenant based assistance. Results are presented first by individual item, in terms of the program's Housing Quality Standards (HQS). Survey results are then presented by component of the house, such as kitchen and bathroom, electrical, and plumbing. Composite measures of housing quality are provided to identify housing units with the most severe housing problems. Finally, housing quality and resident satisfaction is described by geography such as for Census regions, metropolitan areas, central cities and suburbs. We report results by tenant's race or ethnicity, poverty rate of the tenant's neighborhood, and selected socio-economic groups that include presence of children, age of household head, and presence of disability.

Incidence of Problems Related to Housing Quality Standards (HQS)

The questionnaire developed for this project included 51 items on housing quality, of which 44 closely relate to problems identified in HQS.[15] Images of the actual questionnaire appear in Appendix D. The most frequently reported HQS-related problems are indicated in Table 2-1.

Housing problems detected through this survey were not reported at the time of housing inspection, but rather were reported by households throughout the year. Defects noted in the survey are both major and minor. The most commonly reported problem was the presence of mildew, mold or water damage, with 19.7 percent of households reporting such problems during 2000-2002. Reports of using the oven to heat the home were also quite common (19.0 percent of households). Unsafe floor boards, tiles or carpeting, indicating a possible tripping hazard, were indicated by 19.1 percent of households. Inadequate heat, peeling or chipping paint, the presence of cockroaches, and various types of water leaks were reported by 13.9 to 17.8 percent of tenants. As Table 2-1 indicates, the rank order of problems reported in the survey changed very little from year to year.

There is general agreement among researchers and policy and program analysts that most households receiving assistance in the Housing Choice Voucher program are able to obtain good quality housing. But, as Table 2-1 indicates, housing problems are not uncommon for voucher program participants. While households generally indicate that they are satisfied with their homes and neighborhoods, they report housing deficiencies in surprisingly large numbers. In order to understand why so many problems are reported, and what the monitoring and compliance implications might be for HUD and for the PHAs, it is useful to review the program's requirements on housing quality.

[15] Non-HQS questions add value to this overall description, and were added either in response to comments from residents and resident groups during the development of the survey, or to provide a better crosswalk to the types of housing quality data that HUD collects in the American Housing Survey.

Table 2-1:
Incidence of Housing Quality Standards (HQS) Type Problems, by Year

HQS-Type Problem	2000	2001	2002	2000-2002
Mildew, mold, or water damage	18.5%	19.7%	20.9%	19.7%
Problems with floor boards, tiles, carpeting	18.6%	19.1%	19.6%	19.1%
Tenant uses oven to heat home	17.8%	18.5%	20.6%	19.0%
Paint chipped or peeled by finger scraping	17.2%	17.5%	18.7%	17.8%
Cockroaches in home this week	16.7%	16.2%	17.1%	16.7%
Heating system does not provide enough heat	15.6%	16.0%	17.9%	16.5%
Water leaking today from kitchen or bathroom	14.7%	15.2%	16.0%	15.3%
Bathroom floor covered by water	13.3%	13.7%	14.7%	13.9%
Wall, ceiling, or floor with serious problems	13.0%	13.6%	14.0%	13.5%
Not enough light for safety	12.9%	13.6%	13.6%	13.4%
Home cold for 24 hours or more last winter	11.6%	12.6%	14.7%	13.0%
Ceiling has holes or large cracks, rain can come in	12.4%	12.8%	13.5%	13.0%
No covers on dumpsters, garbage cans	12.1%	11.9%	11.7%	11.9%
Toilet not working for 6 hours recently	11.3%	11.9%	12.2%	11.8%
Rats in or outside building	11.0%	11.3%	12.5%	11.6%
No working locks on windows	10.9%	11.6%	10.7%	11.1%
Unsafe handrails, steps or stairs, exterior	8.0%	8.5%	8.6%	8.4%
Handrails not secure	8.0%	7.9%	8.3%	8.1%
Floor problems cause you to trip	7.5%	7.9%	8.2%	7.9%
Air conditioner not working	7.3%	7.6%	7.9%	7.6%
Bathroom lacks window or ventilation	7.1%	7.6%	7.7%	7.5%
Bedroom windows do not open	6.6%	7.6%	7.0%	7.1%
No working locks on outside doors	6.6%	7.1%	6.9%	6.8%
Not at least 2 fire exits	6.5%	6.8%	6.7%	6.7%
Condition of porch or balcony dangerous	6.1%	6.3%	6.6%	6.4%
Unsafe conditions outside or inside building	5.7%	6.4%	6.7%	6.3%
Large paint peelings	5.7%	6.3%	6.6%	6.2%
Walls lean, buckle, or have large holes	5.3%	5.9%	6.2%	5.8%
Window(s) with broken glass	4.7%	5.4%	5.2%	5.1%
Roof sags, has holes; or missing roofing	4.8%	4.9%	5.5%	5.1%
Not all ceiling and wall mounted light fixtures work	4.8%	4.8%	5.0%	4.9%
Wiring lacks metal coverings (exposed wires)	4.6%	4.7%	5.2%	4.8%
Kitchen or bathroom drain clogged	4.0%	4.0%	4.8%	4.3%
No working smoke detector	4.3%	4.0%	3.9%	4.1%
Refrigerator does not keep food cold	3.4%	3.4%	3.1%	3.3%
Kitchen does not have a working oven	2.4%	2.7%	2.6%	2.5%
No working light fixture on the kitchen ceiling or wall	2.3%	2.5%	2.4%	2.4%
Unit lacks hot and cold running water	2.2%	2.2%	2.1%	2.2%
Toilets not working today	2.0%	2.2%	2.2%	2.2%
No working wall outlets in the kitchen	1.2%	1.2%	1.8%	1.4%
Room(s) without working outlet	1.2%	1.4%	1.3%	1.3%
No working elevator (apartment buildings only)	0.6%	0.6%	0.8%	0.7%

Housing Quality Standards (HQS)

Under HUD's regulations, and consistent with contracts between the PHAs and HUD, PHAs must assure that all voucher recipients live in housing that meets HQS standards.

Description of the process. The regulations establishing HQS provide performance requirements with acceptability criteria to meet each performance requirement.[16] HQS includes requirements for all housing types, including single and multifamily dwelling units, as well as specific requirements for special housing types such as manufactured homes, congregate housing, single room occupancy (SROs), shared housing and independent group residences. HUD provides a housing inspection manual, a form, and a checklist that provide guidance to PHAs in interpreting the standards.[17]

At least annually, it is the responsibility of the PHA to conduct inspections of all units to determine compliance with HQS prior to lease execution. Inspections may be completed by PHA staff or by contract personnel. HQS consists of the following thirteen performance requirements:

- Sanitary facilities;
- Food preparation and refuse disposal;
- Space and security;
- Thermal environment;
- Illumination and electricity;
- Structure and materials;
- Interior air quality;
- Water supply;
- Lead-based paint;
- Access;
- Site and neighborhood;
- Sanitary conditions; and
- Smoke detectors.

Acceptability criteria for each performance requirement help PHAs to determine if the unit meets mandatory minimum standards. For some standards, specific guidance is provided to PHAs, but PHAs must rely upon inspector judgment in some instances. Inspectors are allowed to consider tenant preference when making a determination of acceptability. HUD may grant approval for a PHA to use acceptability criteria variations that apply standards based on local housing codes or other codes adopted by the PHA, or because of local climatic or geographic conditions. HUD

[16] This description of the housing quality standards and of the inspection process is excerpted from the Housing Choice Voucher Guidebook, Chapter 10. Available at: http://www.hud.gov/offices/pih/programs/hcv/forms/guidebook.cfm

[17] The HUD Housing Inspection Manual for Housing Choice Vouchers is available at http://www.HUDUSER.org. The HUD Inspection Form, form HUD-52580 (3/01) and Inspection Checklist, form HUD 52580-A (9/00) are available at: http://www.hudclips.org,

may only approve acceptability criteria variations if the variation meets or exceeds the performance requirement, and does not unduly limit the amount and type of rental housing available at or below the HUD-determined Fair Market Rent (FMR). HUD will not approve variations if the change is likely to adversely affect the health or safety of participants or severely restrict housing choice.

PHAs should strive to ensure consistency among staff in areas requiring judgment. Not all areas of HQS are precisely defined. While acceptability criteria specifically state the minimum standards necessary to meet HQS, inspector judgment or tenant preference may become a factor in determining whether the unit meets minimum standards or is desirable. Inspectors are provided with tools to help them make sound decisions, including training, access to written policy and procedures, and written and oral instruction.

Potential safety hazards that are not specifically addressed in the acceptability criteria, such as damaged kitchen cabinet hardware that may present a cutting hazard to small children, is an example of an area that requires inspector judgment. It is considered good practice is to assess potential hazards based on the type of household residing in the unit. Some potential hazards may only apply when small children are present. Some less than perfect conditions, such as a water heater that appears too small for optimal use by the tenant, should be discussed with the tenant, but should not lead to denial of program assistance if the tenant is willing to accept the existing condition.

PHAs are required to conduct three types of inspections: initial, annual, and special inspections, including quality control inspections. Inspections result in a pass, fail, or inconclusive report. Pass inspections require no further action by the PHA. Fail or inconclusive inspections require follow-up re-inspections or PHA verification to confirm the correction of the HQS infractions. Depending upon the nature of the item, responsibility for correction of failed or inconclusive items may be the responsibility of the owner or tenant. Failure to comply with correction notices can result in owner or tenant sanctions.

Following inspection, the household and owner must be notified of the inspection results. The unit must pass the HQS inspection before the execution of the assisted lease and housing assistance payments (HAP) contract and the initiation of payments.

The household and the owner must review inspection results. The owner must receive detailed information for all failed and inconclusive inspection items so that he or she is fully aware of the work necessary to pass the HQS inspection. If the unit does not comply with HQS requirements within the PHA specified time frame, the PHA may cancel the tenancy approval and instruct the household to search for another housing unit.

According to 24 CFR 92.209(i), each unit must be in compliance with HQS requirements throughout the assisted tenancy. The inspection must be conducted within twelve months of the

previous inspection to meet the program's performance requirements.[18] The unit does not have to pass inspection within that time frame, but an inspection must occur.

The PHA must abate housing assistance payments to the owner for failure to correct an HQS violation under the following circumstances: 1) An emergency (life-threatening) violation is not corrected within 24 hours of inspection and the PHA did not extend the time for compliance; or 2) A routine violation is not corrected within 30 days of the inspection and the PHA did not extend the time for compliance.

Abatements must begin on the first of the month following the failure to comply. The PHA must terminate the HAP contract if repairs are not made. The PHA must decide how long abatement will continue prior to contract termination. The PHA should not terminate the contract until the tenant finds another unit, provided the tenant does so in a reasonable time. The PHA must terminate program assistance to tenants who fail to correct HQS deficiencies that they caused themselves.

Interpreting results from a resident survey

The above description, which is excerpted from HUD program guidance provided to PHAs, has perhaps led to an expectation that housing occupied by Housing Choice Voucher program participants will always remain in good condition between the time a unit passes inspection and the next inspection. However, while program units are not immune to the normal wear and tear that occurs in all occupied housing, whether HUD-assisted or not, normal wear and tear was not the focus of this survey. Further, some units may not be entirely free of reportable defects even at the time of a passed inspection, because inspectors are allowed to make judgments regarding the suitability or desirability of the unit. These judgments are in part based on consideration of the tenant's expressed needs. Some of the judgments may be inappropriate, and may not involve a correct interpretation of program rules. Even when the inspector makes a correct judgment that a unit meets the criteria for a particular performance requirement, the household responding to this mail survey may nonetheless report the unit as having a defect that corresponds to not meeting that requirement.

When housing units are completely free of HQS defects at the time that a unit passes inspection, it is reasonable to assume that such units will remain free of defects for at least some minimal period of time. The units can, of course, develop one or more defects that will be identified and corrected at the time of the next inspection. It is expected that some defects could develop after a passed inspection due to normal wear and tear caused by tenants. However, it is not likely that tenants create major deficiencies, such structural problems, inoperable heating/cooling systems, or electrical problems.

[18] To balance monthly inspector workload, PHAs are allowed to decouple the schedule for inspections from the annual recertification process. Inspection schedules may reflect other methods such as selection by zip code, specific buildings or apartment complexes, census tract or ownership. See: www.hud.gov/offices/cpd/library/monitoring/doc/7-10.doc

Counts of HQS-type Problems Within Dwelling Units

Table 2-2 presents information on the incidence of HQS-related items that households reported during the three years of the survey. About 18.8 percent of households report no problems within their housing unit, and 15.3 percent report only one problem. Elderly households are much more likely than other households to report no problems or only one problem in their dwelling unit.

Table 2-2:
HQS-Type Problems by Household Type, all years

HQS-type Problems	Families with Children	Elderly*	Nonelderly with Disabilities*	Other	All Households
None	14.1%	29.6%	22.1%	17.2%	18.8%
1	12.9%	21.1%	16.7%	15.1%	15.3%
2 to 3	20.2%	22.1%	21.8%	21.0%	20.9%
4 to 7	24.1%	17.3%	21.1%	23.2%	22.1%
8 or more	28.7%	9.9%	18.4%	23.6%	22.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Mean number of HQS-type problems	5.7	2.8	4.2	4.9	4.8
Median number of HQS-type problems	4	1	2	3	3
Median days since inspection	208	229	218	216	214
Percent not initially passing inspection	16.3%	11.5%	13.2%	15.2%	14.7%

*Designations based on head or spouse. Elderly are age 62 years or older.

The fact that 14.7 % of all units did not pass the initial inspection indicates that inspectors are finding some of the units with serious problems. However, this is still significantly lower than the 22.8 % of units with 8 or more reported problems. Inspectors pass nearly 85% of units at the initial inspection, while the survey revealed less than 20% have zero HQS problems. This discrepancy is perhaps the most important finding of this report.

About 43 percent of households report between two and seven HQS problems. And, 22.8 percent report eight or more problems in their unit. About 28.7 percent of households with

children report eight or more problems. As noted above, the problems reported may have been major or minor, and may have developed after the time that the unit passed inspection. However, even among the elderly, the group with the fewest proportion of reported problems (and a group that is likely to be favored over families by prospective landlords), 9.9 percent report eight or more problems in their unit.[19]

The average number of HQS-related problems was 4.8 defects per unit. Households with children reported the most problems (5.7 defects per unit), while elderly households reported the fewest (2.8 defects per unit). Households where the head or spouse had a disability reported 4.2 defects per unit.

The survey provides information on the date that the unit was inspected, and the date that the unit passed inspection. Units were coded as not initially passing inspection if the inspection date did not match the pass inspection date. This variable is measured with error due to reporting problems for some dates. Based on this information, though, it appears that almost 85 percent of units pass the initial inspection. The percentage of units that do not pass the initial inspection is highest for families with children (16.3 percent) and lowest for elderly households (11.5 percent).

There was generally a considerable time lag between the date of inspection and the date that the questionnaire survey was mailed to the household. The median time for all households was 222 days. Most were mailed anywhere from 120 to 180 days after the inspection (Table 2-3). Notably, 14.7 percent were sent more than 180 days after the date of inspection. The lag between date of inspection and date that of mailing was greater in the second and third year.

Table 2-3:
Distribution by Percents of the Number of Days
Between Inspection and Date of Mailing the Survey, by Year

Number of days since inspection	2000	2001	2002	2000-2002
0-60	12.9 %	0.3 %	0.0 %	4.1 %
61-120	29.4 %	17.4 %	7.4 %	17.5 %
121-180	18.6 %	75.4 %	92.1 %	63.7 %
181 +	39.3 %	7.0 %	.05 %	14.7 %
Total*	100 %	100 %	100 %	100 %
Median days elapsed	118	251	272	222

* due to rounding, totals may not equal 100.0%

[19] With 95 percent probability, the proportion of elderly households with eight or more HQS-related problems in their unit is between 8.8 percent and 11.0 percent.

The extensive time lag between time of inspection and time of surveying contributed to the unexpectedly large number of problems reported by voucher program participants, but clearly does not account for all of the problems. As seen in Table 2-4, for households that were surveyed within 60 days of the inspection, tenants reported an average of 4.1 HQS-related problems in their unit. A regression analysis of the relationship between total HQS-related problems and the difference between the date of passing inspection and the date of mailing the survey indicated that increasing the date difference from 30 days to 1.5 years increases the predicted number of problems from 4.9 to 5.7. That is, the deficiencies found are not just the result of normal wear and tear between initial and annual inspections. Many of these problems are likely to have been present at the time that the unit last passed inspection.[20]

Table 2-4:
Average Number of HQS-Type Problems,
by Number of Days Since Inspection and Year

Number of days since inspection	2000	2001	2002	2000-2002
0-60	4.1	4.2	5.8	4.1
61-120	4.5	4.3	5.1	4.5
121-180	4.7	4.6	4.8	4.7
181 +	5.0	4.9	5.1	5.0
Overall	4.6	4.8	5.0	4.8

Housing Quality by Component of the Housing Unit

Tables 2-5 through 2-9 break down the identified housing problems, both HQS and non-HQS, by component of the residence. Among twelve HQS-related kitchen and bathroom items in Table 2-5, the most frequently reported problems were that water leaks from a sink, drain, and/or pipe (15.9 percent); bathroom floor was covered by water in the last three months (14.8 percent); or toilets were not working for 6 hours recently (12.9 percent). Even though tap water quality is not part of HQS, over 20% of all respondents reported discolored or bad smelling tap water. The percentage of families with children experiencing kitchen and bathroom problems was higher than for other household types.

Among HQS electrical problems (Table 2-6), 5.2 percent of units had exposed wiring, and 4.7 percent had a ceiling or wall light fixture that was not working. About 6 percent of units had electric switches that lacked covers, a problem that was more likely for families with children than for others. Many more units (25.7 percent for families with children, 19.2 percent overall) had fuses or circuit breakers that often fail, i.e. 4 or more times in the last 3 months.

[20] Based on negative binomial regression estimates of the relationship between total HQS-related problems and the difference between passing inspection date of and survey mailing date. Sample differences were limited to between 0 days and 2 years.

Heating and cooling problems (see Table 2-7) were much more prevalent than kitchen or electrical. A fifth of households have used their oven to heat their home in cold weather, and 17.1 percent respond that there is not enough heat in each room. About 11.8 percent report that they cannot adjust the heat, a problem that is experienced more often by elderly households and households with disability than by families with children.

Table 2-5:
Kitchen and Bathroom Conditions by Household Type

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
Not all stove burners working	7.9%	3.7%	5.4%	6.4%	6.5%
Kitchen does not have a working oven	2.7%	2.2%	2.6%	3.1%	2.6%
Refrigerator does not keep food cold	3.8%	2.4%	3.0%	3.7%	3.4%
No working light fixture on kitchen ceiling or wall	2.9%	1.8%	1.9%	2.4%	2.5%
No working wall outlet in the kitchen	1.2%	2.1%	1.4%	1.9%	1.5%
No hot and cold running water	2.5%	1.7%	1.7%	2.9%	2.2%
Water leaking today from kitchen or bathroom	20.0%	7.9%	12.1%	15.3%	15.9%
Kitchen or bath room drain clogged	5.4%	2.6%	3.5%	4.3%	4.4%
Bathroom lacks window or ventilation	8.0%	6.8%	7.7%	8.0%	7.7%
Toilets not working today	2.9%	0.8%	1.6%	1.9%	2.2%
Toilet not working for 6 hours recently	15.9%	6.0%	11.3%	11.9%	12.9%
Bathroom floor covered by water	18.4%	7.7%	12.2%	13.2%	14.8%
Tap water has a bad color or odor*	22.5%	17.9%	20.8%	21.9%	21.3%

*Not an HQS item.

Problems with interior walls, ceilings, and floors are reported in Table 2-8. Almost a fifth of households (19.1 percent) report floor problems such as boards, tiles or carpeting materials that are missing, curled or loose. However, only 7.9 percent report that there are floor problems serious enough that they could cause a person to trip. About one fifth of households (19.7 percent) report mildew, mold, or water damage in their unit. Based on the survey alone, it is not possible to assess the potential severity of these problems. However, recent research and news coverage has identified mold as a potential health hazard. Because such high rates of mildew, mold, or water damage were reported in this survey, more research is needed.

With regard to sanitation and safety items (see Table 2-9), several different types of problems are reported. During the week of the survey, about 16.7 percent of households reported seeing cockroaches in their home and 11.6 percent saw rats either inside or outside the building. About 14.3 percent indicate that they can smell a bad odor such as sewer or natural gas, a non-HQS item that is reported much less often by elderly households than by others.

Table 2-6:
Electrical Problems by Household Type

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
Wiring lacks metal coverings	5.9%	3.6%	3.7%	5.2%	5.0%
No working outlet in each room	1.6%	0.9%	1.1%	1.4%	1.3%
Ceiling and wall mounted light fixtures not working	6.7%	1.9%	3.5%	4.7%	5.0%
Electrical outlets and swiches have cover plates	7.1%	4.6%	4.5%	6.0%	6.1%
Fuses blow or circuit breakers trip often	25.7%	9.9%	15.7%	19.2%	20.4%

*Not an HQS item.

Table 2-7:
Heating and Cooling Conditions by Household Type

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
Unit does not provide enough heat	21.9%	8.0%	12.2%	17.6%	17.1%
Tenant uses oven to heat home	23.0%	13.3%	17.2%	22.6%	20.0%
Air conditioner not working	8.7%	6.1%	7.5%	8.4%	8.0%
Home cold for 24 hours or more	18.3%	8.7%	14.1%	16.7%	15.5%
Tenant cannot adjust the heat*	11.0%	11.9%	12.1%	15.7%	11.8%
Heating breakdown for 6 hours or more*	17.3%	8.5%	12.2%	15.2%	14.4%

*Not an HQS item.

Table 2-8:
Interior Walls, Ceilings, and Floor Conditions by Household Type

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
Holes or large cracks in ceiling allowing rain in	16.6%	6.0%	11.0%	12.9%	13.3%
Paint chipped or peeled by finger scraping	22.7%	8.7%	15.1%	17.8%	18.3%
Large paint peelings	7.9%	3.1%	5.3%	6.0%	6.3%
Wall, ceiling, or floor with serious problems	17.9%	4.9%	11.1%	14.5%	13.9%
Mildew, mold, or water damage	25.3%	8.6%	17.1%	20.9%	20.2%
Problems with floor boards, tiles, or carpet	24.6%	8.4%	16.6%	19.0%	19.6%
Floor problems could cause you to trip	9.8%	4.3%	7.3%	6.9%	8.0%

Residents' Opinion of their Home and Neighborhood

In addition to measuring observed physical defects, the survey also contains 24 items that measured customer satisfaction with neighborhood, landlord, housing agency, safety, and overall quality of the unit. These tend to be highly correlated with the objective condition of the unit.[21] The following discussion includes only selected items from the survey results.

When asked to rate their own home, 11.9 percent of respondents indicated that they were dissatisfied with their living conditions, in general (table 2-10). Larger percentages indicated dissatisfaction with the quality of repairs and landlord responsiveness to emergency repairs. Expressed dissatisfaction was generally lower among elderly households. For instance, 5.8 percent of elderly households reported general landlord dissatisfaction, versus 12.6 percent of families with children.

Tenants were asked to rank their home on a scale from one to ten (ten being the best). About 40 percent of families rated their home highly, giving it a rating of 9 or 10 (see table 2-11). About 68 percent rated their home as a 7 or better. On the other hand, 10.5 percent of families rated their home poorly, assigning it a 4 or less. Consistent with the reported information on physical defects, families with children were more likely to give their home a rating of 4 or less. 52.7 percent of elderly households rated their home a 9 or 10, compared to only 35.4 percent of families with children who rated their home a 9 or 10.

[21] See Buron (forthcoming).

Table 2-9:
Sanitation and Safety Items by Household Type

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
No working smoke detector	4.8%	2.8%	3.6%	4.1%	4.1%
Unit lacks at least 2 fire exits	5.9%	7.4%	8.3%	8.4%	6.8%
Bedrooms windows do not open	7.9%	5.4%	7.4%	7.3%	7.3%
See rats in or outside building	15.2%	5.5%	7.8%	13.3%	11.9%
Cockroaches in home this week	14.3%	6.9%	8.3%	12.7%	11.7%
Outside doors lack working locks	7.9%	4.3%	6.5%	8.1%	7.0%
Windows lack working locks	13.8%	5.8%	9.8%	11.3%	11.3%
Handrails not secure in hallways	9.0%	6.4%	8.1%	8.8%	8.3%
Window have broken glass	6.1%	3.5%	4.6%	4.6%	5.2%
Unsafe handrails, steps or stairs	9.6%	5.8%	8.5%	8.5%	8.6%
Elevator broken	1.0%	1.1%	1.1%	1.0%	1.1%
Roof sags, has holes, or missing roofing	6.4%	2.4%	4.7%	5.0%	5.2%
Walls lean, buckle, or have large holes	7.3%	2.7%	5.2%	6.1%	6.0%
Condtion of porch or balcony dangerous	7.6%	3.5%	6.3%	6.5%	6.5%
Not enough light for safety	16.2%	7.5%	12.1%	14.9%	13.7%
Uncovered dumpsters or garbage cans	14.2%	7.7%	10.5%	12.5%	12.2%
Sidewalk, driveway, or parking lot damaged; could trip*	11.2%	8.1%	11.5%	10.3%	10.6%
Garbage service less than weekly	5.3%	2.8%	4.4%	4.9%	4.6%
Smell bad odor such as sewer, natural gas*	17.1%	8.5%	13.5%	15.9%	14.7%
Mail has been stolen*	8.8%	4.6%	7.5%	8.3%	7.7%
Fences, gates in bad repair*	11.8%	4.8%	6.5%	8.0%	9.2%

*Not an HQS item.

Table 2-10:
Satisfaction with Repairs, Landlord, and 'Living here in general'

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
Unsatisfied with quality of routine repairs, maintenance	19.7%	8.0%	13.4%	16.0%	16.0%
Unsatisfied with promptness of emergency repair	18.3%	7.9%	12.0%	14.5%	14.9%
Unsatisfied with landlord in general	12.6%	5.8%	9.4%	10.2%	10.6%
Unsatisfied with living here in general	15.3%	4.5%	9.8%	11.5%	11.9%

Households were also asked to rate their neighborhoods with regard to three specific questions (Table 2-12). About a third (33.8 percent) reported that crime or drugs were "some problem" or a "big problem." Just over a quarter (28.2 percent) reported problems with trash or junk nearby. About 14.5 percent reported that vacant or run-down homes or stores were a problem. Again, families with children reported higher dissatisfaction than other household types.

Table 2-11:
Tenants Rate Their Homes on a Scale from 1 to 10, by Household Type

Tenant Rating*	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
(missing)	2.4%	6.3%	3.5%	3.1%	3.4%
1	2.6%	0.9%	1.8%	1.9%	2.0%
2	2.0%	0.6%	1.3%	1.4%	1.5%
3	3.4%	1.2%	2.7%	3.1%	2.8%
4	5.1%	1.9%	3.8%	4.3%	4.2%
5	12.4%	7.4%	10.7%	11.7%	11.1%
6	7.7%	4.6%	6.8%	7.4%	6.9%
7	11.8%	8.5%	11.1%	12.1%	11.1%
8	17.2%	16.0%	17.0%	17.1%	16.9%
9	14.4%	15.9%	14.4%	14.4%	14.7%
10	21.0%	36.8%	26.8%	23.5%	25.3%

*The highest rating is 10.

Table 2-12:
Tenants Rate Their Neighborhoods on Three Items, by Household Type

Housing Quality Problem	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
Problem with crime or drugs	37.5%	20.8%	34.5%	37.6%	33.8%
Trash or junk on nearby streets, side walks, etc	32.3%	16.9%	27.1%	29.9%	28.2%
Vacant or run-down homes or stores	16.2%	8.6%	14.7%	15.5%	14.5%

When rating satisfaction with their neighborhood on a scale of 1 to 10, about 64.1 percent of households rated their neighborhood between 7 and 10, a result that is similar to the rating that households assigned to their homes. However, only about a third (33.1 percent) percent rated their neighborhood as a 9 or a 10. About 11.7 percent gave their neighborhood a low rating of 4 or less. Table 2-13 highlights results of this question.

Table 2-13:
Tenants Rate Their Neighborhoods on a Scale from 1 to 10, by Household Type

Tenant Rating	Families with Children	Elderly	Nonelderly with Disabilities	Other	All Households
(missing)	2.6%	7.2%	3.9%	3.2%	3.8%
1 (worst)	2.6%	1.1%	2.4%	2.5%	2.2%
2	1.8%	0.7%	1.4%	1.1%	1.5%
3	3.9%	1.5%	3.1%	3.5%	3.3%
4	5.5%	2.4%	4.4%	5.2%	4.7%
5	13.8%	8.8%	12.3%	12.8%	12.5%
6	8.6%	5.9%	8.0%	8.7%	8.0%
7	13.8%	9.7%	12.8%	13.6%	12.8%
8	18.7%	17.0%	17.8%	18.5%	18.2%
9	11.1%	13.5%	11.8%	11.6%	11.7%
10 (best)	17.6%	32.2%	22.0%	19.3%	21.4%

Using Composite Measures to Identify Severe Housing Quality Problems

One difficulty with using individual measures of housing quality is they do not distinguish between major and minor problems. To that end, we constructed two composite measures of housing quality to identify units with the most severe housing problems. The remainder of this chapter discusses each definition and presents results by type of household, by year, by PHA size category, by geography, and by socio-economic group. Chapter III uses these definitions to identify housing problems reported for individual PHAs.

Definition one: high incidence of problems. One way to look for severity of housing quality defects is simply to count the number of identified problems in sample units. Under this definition, units with eight or more HQS-related defects are classified as having "critical" problems. By declaring these units to have critical problems, we assume that having many problems in a single unit is a sign of systemic structural problems or inattention to repair over a prolonged period of time. Under the program's rules, the unit should be free of HQS-related defects before the household begins to receive subsidy. At the time of the next annual inspection, following an inspection result of "pass", the unit should once again be free of HQS-related defects. For a unit to have eight or more such defects during the year seems to indicate an unusual situation involving a breakdown PHA inspection procedures, landlord inattention to the condition of the unit, a housing stock that (e.g., due to age of buildings) is unusually prone to problems, or some combination of the above.[22] It would be extremely rare for 8 HQS problems to develop due to routine wear and tear.

Definition two: AHS-based measure of severe inadequacy. We also constructed a measure of severe housing problems that is similar to the definition used in the American Housing Survey (AHS).[23] Under this definition, a housing unit is considered to have a severe housing problem if there is one or more identified critical defect or a collection of lesser defects.[24] The defects included in this definition are:

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[22] It is possible that tenant behavior could contribute to clogged drains in bathrooms or cockroaches, but other causes cannot be ruled out, especially in old buildings. Other conditions could be worsened as a result of children being present. Flooring problems (i.e. torn carpet or missing tile) could result from heavy use. Chipping paint and broken windows might be caused by rough play. A railing might be broken off by rambunctious teenagers. However, flooring problems most likely occur over long periods of time, and rough play that breaks windows or railings is rare. In short, tenant behavior creating eight or more problems is unlikely.

[23] Since 1973, HUD's primary source of data on housing quality in the US has been the American Housing Survey. See US Census Bureau, 2000, *American Housing Survey for the United States 1999: Current Housing Reports.* Washington, DC. Accession Number: 11086.

[24] As explained further below, this definition uses concepts and procedures that are similar to those used to describe severely inadequate housing in AHS publications, but the estimates presented in this report are not comparable to estimates of severe inadequacies as reported in the AHS. A question regarding interior water leaks used to construct the AHS indicator is not contained in our survey. The AHS criteria are also different for some categories of problems. For instance, the AHS hallway problem indicator requires all four problems be present, while ours requires a nonworking elevator or two of three other problems. In addition, question wording varies greatly between the two surveys.

Heating:

- during the past winter, breakdown for six hours or more and the home was so cold for 24 hours or more that someone in the home was uncomfortable.

Electrical:

- Working outlets missing; and
- Exposed wiring; and
- Fuses blown or circuit breakers tripped four or more times in the last three months.

Exterior/Hallways:

- Elevator not working; or at least two of the following three problems:
- Unsafe hallways and dangerous porch or balcony;
- Unsafe hallways and not enough light for safety;
- Dangerous porch or balcony and not enough light for safety.

Maintenance: (Three of the following five types of problems)

- Holes or large cracks that allow rain to come in; or problems with the roof, such as sagging, holes, or missing roofing; or walls with serious leaning, buckling or large holes;
- Water leaking today from any kitchen and bathroom sink, tub, or shower; or toilet not working for six hours or more in the previous three months; or bathroom floor covered with water because of plumbing problems during the previous three months;
- Any walls, ceilings or floors with serious problems like sagging, leaning, buckling or large holes;
- Area of peeling paint or broken plaster bigger than a 9" by 11" page;
- A rat seen anywhere in the building or outside around the grounds during the week of the survey.

Severe problems as indicated by the composite measures. Results using these two composite measures of housing quality are presented in Table 2-14. Using the definition based on eight or more HQS-related defects in the unit, about 22.8 percent of all units have severe housing problems. Severe problems were much higher for families with children (28.7 percent). About 18.4 percent of households containing a head or spouse with disability lived in a unit with severe housing problems as defined by this measure. Elderly households were less than half as likely as others to live in such units (9.9 percent).

Using the AHS-based definition of severe housing problems, not quite one in eight (13.1 percent) had severe housing problems. Of the four major types of critical problems that are included in this definition (i.e., plumbing, heating, electrical, or maintenance), the largest single contributor was poor maintenance. Four-fifths had identified problems in only one of the four major categories, and 8 percent had problems in two categories. The most common type of multiple-category problem involved both heat and maintenance, with 41 percent with defects in heating also having defects in maintenance.[25]

[25] The breakdown of AHS-based problems by major category is based on data from the first year of the survey.

Severe problems vary widely according to type of household. Households with an elderly head or spouse are successful in obtaining good housing, with only 6.2 percent reporting problems that trigger the AHS-based definition. By contrast, about 10.6 percent of non-elderly persons with disabilities, 13.3 percent of other non-elderly without children, and 16.4 percent of families with children report such problems. Compared with the elderly, and depending on the definition used (i.e., 8+ HQS-type problems or one or AHS-based critical defects), these other identified groups are two to three times as likely to report severe problems.

Table 2-14:
Composite Measures of Housing Quality by Household Type

Household Type	8 or more HQS-Type Problems	1 or more AHS-Based Critical Defect
Families with Children	28.7%	16.4%
Elderly	9.9%	6.2%
Nonelderly with Disability	18.4%	10.6%
Other	23.6%	13.3%
All households	22.8%	13.1%

During the period of 2000-2002, there was an increase in the percentage of program units with severe housing problems. Under the definition based on eight or more HQS-type problems, the percentage increased from 21.5 percent in 2000 to 22.8 percent in 2001, and to 23.9 percent in 2002. Using the AHS-based definition, the proportion with severe problems also increased, from 12.3 percent in 2000, to 13.0 percent in 2001, and to 13.9 percent in 2002. These changes are not statistically significant at the 95 percent confidence level.

During 2000-2002, there was an increase in the average number of HQS-related problems by year, from 4.6 in 2000 to 4.8 in 2001, and 5.0 in 2002 (Table 2-4). None of the yearly increases or the total increase from 2000 to 2002 are statistically significant at the 5 percent level, however.

Table 2-15:
Composite Measures of Housing Quality by Year

Composite Measure	2000	2001	2002	2000-2002
8 or More HQS-Type Problems	21.5 %	22.8%	23.9 %	22.7%
1 or More AHS-Type Critical Defects	12.4%	13.0%	13.9%	13.1%

Discussion. The two definitions of housing inadequacy offer alternative ways of considering severity of housing problems among program participants. The AHS-based definition is more restrictive. 85 percent of the units identified as having severe problems under the AHS-based definition are also counted under the 8+ HQS-type defects definition. Yet only 48.9 percent of units with at least one AHS-type critical defect have eight or more HQS-type defects.

Each definition has strengths and weaknesses. The 8-or-more-HQS-type-problems definition combines both major and minor defects, and as such may misidentify some units. On the other hand, this definition does identify units that fall well outside the program's parameters, which specify that no assisted unit should have any HQS defects in order to pass inspection.

The strength of the AHS-based definition is that it relies on HUD and Census Bureau research done over a long period of time.[26] The AHS-based definition focuses on major defects, counting less severe defects only when they appear in clusters of three or more.

The drawback to the AHS-based definition is that not all of the questions that appear in the AHS's own definition of severe housing inadequacy are included in the questionnaire used in the Section 8 survey. Also, many of the questions asked in the Section 8 survey instrument, while very similar, not always asked in the same way as in the AHS. For an in-depth comparison of the AHS to the Section 8 survey, see Appendix E.

Severe problems by size of PHA. Incidence of severe housing problems varies by the size of PHA responsible for administering the Section 8 tenant based program (Table 2-16).[27] The proportion of units with severe problems increases with the size of PHA, and is highest for the largest PHAs with 6,000 or more units in their programs. The average number of HQS-type defects also (does/does not) increase by size of PHA. The smallest PHAs (under 1,000 units) are slightly less likely to pass a unit at initial inspection, even though housing problems are more frequent and severer in larger PHAs.

[26] Information on American Housing Survey data and publications is available at: http://www.huduser.org/datasets/ahs.html. See also *Affordable Housing Needs: A Report to Congress on the Significant Need for Housing*, available at: http://www.huduser.org/publications/affhsg/affhsgneed.html

[27] Size of PHA is determined by the number of occupied units as of the time of the survey.

Table 2-16:
Composite Measures of Housing Quality by PHA Size Category

PHA size (occupied units)	8+ HQS-Type Problems	1 of more AHS-Based Critical Defects	Average Number of HQS-Type Problems	Median number of days since inspection	Percent not initially passing inspection
1-99	18.7%	10.5%	4.2	247.6	15.3%
100-999	19.8%	11.3%	4.4	261.0	17.0%
1,000-2,499	22.2%	12.6%	4.7	258.6	14.2%
2,500-5,999	23.6%	13.7%	5.0	267.7	12.6%
6,000 +	27.1%	15.9%	5.5	294.4	13.6%
All PHAs	22.8%	13.1%	4.8	269.8	14.7%

Survey questions ask if the family is satisfied with landlord and PHA responsiveness to complaints and emergencies. When potentially serious defects are present (one or more AHS-type defects), it might indicate inadequate responses to reported problems. Results in Exhibit 2-1 indicate that overall, most households are satisfied with landlord and PHA responsiveness. Yet families in units with critical problems are much more likely to report dissatisfaction with the landlord and the PHA. This comparison makes it clear that the AHS composite measure is a useful tool for gauging housing quality.

Results in Table 2-17 further dissect the questions about satisfaction with landlord repairs and PHA responsiveness by comparing responses to these questions to size of PHA. This analysis indicates that overall a low number -- only about 10 percent of respondents -- were dissatisfied with PHA reaction to complaints. However, dissatisfaction increased as the size of PHA increased. Small PHAs are doing a much better job responding to complaints than the larger PHAs. Perhaps, by the nature of their size, smaller PHAs not only receive fewer complaints, but may be more able to track complaints, and may have closer relationships with landlords. Larger PHAs might not have the capacity to know each landlord in their jurisdiction personally. About 15 percent of households report problems with promptness of emergency repairs. A similar share of households report dissatisfaction with the quality of repairs. Both statistics increase with PHA size.

Exhibits 2-2 and 2-3 compare responses to questions on satisfaction with living here in general, and the landlord in general, by household type. Only 4.5 percent of Elderly households are dissatisfied with living here in general, compared to 15.5 percent of households with children. Similarly, 5.6% of Elderly households are dissatisfied with their landlord in general, compared to 12.5 percent of households with children. For both questions, other types of households and the national average fall somewhere in the middle.

Exhibit 2-1:
Resident Satisfaction with Landlord and PHA
Compared to AHS Composite Measure of Housing Inadequacy

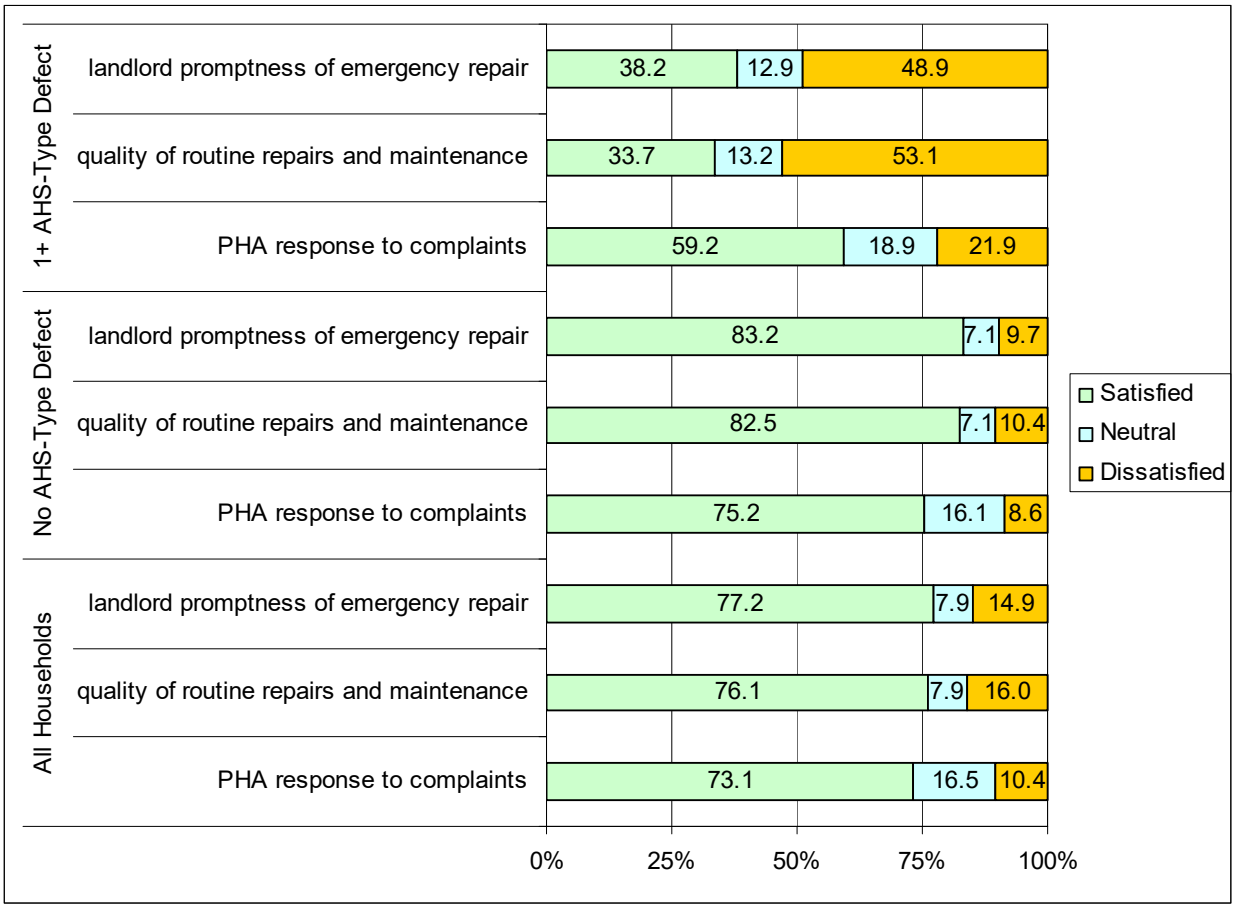


Table 2-17:
Satisfaction with PHA and Landlord Response to Problems
by PHA Size Category

HQS-type housing problem	PHA Size Category (in units)					
	1-99	100-999	1000-2499	2500-5999	6000 +	All PHAs
PHA is not quick reacting to complaints	6.9%	7.6%	10.0%	11.8%	13.6%	10.4%
Unsatisfied with quality of routine repairs, maintenance	13.4%	14.2%	16.0%	16.8%	18.2%	16.0%
Unsatisfied with promptness of emergency repairs	12.3%	12.8%	14.4%	15.6%	17.7%	14.9%

Severe Problems by Geography. PHAs included in this survey administer housing assistance programs in local housing markets that differ widely by age and structural type of housing, local economic condition, neighborhood stability, landlord willingness to participate in a government program, and many other factors. Similarly, households participating in the program face widely varying conditions and attitudes as they conduct their search for housing to initially join the program. HUD establishes Fair Market Rents (FMRs) that are designed to help families in each housing market to obtain decent quality housing. HUD enters into contracts with PHAs to assure that certain program parameters, such as occupancy policies, fair housing requirements, and housing quality standards, are attained regardless of the local conditions under which the PHA operates.

About 82 percent of assistance is provided within Metropolitan Statistical Areas (MSAs), including 48 percent in central cities and 34 percent in suburbs.[28] (see table 2-18) About 18 percent of activity takes place in non-metropolitan (we will use the term "rural") areas.

Participants living in housing with severe problems represent a higher percentage of the program in central cities than in suburbs or rural areas. Central city participants report 26.8 percent of units with eight or more HQS-type defects, and 15.5 percent if units with AHS-based critical defects.

When looking at survey results regionally, one finds more severe housing problems in the Northeast and South Census regions, and generally better conditions in the Midwest and West regions. Map 2-1 highlights these results.

At the smaller Census Division level, we find high rates of severe housing inadequacy in the Middle Atlantic Division (contains New York, New Jersey and Pennsylvania), and in the East South Central and West South Central Divisions (Alabama, Mississippi, Tennessee, Texas and other states with significant rural housing in the deep South). These Census Divisions score higher than average regardless of the definition used.[29] The Midwest Census region has lower than average rates of severe problems based on the 8+ HQS-type definition, but is about average on the AHS-based definition of critical defects. This fact may be due to problems reported with home heating. Puerto Rico and the U.S. Virgin Islands report much higher rates of units showing 8 or more HQS-type defects (30.5 percent). Map 2-2 compares the rates of composite measures by Census Division.

[28] Survey response data were linked with tenant characteristics data from MTCS/PIC files for the same time period. The linked data were geocoded according to 2000 Census definitions. Metropolitan boundaries are as defined by the Office of Management and Budget as of 1999.

[29] These results are based on data from the first year of the survey only.

Exhibit 2-2:
Satisfaction with living here in general, by household type

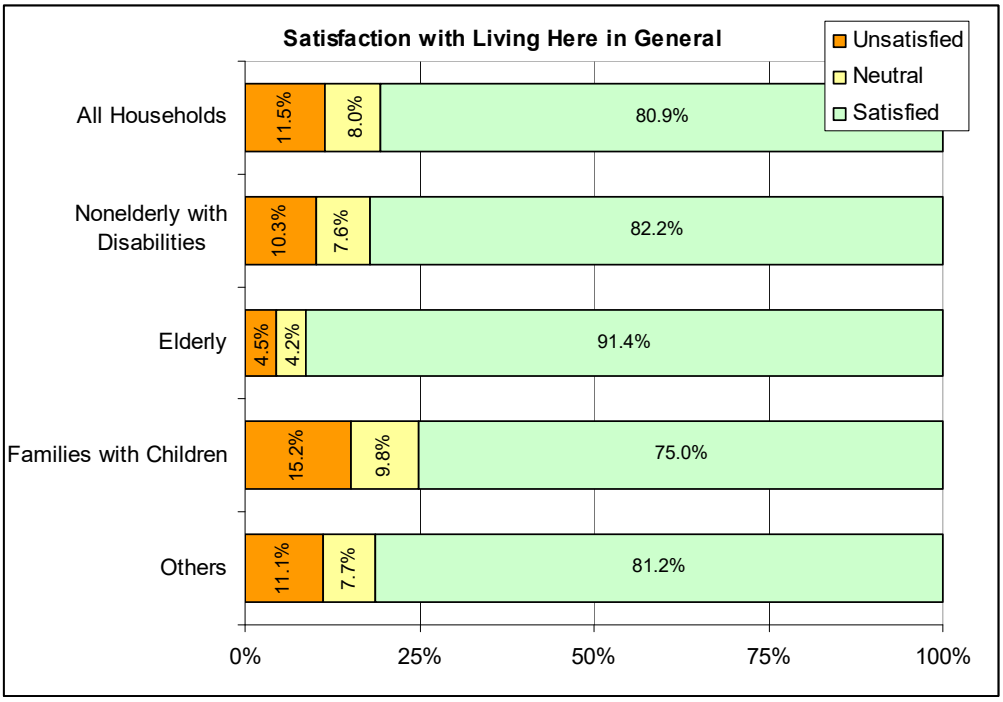
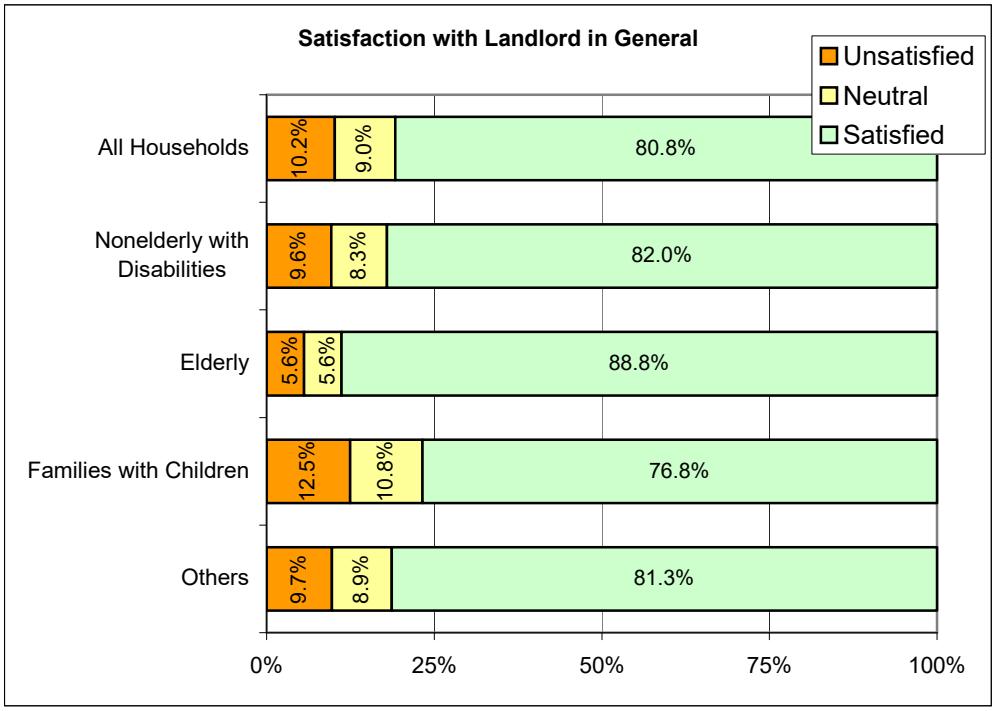


Table 2-18:
Composite Measures of Housing Quality by Central City, Suburb, and Non-Metropolitan Location

Location of unit	8+ HQS-Type Problems	1 or More AHS-Based Critical Defects
Non-metropolitan	20.0%	11.5%
Suburban	18.6%	10.6%
Central City	26.8%	15.5%
Entire U.S.	22.8%	13.1%

Exhibit 2-3:
Satisfaction with landlord in general, by household type



The HUD-determined FMR is designed to allow participants to obtain good quality housing in a broad range of neighborhoods. Other research has indicated that participants are widely dispersed through metropolitan housing markets.[30] Data from the Section 8 housing quality survey indicates that participants' chance of obtaining good quality housing (or at least, avoiding housing with severe problems) varies according to the poverty rate of the neighborhoods that they have chosen.

As the poverty rate of the census tract increases, the percent of residents reporting severe problems also increases. About 28.5 percent of participants in tracts with a poverty rate of 21 to 39 percent live in housing with eight or more HQS-related defects (Table 2-19). In the highest poverty tracts, with 40 percent or greater poverty, one-third (33.1 percent) of participants report eight or more HQS-related defects. The proportion of units with AHS-based critical problems is also higher than average in tracts with 21-39 percent poverty (16.3 percent with severe problems) and in tracts with 40 percent or greater poverty (19.9 percent).

Table 2-19:

[30] Devine, Deborah; Gray, Robert; Rubin, Les; and Taghavi, Lydia; (2003) *Housing Choice Voucher Location Patterns: Implications For Participant And Neighborhood Welfare*; U.S. Department of Housing and Urban Development, Washington D. C. available at: http://www.huduser.org/publications/hsgfin/location_paper.html

Composite Measures of Housing Quality by Poverty Rate of Census Tract

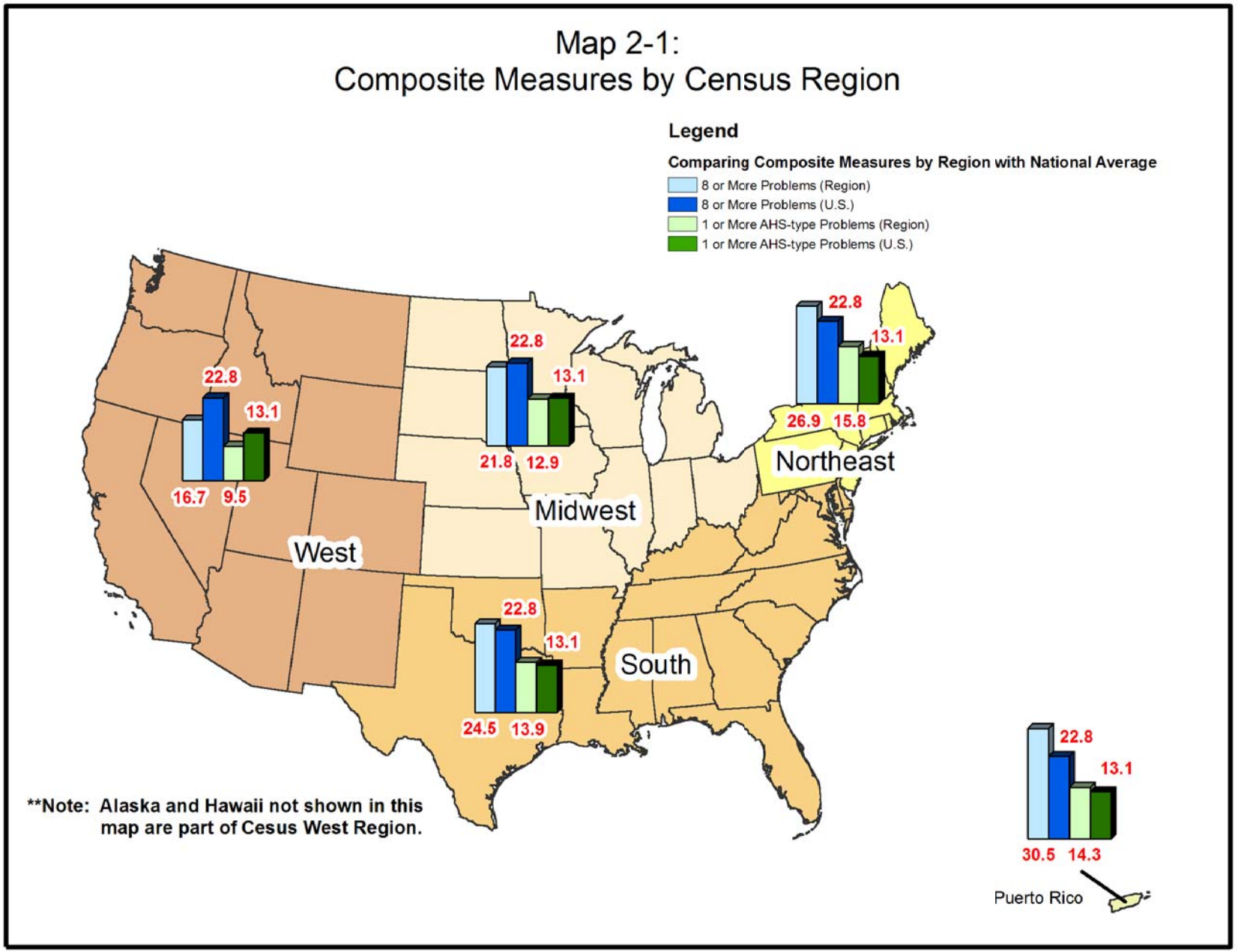
Census Tract Poverty Rate	8 or more problems	1 or more AHS-type problems
0-9 %	15.4%	8.8%
10-20 %	20.7%	11.8%
21-39 %	28.5%	16.3%
40+ %	33.1%	19.9%
Overall	22.8%	13.1%

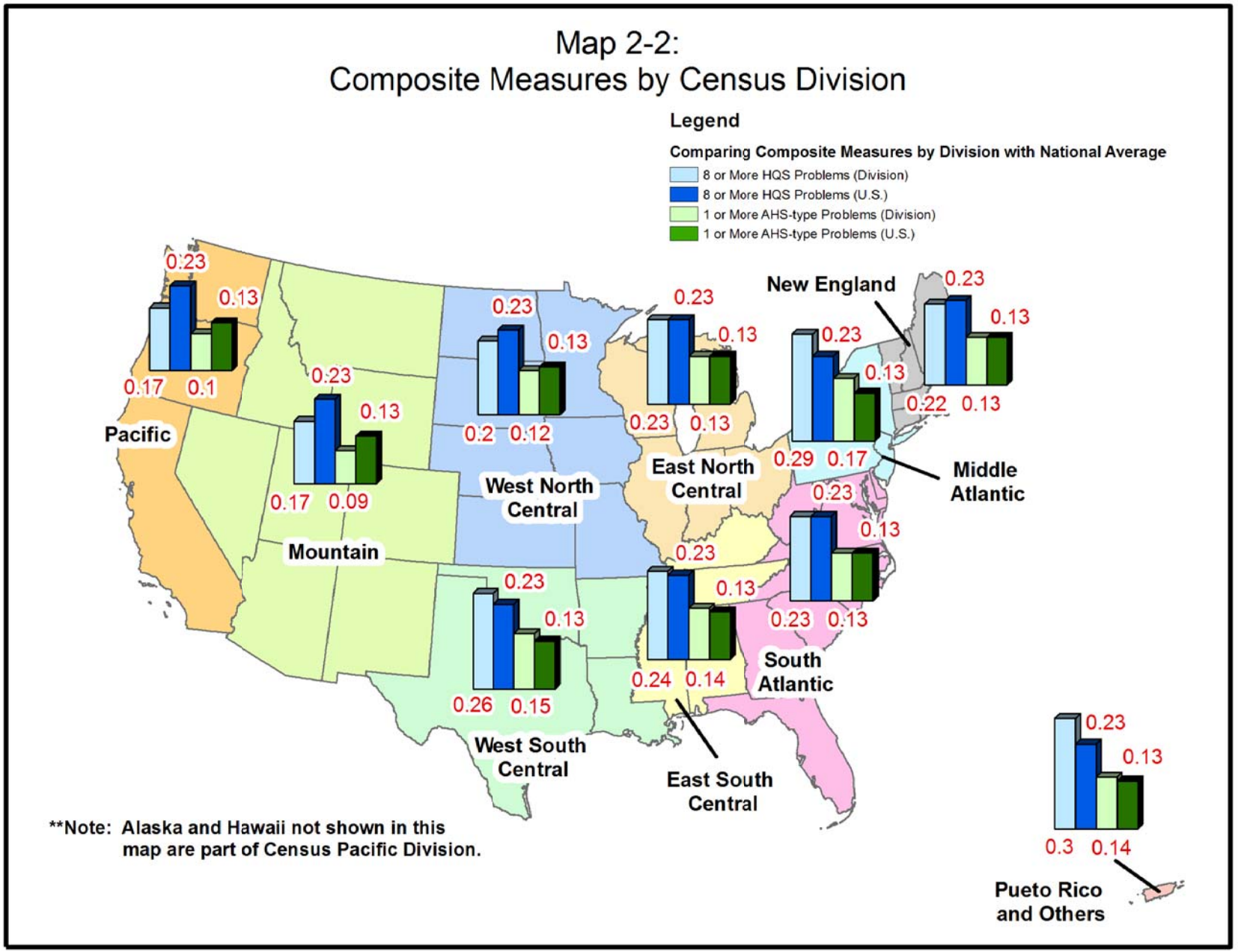
Participants living in the lowest poverty rate neighborhoods, with poverty rates of less than 10 percent, do sometimes report conditions representing severe housing problems. Within these tracts, about 15.4 percent of participants report eight or more HQS-related defects, and 8.8 percent report conditions that represent severe housing problems. Because the housing stock in lower poverty rate neighborhoods is likely to be either newer or better maintained than in other neighborhoods, these findings on rates of housing inadequacy are somewhat surprising.[31]

Severe Problems by Socio-Economic Group. The incidence of severe housing quality problems also varies by race and ethnicity. Table 2-20 shows the highest rate of severe problems is among non-Hispanic blacks, with 31.1 percent reporting eight or more HQS-related defects. The results on family composition and on race/ethnicity suggest that certain types of families, such as minorities and families with children face more difficult housing choices when selecting their housing and neighborhood. The number of units available to them during their housing search period may be more limited.

Exhibit 2-4 demonstrates the particular difficulties faced by households with a single female with three or more children. Approximately 21.1 percent of these households experience housing conditions with severe problems (based on the AHS-based definition of one or more critical defect). This is much higher than the rate for single females with 1-2 children present (15.5 percent) or households with no children present (8.8 to 9.4 percent).

[31] Analysis at the census block group level might reveal that the reported housing problems are concentrated in the lower income block groups within low-poverty tracts.


Map 2-1:
Composite Measures by Census Region
Legend
Comparing Composite Measures by Region with National Average
8 or Mcre Problems (Region)
8 or Mcre Problems (U.S.)
1 or Mcre AHS-type Problems (Region)
1 or Mcre AHS-type Problems (U.S.)
22.8
13.1
16.7
9.5
West
22.8
13.1
21.8
12.9
Midwest
22.8
13.1
26.9
15.8
Northeast
22.8
13.1
24.5
13.9
South
22.8
13.1
30.5
14.3
Puerto Rico
**Note: Alaska and Hawaii not shown in this map are part of Cesus West Region.


Map 2-2:
Composite Measures by Census Division
Legend
Comparing Composite Measures by Division with National Average
8 or More HQS Problems (Division)
8 or More HQS Problems (U.S.)
1 or More AHS-type Problems (Division)
1 or More AHS-type Problems (U.S.)
Pacific
0.23
0.13
0.17
0.1
Mountain
0.23
0.13
0.17
0.09
West North Central
0.23
0.13
0.2
0.12
East North Central
0.23
0.13
0.23
0.13
New England
0.23
0.13
0.23
0.13
0.22
0.13
Middle Atlantic
0.29
0.17
South Atlantic
0.23
0.13
0.23
0.13
East South Central
0.23
0.13
0.24
0.14
West South Central
0.23
0.13
0.26
0.15
Pueto Rico and Others
0.23
0.13
0.3
0.14
**Note: Alaska and Hawaii not shown in this map are part of Census Pacific Division.

Difficulties faced by families with children are greater for households living in high poverty census tracts. One third (33.9 percent) of single females with three or more children living in the highest poverty rate tracts (those with poverty rates of 40 percent or more) report housing conditions that represent severe problems (based on the AHS-based definition of one or more critical defect). These households are two and a half times as likely to experience severe housing problems as other households. Single females living in tracts with 21 to 39 percent poverty also experience higher than average rates of severe housing inadequacy. Their rate of AHS-based critical housing problems is 25.1 percent for single females with three or more children, and is 18.8 percent for single females with one or two children. As the poverty rate of the tract decreases, the rate of severe housing problems also decreases, whether female-headed or not, and whether with children or without.

Table 2-20:
Composite Measures of Housing Quality
by Race and Ethnicity

Race / ethnicity	8 or more problems	1 or more AHS-type problems
White non-Hispanic	15.1%	9.0%
Black non-Hispanic	31.1%	18.1%
Hispanic	24.4%	12.8%
Other	14.4%	7.4%
Overall	22.8%	13.1%

Exhibit 2-4:
AHS-Based Composite Measure of Housing Problems
by Household Head Characteristics and Number of Children

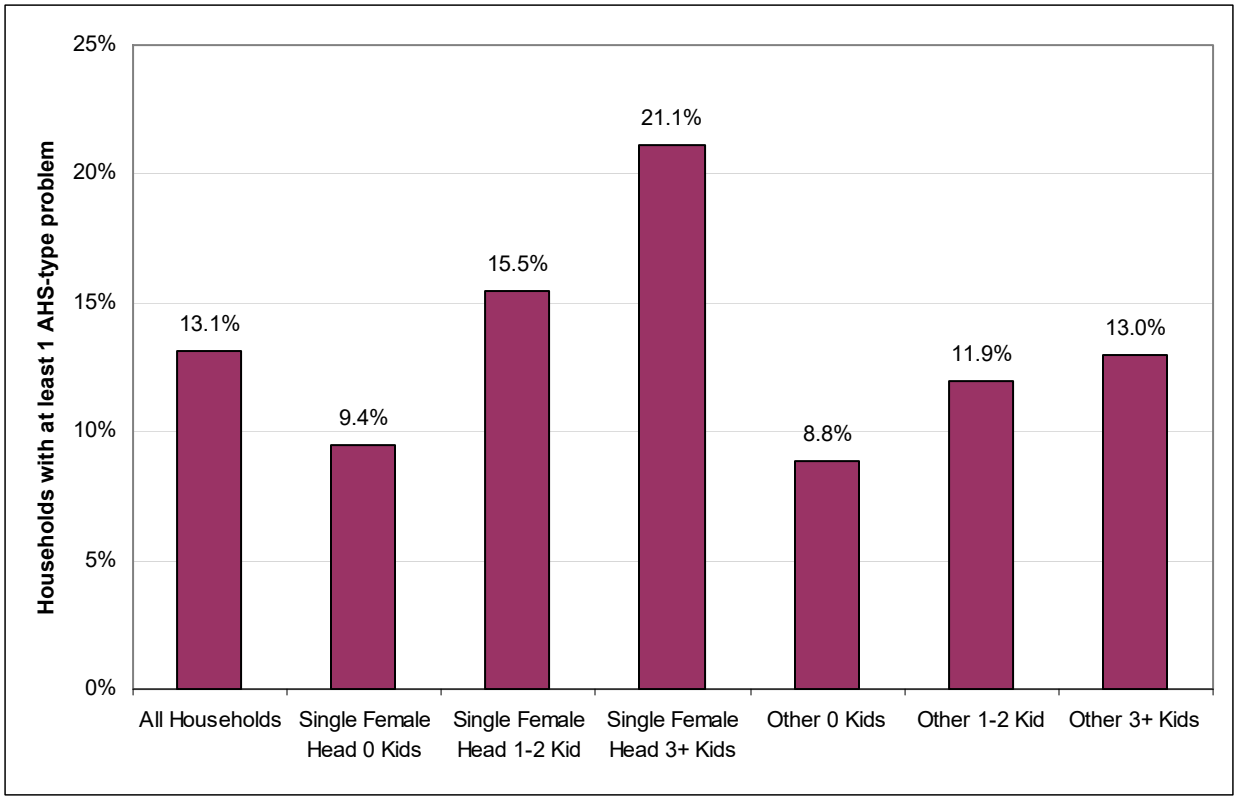


Exhibit 2-5:
AHS-Based Composite Measure of Housing Problems
by Household Composition and Census Tract Poverty Rate

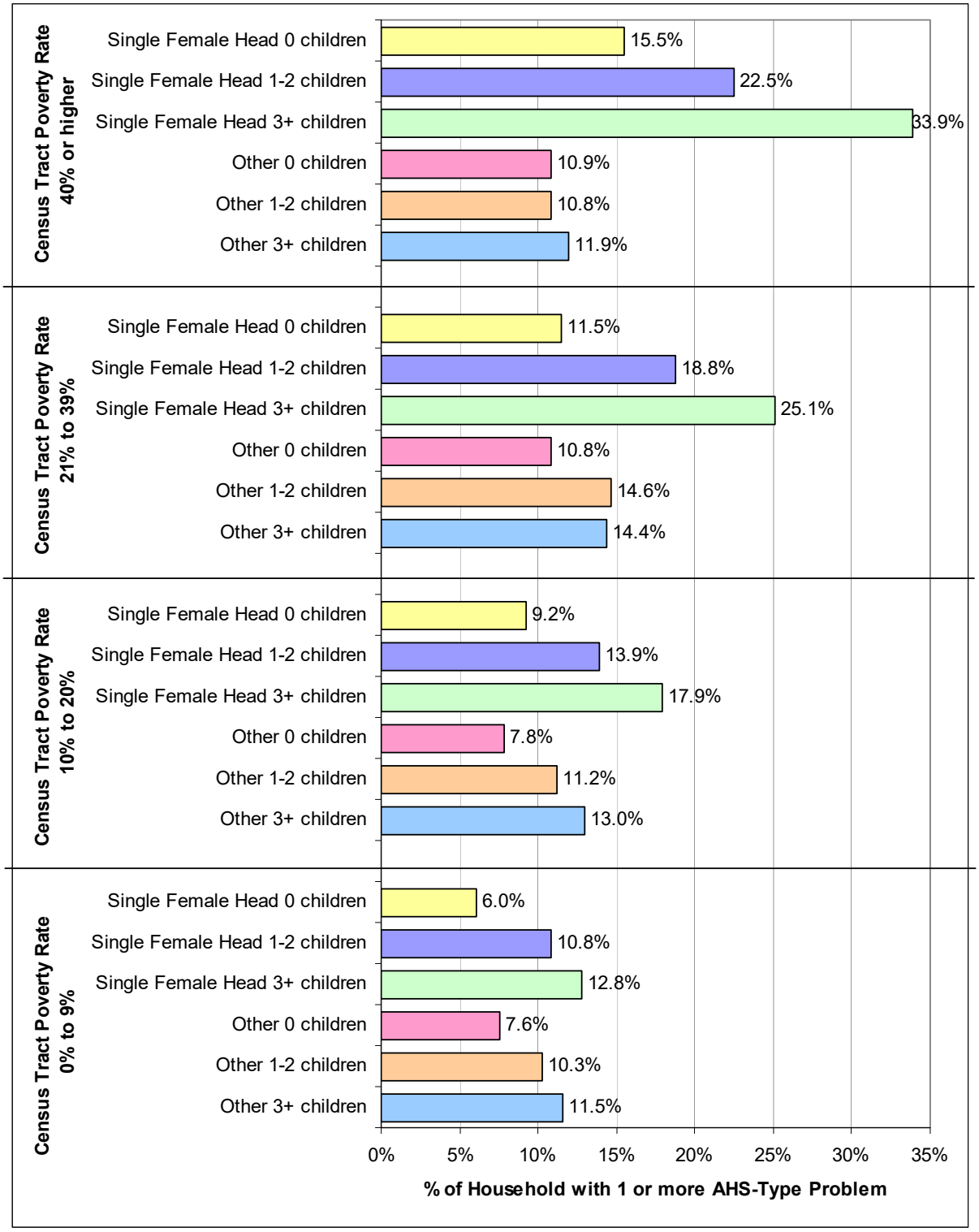
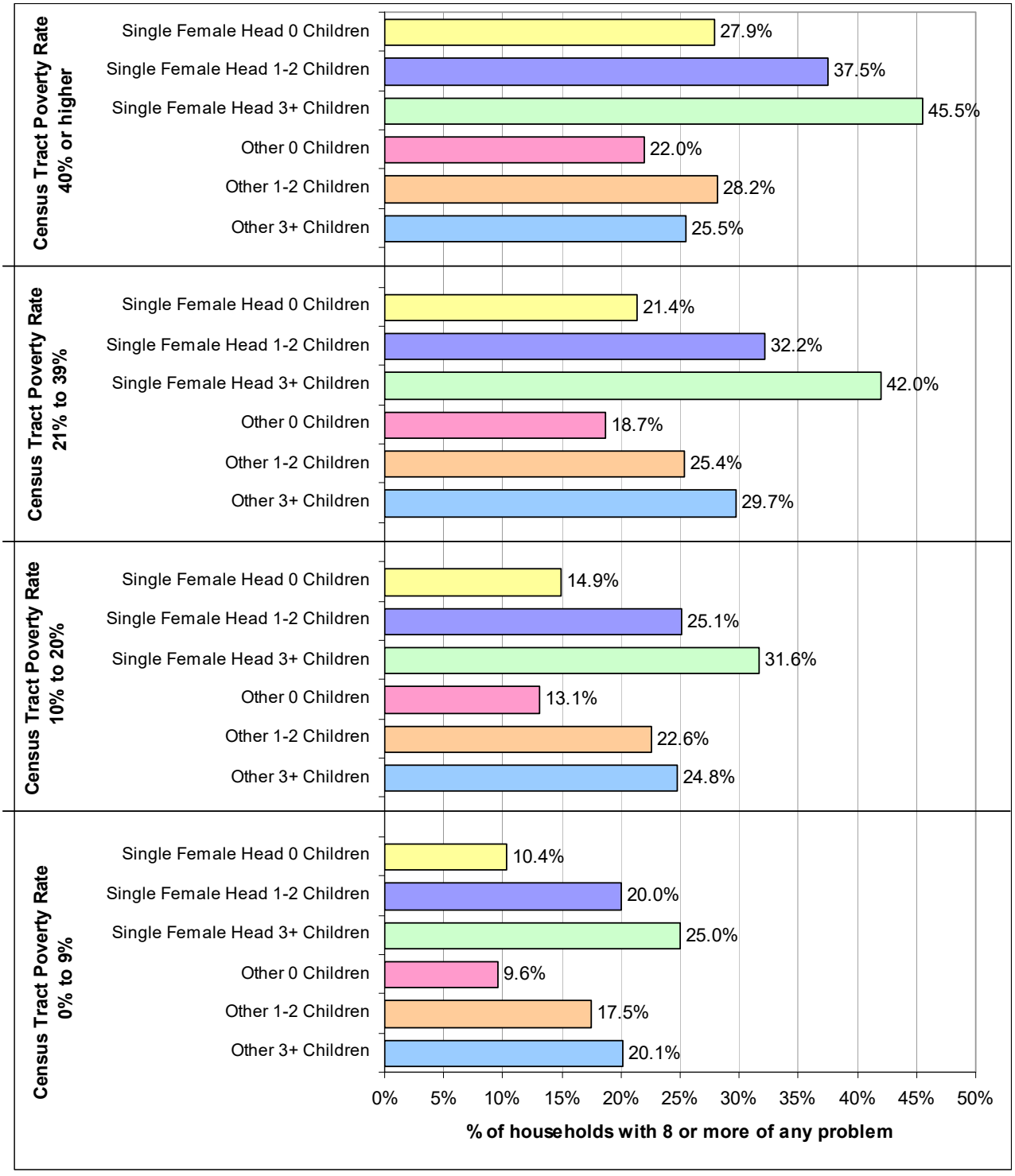


Exhibit 2-6:
8 or more HQS problems Composite Measure of Housing Problems by Household Composition and Census Tract Poverty Rate



Conclusions

This chapter presented national, weighted results describing housing quality and resident satisfaction for households receiving Section 8 tenant based assistance. Most units occupied by participating families are in reasonably good condition, having few identified defects. Identified defects may be major or minor. Most are related to an item contained within the program's Housing Quality Standards (HQS). Most participating families expressed strong satisfaction with their home and neighborhood. Survey results also indicate, however, that there are serious housing quality problems for a surprisingly large percentage of units.

Tenants were asked to rank their home on a scale from one to ten (ten being the best). About 40 percent of families rated their home highly, giving it a rating of 9 or 10. Nearly fifty-three percent of elderly households rated their home a 9 or 10. Consistent with the reported information on physical defects, only 35.4 percent of families with children rated their home a 9 or 10.

The average number of HQS-related problems was 4.8 defects per unit. Households with children reported the most problems (5.7 defects per unit), while elderly households reported the fewest (2.8 defects per unit). Households where the head or spouse had a disability reported 4.2 defects per unit.

The most commonly reported problem was the presence of mildew, mold or water damage, with 19.7 percent of households reporting such problems during 2000-2002. Reports of using the oven to heat the home were also quite common (19.0 percent of households). Unsafe floor boards, tiles or carpeting, indicating a possible tripping hazard, were indicated by 19.1 percent of households. Inadequate heat, peeling or chipping paint, the presence of cockroaches, and various types of water leaks were reported by 13.9 to 17.8 percent of tenants.

Heating and cooling problems were much more prevalent than kitchen or electrical. A fifth of households have used their oven to heat their home in cold weather, and 17.1 percent respond that there is not enough heat in each room. About 11.8 percent report that they cannot adjust the heat, a problem that is experienced more often by elderly households and households with disability than by families with children. Among twelve HQS-related kitchen and bathroom items, the most frequently reported problems were that water leaks from a sink, drain, and/or pipe (15.9 percent); bathroom floor was covered by water in the last three months (14.8 percent); or toilets were not working for 6 hours recently (12.9 percent).

About 22.8 percent of households report eight or more HQS-related defects in their dwelling unit, and 13.1 percent report defects that represent severe problems using an AHS-based measure of critical defects. The most common type of multiple-category problem involved both heat and maintenance, with 41 percent with defects in heating also having defects in maintenance. The highest rate of severe problems is among non-Hispanic blacks, with 31.1 percent reporting eight or more HQS-related defects.

The percentage of units with housing deficiencies varies considerably depending on location and household composition. As the poverty rate of the tract decreases, the rate of severe housing problems also decreases, whether female-headed or not, and whether with children or without. In the highest poverty tracts, with 40 percent or greater poverty, one-third (33.1 percent) of participants report eight or more HQS-related defects. For participants living in the lowest poverty rate neighborhoods, with poverty rates of less than 10 percent, about 15.4 percent of participants report eight or more HQS-related defects, and 8.8 percent report conditions that represent severe housing problems.

In addition to measuring observed physical defects, the survey also contains 24 items that measured customer satisfaction with neighborhood, landlord, housing agency, safety, and overall quality of the unit. These tend to be highly correlated with the objective condition of the unit. About a third (33.8 percent) reported that crime or drugs in the neighborhood were "some problem" or a "big problem." Just over a quarter (28.2 percent) reported problems with trash or junk nearby. About 14.5 percent reported that vacant or run-down homes or stores were a problem. Again, families with children reported higher dissatisfaction than other household types.

While program units are not immune to the normal wear and tear that occurs in all occupied housing, whether HUD-assisted or not, normal wear and tear was not the focus of this survey. It is expected that some defects could develop after a passed inspection due to normal wear and tear caused by tenants. However, it is not likely that tenants create major deficiencies, such structural problems, inoperable heating/cooling systems, or electrical problems.

III. PHA RESULTS ON HOUSING QUALITY AND RESIDENT SATISFACTION

This chapter provides housing quality and resident satisfaction results for PHAs included in the 2000-2002 surveys. Each sample was designed to provide statistically valid information at the PHA level (see Appendix A for information on sample design and operations). Appendix C provides information for a sample of PHAs for each year of the survey and for 2000-2002 combined, indicating the number of surveys sent, the number of responses, the response rates, estimates of the proportion of program units with selected housing problems, and confidence intervals for these estimates.

HUD uses a variety of means for monitoring compliance with the statutory and regulatory requirements of the Section 8 tenant based program. These include certifications made by local administrators (PHAs) under the Section 8 Management Assessment Program (SEMAP); tenant data indicators summarized in HUD automated systems such as MTCS and PIC; and independent public accountant (IPA) audits performed on selected aspects of the PHA's program. The data collected under the Section 8 housing quality survey represent an entirely new type of information that can be used to assess housing quality and resident satisfaction.

As noted in Chapter Two, conditions reported at the PHA level do not represent housing quality at the time that the housing unit passed an on-site inspection. Rather, these results represent the quality of housing obtained by participants throughout the year, such as from the time of initial move-in to the time of annual reexamination, or from the time of one annual reexamination until the next.

The housing quality findings presented in this chapter and in Appendix C should not be considered performance ratings of PHAs. The information is not a part of the Section 8 Management Assessment program (SEMAP) used to evaluate PHA performance as defined in HUD regulations. The findings can nonetheless help to identify the potential need for technical assistance, training, and increased on-site monitoring by HUD staff. The findings also provide to PHAs a means of assessing their own performance, allowing them to compare their results on housing quality and resident satisfaction with results for other agencies.

Composite Measures of Severe Housing Quality Problems at Individual PHAs

It has already been noted that the proportion of severe housing problems varies according to the size of PHA responsible for administering the Section 8 tenant based program (see Table 2-10).[32] The proportion of units with severe problems increases with the size of PHA, and is highest for the largest PHAs, defined as 6,000 or more units under their administration. Table 3-1 presents estimates of rates of housing inadequacy for the 100 largest PHAs. During 2000-2002, the proportion of program units with eight or more HQS-type defects was 10 percent or less in five large PHAs, including four agencies in California: Orange County, San Jose, Santa Clara County, and San Diego County. PHAs where more than 35 percent of units had eight or more HQS-type defects included two agencies providing assistance in New York City (NY005 and

[32] Size of PHA is determined by the number of occupied units at the time of the survey.

NY110); New Orleans, LA; Baltimore, MD; Hartford, CT; the Region VI Mississippi Regional agency; Fort Worth, TX; Kansas City, MO, Houston, TX; and Atlanta, GA. (The comparable national statistic for the 8+ HQS-type definition was 22.8 percent.) Usually, these agencies also had high rates of severe problems under the AHS-based, critical defects definition (see Chapter Two for a description of this definition). In Ohio, the Akron, Cuyahoga Metropolitan (Cleveland) and Cincinnati PHAs all had 20 percent or more of units with severe problems under the AHS-based definition (the comparable national figure was 13.1 percent).

Table 3-1:
Composite Measures of Housing Quality
for 100 Largest PHAs, 2000-2002

PHA Code	PHA Name	8+ HQS-type defects	1 or more AHS-based critical problems
AZ001	Phoenix City	20.0%	12.3%
AZ004	Tucson City	18.3%	7.7%
CA001	San Francisco HA	22.9%	10.4%
CA002	Los Angeles County	12.3%	5.7%
CA003	Oakland HA	29.1%	18.9%
CA004	Los Angeles City	22.0%	13.9%
CA005	Sacramento City	13.6%	8.9%
CA006	Fresno City HA	26.2%	10.3%
CA007	Sacramento County	17.4%	11.5%
CA011	Contra Costa County	18.2%	9.3%
CA014	San Mateo County	14.9%	7.4%
CA019	San Bernardino County	22.4%	8.6%
CA024	San Joaquin County	18.1%	9.2%
CA026	Stanislaus County	18.9%	12.9%
CA027	Riverside County	14.6%	6.9%
CA028	Fresno County	24.1%	9.8%
CA033	Monterey County	20.5%	11.7%
CA056	San Jose HA	9.6%	4.7%
CA059	Santa Clara County	9.4%	5.4%
CA063	San Diego Housing Commission	15.9%	10.9%
CA067	Alameda County HA	13.2%	5.0%
CA068	Long Beach City HA	24.4%	12.5%
CA094	Orange County	9.8%	5.3%
CA104*	Anaheim City HA	16.8%	8.3%
CA108	San Diego County	7.9%	4.4%
CO001	Denver City and County HA	19.7%	13.0%
CT051	Hartford City	39.3%	22.1%
CT901	CT Dept of Social Services	26.9%	19.8%
DC001	District of Columbia HA	34.2%	22.8%
FL001	Jacksonville HA	25.1%	14.1%
FL005	Miami Dade HA	18.0%	10.6%
FL079	Broward County HA	28.3%	13.5%

PHA Code	PHA Name	8+ HQS-type defects	1 or more AHS-based critical problems
GA006	HA Atlanta City	35.6%	21.3%
GA901	Georgia State Residential Finance	20.6%	12.4%
HI003	Honolulu City and County	15.9%	9.7%
IL002	Chicago HA	26.1%	15.6%
IL025	Cook County HA	16.7%	10.4%
IN017	Indianapolis City	31.2%	18.0%
IN901	Indiana Housing and Comm Dev.	17.3%	9.9%
KY105	Jefferson County HA	26.4%	16.3%
KY131	Louisville City HA	28.1%	16.4%
KY901	Kentucky State Housing Corp	11.9%	7.8%
LA001	New Orleans HA	39.5%	27.4%
MA002	Boston HA	29.0%	17.0%
MA901	MA State Dept Housing Com Dev	26.8%	14.1%
MD002	Baltimore City HA	39.4%	23.3%
MD004	Montgomery County Housing Opp	26.5%	14.7%
MD015	Prince Georges County HA	31.1%	16.8%
MD033	Baltimore County HA	18.0%	10.4%
ME901	Maine State HA	18.1%	11.4%
MI901	Michigan State Housing Dev Auth	19.6%	11.9%
MI902	Michigan State Housing Dev Auth	17.3%	9.9%
MN001	Saint Paul City PHA	24.8%	14.8%
MN002	Minneapolis City PHA	23.5%	13.0%
MN163	Metropolitan Council	14.5%	7.2%
MO001	St. Louis City HA	31.1%	22.2%
MO002	Kansas City HA	36.4%	21.1%
MO004	St. Louis County HA	30.2%	17.7%
MS040	Miss Regional HA 8 (VIII)	27.7%	15.8%
MS058	Miss Regional HA 6 (VI)	37.4%	21.1%
MT901	MT Dept of Commerce	20.2%	11.7%
NE001	Omaha HA	27.0%	19.7%
NH901	New Hampshire Housing Finance	18.5%	10.5%
NJ912	New Jersey Dept Comm Affairs	26.6%	14.5%
NY005	New York City HA	40.6%	24.0%
NY041	Rochester HA	21.5%	13.6%
NY091	Amherst Town	20.4%	13.2%
NY110	NYC Dept Housing Preserv Dev	35.3%	18.0%
NY409	Buffalo City	18.2%	13.5%
NY902	NY State Housing Finance DHCR	17.9%	12.3%
NY903	NY State Housing Finance DHCR	22.2%	13.9%
OH001	Columbus Metropolitan HA	24.8%	14.1%
OH003	Cuyahoga Metropolitan HA	33.8%	20.2%
OH004	Cincinnati Metropolitan HA	34.1%	20.0%
OH006	Lucas Metropolitan HA	22.9%	13.9%
OH007	Akron Metropolitan HA	34.4%	22.2%
OK002	Oklahoma City HA	25.8%	12.7%
OK073	Tulsa City HA	31.3%	17.5%

PHA Code	PHA Name	8+ HQS-type defects	1 or more AHS-based critical problems
OK901	Oklahoma Housing Finance Agncy	22.6%	12.5%
OR002	Portland HA	13.8%	7.1%
PA001	Pittsburgh City HA	24.3%	15.1%
PA002	Philadelphia HA	30.4%	18.3%
PA006	Allegheny County HA	21.5%	15.9%
RQ006	San Juan Municipality	32.9%	17.6%
RQ901	Puerto Rico Dept of Housing	28.5%	13.5%
SC911	SC State Housing Authority	20.9%	14.2%
TN001	Memphis HA	32.7%	17.3%
TN005	Nashville Metro Develop & HA	30.2%	16.9%
TN903	Tennessee Housing Develop Ag	15.6%	8.7%
TX003	El Paso HA	15.9%	6.8%
TX004	Fort Worth HA	36.8%	19.4%
TX005	Houston HA	35.7%	21.5%
TX006	San Antonio HA	30.6%	16.1%
TX009	Dallas HA	30.0%	17.9%
VA019	Fairfax Co. Redevelopment & HA	18.5%	6.9%
VA901	Virginia Housing Develop Auth	19.0%	11.8%
VT901	Vermont State HA	20.2%	13.5%
WA002	King County HA	16.2%	11.7%
WI002	Milwaukee City	26.7%	10.0%
WI186	Brown County HA	8.5%	5.3%

*Results for Anaheim are based on surveys in 2000 and 2001.

Resident Satisfaction with Landlord and PHA Responsiveness

As noted in Chapter Two, in addition to measuring observed physical defects, the survey also measures satisfaction with neighborhood, landlord, housing agency, safety, and overall quality of the unit. For the 100 largest PHAs, respondents seem generally satisfied with the responsiveness of their PHAs (Table 3-2). The percentage of respondents who indicated that the PHA was not quick to react to complaints averaged 12 percent, with a range of 4 to 28 percent. For 25 of these PHAs, the rate of dissatisfaction was greater than 15 percent. Most of these PHAs are also reported in Table 3-1 as having higher than average rates of units with severe problems under one or both of the composite definitions of housing inadequacy.

A higher percentage of respondents were dissatisfied with landlord responsiveness. Among the 100 largest PHAs, the percentage of respondents indicating dissatisfaction with the quality of the landlord's routine repairs ranged from about 5 to 27 percent, with a mean of 16.7. For the 100 largest PHAs, the percentage of respondents unsatisfied with landlord promptness with emergency repairs averaged 15.4 percent, with a range from 5 to 26 percent. For 25 PHAs, the rate of dissatisfaction was at least 19 percent.

Table 3-2:
Resident Satisfaction with PHA and Landlord Responsiveness,
Rating of Home and Neighborhood, for the 100 Largest PHAs 2000-2002

PHA Code	PHA Name	PHA is not quick to react to complaints	Not satisfied with landlord's quality of routine repairs	Not satisfied with landlord's promptness of emergency repair	Tenant rates home 4 or less*	Problem with crime or drugs	Tenant rates neighborhood 4 or less*
AZ001	PHOENIX CITY	12.4%	23.2%	20.7%	16.0%	47.1%	20.4%
AZ004	TUCSON CITY	8.3%	17.9%	15.5%	16.3%	41.4%	14.0%
CA001	SAN FRANCISCO H A	18.8%	14.2%	10.7%	10.6%	37.0%	13.3%
CA002	LOS ANGELES COUNTY	10.0%	11.1%	13.6%	6.8%	21.4%	10.1%
CA003	OAKLAND H A	13.7%	17.5%	16.0%	12.1%	52.8%	16.3%
CA004	LOS ANGELES CITY	13.6%	14.6%	17.7%	10.2%	42.3%	15.1%
CA005	SACRAMENTO CITY	11.9%	10.8%	8.3%	10.1%	33.2%	14.2%
CA006	FRESNO CITY H A	12.3%	16.4%	16.0%	15.8%	33.5%	13.1%
CA007	SACRAMENTO COUNTY	9.9%	14.6%	8.6%	11.6%	35.9%	15.5%
CA011	CONTRA COSTA COUNTY	10.2%	13.3%	18.4%	10.7%	35.4%	13.2%
CA014	SAN MATEO COUNTY	6.1%	8.5%	8.7%	7.6%	17.8%	4.7%
CA019	SAN BERNARDINO COUNTY	13.3%	14.6%	15.5%	15.3%	34.0%	15.2%
CA024	SAN JOAQUIN COUNTY	9.0%	13.9%	13.9%	7.8%	37.7%	14.3%
CA026	STANISL	6.4%	18.6%	11.9%	9.7%	35.4%	12.1%

	AUS COUNTY						
CA027	RIVERSIDE COUNTY	8.3%	13.5%	11.4%	9.9%	29.0%	11.9%
CA028	FRESNO COUNTY H A	5.9%	17.0%	19.7%	10.4%	40.4%	14.4%
CA033	MONTEREY COUNTY	10.4%	14.2%	14.6%	7.4%	24.7%	8.1%
CA056	SAN JOSE H A	8.6%	9.9%	7.5%	6.4%	18.0%	5.8%
CA059	SANTA CLARA COUNTY	10.5%	7.6%	7.3%	6.1%	18.3%	8.4%
CA063	SAN DIEGO HOUSING COMMIS.	8.3%	13.4%	12.7%	9.4%	33.0%	9.1%
CA067	ALAMEDA COUNTY H A	5.0%	9.7%	7.9%	3.6%	37.3%	3.2%
CA068	LONG BEACH CITY H A	7.0%	15.0%	16.4%	9.1%	43.9%	13.0%
CA094	ORANGE COUNTY	5.4%	5.4%	4.6%	3.2%	18.8%	3.6%
CA104	ANAHEIM CITY H A	6.1%	5.8%	5.3%	5.1%	18.5%	5.7%
CA108	SAN DIEGO COUNTY	6.3%	11.8%	7.6%	7.1%	28.6%	9.5%
CO001	DENVER H A	8.6%	17.8%	15.2%	12.9%	30.8%	11.6%
CT051	HARTFORD CITY	8.4%	22.5%	20.1%	14.0%	46.9%	18.0%
CT901	CONN DEPT OF SOCIAL SERV	12.1%	24.7%	23.6%	23.0%	31.3%	12.8%
DC001	D.C. CITY H A	20.3%	22.2%	22.7%	17.7%	58.7%	19.9%
FL001	JACKSONVILLE H A	11.6%	13.8%	14.7%	10.2%	37.3%	13.8%
FL005	MIAMI DADE H	20.4%	10.2%	9.4%	6.9%	25.0%	8.2%

	A						
FL079	BROWARD COUNTY H A	6.0%	20.8%	19.7%	11.8%	32.8%	15.0%
GA006	ATLANTA HA	18.9%	24.9%	22.8%	15.2%	45.6%	19.0%
GA901	GEORGIA DEPT COMM AFFAIRS	8.2%	14.9%	14.1%	9.4%	21.4%	7.9%
HI003	HONOLULU CITY AND COUNTY	9.2%	12.5%	10.5%	6.5%	44.6%	10.8%
IL002	CHICAGO H A	17.1%	17.7%	18.0%	10.0%	54.9%	15.0%
IL025	COOK COUNTY H A	13.0%	12.5%	13.5%	7.0%	29.6%	7.4%
IN017	INDIANAPOLIS CITY	25.6%	18.8%	17.3%	14.4%	41.8%	16.8%
IN901	INDIANA DEPT OF HUMA	5.8%	15.5%	8.8%	11.7%	22.1%	8.4%
KY105	JEFFERSON COUNTY H A	13.3%	19.1%	18.5%	15.3%	48.0%	17.7%
KY131	LOUISVILLE CITY H A	17.0%	21.5%	19.3%	13.7%	47.9%	16.8%
KY901	KENTUCKY HOUSING CORP	4.8%	11.4%	9.8%	6.5%	21.1%	7.3%
LA001	NEW ORLEANS H A	21.9%	21.9%	24.6%	18.1%	43.9%	17.1%
MA002	BOSTON H A	12.1%	18.2%	21.0%	13.6%	41.5%	12.4%
MA901	COMM DEV PROG COMM O	10.5%	14.3%	12.8%	12.8%	35.9%	13.7%
MD002	BALTIMORE CITY H A	22.2%	26.4%	22.5%	15.5%	62.6%	21.7%
MD004	MONTGOMERY COUNTY H A	16.0%	17.7%	15.1%	9.1%	29.2%	6.0%
MD015	PRINCE	13.5%	20.0%	18.6%	11.2%	51.7%	11.0%

	GEORGES COUNTY H A						
MD033	BALTIMORE COUNTY H A	12.3%	12.8%	11.2%	8.8%	34.0%	5.8%
ME901	MAINE STATE H A	6.2%	13.1%	10.4%	8.7%	23.1%	6.2%
MI901	MICHIGAN STATE HOUSI	8.2%	13.8%	12.6%	9.4%	34.1%	10.6%
MI902	MICHIGAN STATE HSG.	6.5%	15.9%	12.5%	9.7%	25.1%	9.5%
MN001	ST PAUL PHA	7.5%	17.9%	18.0%	15.6%	42.5%	16.9%
MN002	MINNEAPOLIS PHA	16.2%	20.4%	18.3%	14.7%	51.0%	19.9%
MN163	METROPOLITAN COUNCIL	3.9%	17.5%	13.4%	10.6%	31.8%	9.3%
MO001	ST. LOUIS CITY H A	16.5%	26.7%	25.6%	15.4%	46.1%	18.4%
MO002	KANSAS CITY H A	24.0%	25.1%	25.1%	19.3%	48.5%	22.7%
MO004	ST. LOUIS COUNTY H A	17.2%	24.2%	24.9%	16.6%	41.4%	18.5%
MS040	MISS REGIONAL H/A VI	9.1%	18.2%	17.7%	14.8%	31.3%	15.2%
MS058	MISS REGIONAL H/A VI	14.3%	18.9%	18.3%	18.4%	38.9%	18.9%
MT901	MT DEPARTMENT OF COM	6.7%	13.4%	13.0%	10.4%	24.7%	10.3%
NE001	OMAHA HOUSING AUTHOR	23.6%	18.9%	19.0%	14.5%	40.3%	16.6%
NH901	NEW HAMPSHIRE HOUSIN	5.1%	14.1%	11.8%	11.3%	25.4%	12.2%

NJ912	NEW JERSEY DEPARTMEN	9.9%	18.4%	16.3%	11.8%	37.9%	13.3%
NY005	NEW YORK CITY HOUSING	15.1%	25.8%	24.8%	17.2%	46.4%	19.9%
NY041	ROCHESTER H A	8.5%	11.6%	11.2%	10.7%	39.4%	13.1%
NY091	AMHERST TOWN	7.8%	19.6%	14.7%	12.2%	35.3%	8.3%
NY110	NEW YORK CITY	19.5%	24.3%	21.3%	15.2%	47.9%	14.9%
NY409	BUFFALO CITY	7.4%	13.9%	14.2%	8.9%	41.0%	9.3%
NY902	NEW YORK STATE HOUSI	4.8%	13.2%	11.8%	7.5%	20.1%	7.1%
NY903	NEW YORK STATE HOUSI	8.1%	15.3%	14.2%	12.8%	34.4%	12.9%
OH001	COLUMBUS METRO. HA	16.2%	15.8%	16.9%	14.3%	49.5%	18.1%
OH003	CUYAHOGA MHA	19.4%	19.6%	19.9%	14.4%	53.2%	18.2%
OH004	CINCINNATI METROPOLI	15.2%	23.7%	23.7%	18.4%	51.5%	17.2%
OH006	LUCAS MHA	11.2%	14.8%	16.9%	10.5%	44.0%	15.2%
OH007	AKRON MHA	13.1%	21.9%	19.1%	15.5%	42.6%	17.9%
OK002	OKLAHOMA CITY HOUSIN	13.5%	16.0%	15.3%	12.2%	39.4%	13.1%
OK073	TULSA H A	16.1%	18.5%	15.4%	11.3%	36.2%	16.8%
OK901	OKLAHOMA HOUSING FIN	13.1%	16.1%	15.2%	10.3%	30.9%	12.0%
OR002	PORTLAND H A	10.9%	13.6%	10.1%	10.6%	30.4%	10.9%
PA001	PITTSBURGH H A	12.4%	14.4%	14.1%	11.5%	46.2%	14.5%
PA002	PHILADELPHIA H	16.1%	22.6%	22.5%	16.4%	62.6%	19.4%

	A						
PA006	ALLEGHENY COUNTY H A	11.2%	14.7%	10.6%	12.0%	35.2%	11.1%
RQ006	SAN JUAN MUNICIPALITY	27.7%	15.9%	15.8%	11.8%	35.6%	10.2%
RQ901	PUERTO RICO DEPT. HOUSING	11.9%	14.3%	16.1%	8.4%	29.9%	7.8%
SC911	S C STATE HOUSING FI	8.2%	15.8%	14.5%	11.0%	32.9%	11.9%
TN001	MEMPHIS H A	14.2%	24.0%	23.3%	17.3%	46.7%	18.6%
TN005	NASHVILLE MDHA	13.2%	20.6%	18.9%	14.7%	46.1%	19.0%
TN903	TENNESSEE HOUSING DE	5.5%	12.4%	11.1%	10.3%	24.2%	8.7%
TX003	EL PASO H A	11.2%	10.2%	9.1%	4.5%	16.2%	6.3%
TX004	FORT WORTH H A	17.1%	22.4%	19.5%	16.4%	46.8%	17.4%
TX005	HOUSTON H A	23.3%	24.5%	23.6%	20.7%	44.8%	20.6%
TX006	SAN ANTONIO H A	16.3%	20.3%	19.4%	11.6%	36.1%	14.4%
TX009	DALLAS H A	18.2%	21.6%	19.6%	16.2%	38.9%	16.0%
VA019	FAIRFAX CO REDV AND H A	9.4%	11.7%	10.2%	6.5%	22.0%	6.4%
VA901	VIRGINIA HOUSING DEV	4.3%	13.4%	12.6%	9.7%	21.9%	8.7%
VT901	VERMONT STATE H A	6.4%	12.1%	10.3%	9.8%	26.8%	10.0%
WA002	KING COUNTY HOUSING	6.8%	19.0%	15.6%	10.2%	34.0%	10.6%

WI002	MILWAUKEE CITY H A	12.6%	23.4%	21.7%	17.6%	48.3%	24.5%
WI186	BROWN COUNTY H A	7.4%	7.3%	7.4%	8.2%	24.6%	9.3%
100 largest PHAs combined		12.9%	17.7%	16.9%	12.3%	38.4%	14.0%

For nearly all of the large PHAs listed in table 3-2, respondents were generally satisfied with their homes. On average, about 12 percent of respondents in the 100 largest PHAs rated their home as a 4 or less on a scale of 1 to 10. Resident ratings of neighborhoods were slightly lower. Interestingly, 27 percent of households did not rate their neighborhood low, but nonetheless reported a problem with crime or drugs.

Highest Rates of Housing Problems

Table 3-3 identifies PHAs with the highest rates of observed structural defects. These PHAs are of all sizes, serving central cities, suburbs, and non-metropolitan areas. All had one-third or more of program units with eight or more HQS-type housing defects, placing them significantly above the national average of 22.8 percent. Together these PHAs administered a total of 194,237 units, which represented 13 percent of the program at the time of the survey. Virtually all of these PHAs had rates of AHS-based critical defects above the national average rate. Half of these PHAs had AHS-based rates of critical defects of 20 percent or more.

States with the largest number of PHAs on this list are Texas (14 PHAs), New Jersey (13 PHAs), Louisiana (9 PHAs) and Alabama (8 PHAs). In each of these states, the majority of these PHAs are small, operating programs with 1,000 or fewer units in their tenant based program.

Some of the nation's largest PHAs serving inner city areas appear on this list, including New York City, New Orleans, Washington D.C. and Kansas City. However, not all big cities are included -- Chicago, Los Angeles City and Minneapolis are notable exceptions. HUD could identify techniques or procedures used in these places that could help other large PHAs improve the overall quality of housing in their programs.

Some PHAs provide tenant based assistance within very large central cities with older housing stocks. Much of the housing available to voucher holders in these cities may be located in neighborhoods where the poverty rate is high, and where landlords are less inclined to keep their housing in good working condition. The families served by these PHAs may be less able or willing to perform a meaningful housing search that yields a newer unit in a better neighborhood, where keeping the unit up to HQS is not such a difficult task. Significantly, the administrative fees payable to PHAs do not take such factors into account. These fees do not reimburse PHAs for the possible need for more intensive or more frequent housing inspections in difficult

markets, nor does it make allowances for the more intensive landlord outreach and tenant counseling that might be needed in such markets.

Table 3-3:
Composite Measures of Housing Quality for PHAs* with the Highest Rates of Units Reported with Eight or More HQS-Type Defects, 2000-2002

PHA Code	PHA Name	Occupied Units (2000)	8+ HQS-type defects	1+ AHS-Based Critical defects	Average number of HQS-type defects	Median number of days since inspection	Percent Not Initially passing inspection
NY449	Buffalo Municipal HA	120	73.2%	10.4%	9.0	259	6.0%
MO018	Kennett City HA	39	60.3%	5.2%	9.3	316.5	86.2%
RQ019	Penuelas Municipality	132	48.8%	32.8%	8.6	246	58.8%
LA179	Plaquemine City	132	47.1%	24.3%	8.3	180	3.8%
NY003	Yonkers Municipal HA	1,109	46.9%	25.1%	8.3	253	30.5%
AL169	Prichard HA	1,110	46.3%	26.6%	8.4	227	3.2%
NJ050	East Orange HA	573	45.3%	26.0%	7.9	250	6.3%
NJ039	Plainfield HA	717	43.6%	30.1%	8.0	194	13.9%
NJ086	Montclair HA	217	43.5%	27.4%	7.2	176	4.0%
NJ014	Atlantic City HA Urb Redv Ag	554	43.0%	15.5%	6.4	238	8.8%
MO074	Sedalia HA	46	42.9%	22.8%	7.6	197	32.7%
TX447	San Juan HA	141	42.4%	29.7%	8.3	120	7.8%
AR020	Little River County HA	41	42.3%	25.3%	7.3	251	33.2%
PA008	Harrisburg HA	447	41.8%	21.4%	7.0	203	20.7%
AR223	Phillips County Public HA	363	41.7%	24.3%	7.9	211	96.3%
OK096	Wewoka HA	129	41.5%	22.0%	6.8	180	88.4%
NJ021	Paterson HA	470	41.4%	23.7%	7.6	232	1.5%
LA006	Monroe HA	1,114	41.2%	23.0%	7.6	199	0.0%
NY175	Mt Vernon Urban Renewal Ag	717	41.2%	19.2%	7.7	197	12.1%
OH048	Hamilton County PHA	1,784	41.0%	26.5%	7.7	194	40.2%
LA204	West Baton Rouge Parish C	66	40.8%	23.4%	6.8	169	1.9%
NY005	New York City HA	75,589	40.6%	24.0%	7.6	252	4.7%
OH002	Youngstown Metropolitan HA	1,310	40.2%	23.2%	7.1	204	30.0%
AZ021	Eloy City HA	125	40.2%	21.6%	7.8	219	50.1%
NJ095	Monmouth County HA	1,127	40.0%	22.9%	7.2	205	5.7%
RQ054	Bareceloneta Municipality	81	39.6%	9.8%	6.7	310	75.3%
LA001	New Orleans HA	4,947	39.5%	27.4%	7.6	214	9.9%
IL107	North Chicago City HA	524	39.5%	13.6%	6.2	239	37.9%
PHA Code	PHA Name	Occupied Units (2000)	8+ HQS-type defects	1+ AHS-based critical defects	Average number of HQS-type	Median number of days since inspection	Percent not initially passing inspection

					defects		
MD002	Baltimore City HA	7,814	39.4%	23.3%	7.2	241	7.2%
TX530	La Marque City	49	39.4%	18.0%	6.4	188	2.8%
CT051	Hartford City	3,320	39.3%	22.1%	6.9	193	10.4%
NJ037	Irvington HA	226	39.2%	24.0%	7.3	188	6.4%
RQ062	Cidra Municipality	144	39.1%	8.3%	5.7	183	0.7%
TN007	Jackson HA	621	38.9%	21.0%	7.2	213	10.6%
NJ007	Asbury Park HA	201	38.8%	19.7%	6.5	230	47.2%
AL154	Atmore HA	89	38.5%	16.2%	7.6	147	3.9%
NJ091	Paterson City HA	942	38.4%	24.6%	7.6	158	66.8%
LA192	Ville Platte City	90	38.2%	19.7%	7.4	152	3.6%
NJ046	Red Bank HA	222	38.0%	21.2%	7.6	182	3.0%
IL001	East St Louis HA	260	37.4%	25.2%	7.1	229	30.5%
MS058	Miss. Regional HA 6 (VI)	3,655	37.4%	21.1%	6.8	233	1.0%
NJ002	Newark HA	1,783	37.3%	23.3%	7.1	203	70.2%
GA232	College Park City HA	281	36.9%	21.9%	7.7	154	1.7%
TX004	Fort Worth HA	3,136	36.8%	19.4%	6.9	205	26.3%
AL125	Bessemer HA	262	36.7%	20.7%	6.9	249	65.4%
MO901	Missouri Housing Dev Comm	643	36.6%	17.1%	6.4	107	0.0%
CT003	Hartford HA	1,104	36.6%	24.6%	6.9	234	5.0%
MO002	Kansas City HA	5,111	36.4%	21.1%	6.8	229	3.2%
IL024	Joliet HA	776	36.2%	28.8%	7.5	186	45.3%
TX037	Orange City HA	636	36.1%	17.7%	6.8	244	5.5%
DE001	Wilmington HA	753	36.0%	18.9%	6.4	197	0.0%
FL010	Fort Lauderdale City HA	1,258	35.8%	18.2%	6.6	226	10.5%
TX005	Houston HA	10,813	35.7%	21.5%	6.8	212	4.3%
RQ082	Aguas Buenas Municipality	135	35.6%	9.7%	6.4	211	2.5%
GA006	Atlanta HA	7,767	35.6%	21.3%	6.7	238	15.7%
AL004	Anniston HA	184	35.5%	15.2%	6.1	217	58.9%
FL002	St. Petersburg City HA	2,040	35.5%	17.2%	6.3	195	7.1%
NY438	Hudson City HA	106	35.5%	20.8%	6.2	173	37.2%
LA202	Donaldsonville City	85	35.5%	13.8%	5.9	159	4.6%
PA007	Chester HA	1,219	35.4%	20.0%	6.8	260	35.3%
NC137	Nash Edgecombe Econ Dev	463	35.3%	24.2%	7.0	219	29.0%
LA212	Lincoln Parish Police Jury	130	35.3%	24.1%	7.7	153	0.0%
LA195	East Carroll Parish Police Jry	117	35.3%	22.5%	6.8	222	42.7%
MA024	Brockton HA	723	35.2%	18.6%	6.3	264	4.7%
MI198	Kent County Housing Comm	143	35.1%	16.1%	6.0	226	6.3%
TX436	Mesquite HA	777	35.1%	17.5%	6.1	215	2.9%
TN013	Brownsville HA	153	34.9%	15.4%	6.6	181	11.9%
AL008	Selma HA	997	34.8%	21.3%	7.2	207	38.3%
NJ009	Jersey City HA	2,058	34.7%	18.7%	6.8	185	1.9%
SC001	Charleston HA	946	34.7%	16.1%	6.1	239	22.9%
NH888	Harbor Homes, Inc.	75	34.6%	23.1%	6.9	241.5	3.8%
NC004	Kinston City HA	596	34.6%	15.6%	6.4	287	41.0%

PHA Code	PHA Name	Occupied Units (2000)	8+ HQS-type defects	1+ AHS-based critical defects	Average number of HQS-type defects	Median number of days since inspection	Percent not initially passing inspection
LA002	Shreveport HA	1,773	34.6%	20.3%	6.7	231	0.0%
AL086	Jefferson County HA	975	34.5%	16.5%	5.9	739	60.6%
NY094	Ossining Village Section 8 Pr	198	34.5%	19.8%	6.7	506	78.7%
PA005	Mckeesport HA	412	34.4%	17.7%	6.2	251	23.2%
OH007	Akron Metropolitan HA	3,163	34.4%	22.2%	6.3	270	38.8%
NM004	Alamogordo City HA	50	34.4%	15.6%	5.8	90.5	18.8%
TX023	Beaumont HA	1,210	34.3%	15.3%	6.2	271	0.5%
TX376	Duval County HA	107	34.3%	30.1%	6.9	182	0.0%
DC001	District of Columbia HA	5,540	34.2%	22.8%	7.4	339	21.6%
OH004	Cincinnati Metropolitan HA	4,635	34.1%	20.0%	6.7	223	23.3%
PA023	Delaware County HA	1,919	34.0%	20.6%	6.0	212	6.5%
TX072	Gainesville City HA	272	33.9%	21.0%	6.7	169	0.8%
SC020	Chester HA	262	33.8%	15.6%	6.0	181	3.4%
TX459	Longview HA	550	33.8%	15.8%	6.4	177	15.9%
AL181	Evergreen HA	116	33.8%	21.2%	6.5	145	21.5%
AL061	Opelika HA	353	33.8%	18.9%	6.4	247	26.8%
OH003	Cuyahoga Metropolitan HA	9,318	33.8%	20.2%	6.3	210	9.3%
MI027	Inkster Housing Commission	182	33.7%	18.3%	6.1	171	9.3%
SC057	North Charleston HA	1,319	33.7%	17.8%	6.3	253	1.6%
NJ032	Rahway HA	185	33.7%	17.1%	6.4	170	4.0%
TX073	Pharr HA	541	33.7%	11.0%	6.3	191	0.0%
TX472	Amarillo City HA	1,059	33.6%	15.5%	6.3	182	19.2%
RQ053	Toa Alta Municipality	122	33.5%	15.4%	5.8	171	1.1%
GA001	Augusta City HA	1,866	33.4%	17.8%	6.2	235	16.8%
CA912	California Dept of HSG & C D	38	33.4%	13.3%	5.4	156	5.0%
NY009	Albany HA	1,051	33.3%	18.6%	6.0	218	27.9%
TX461	Walker County HA	244	33.2%	15.7%	6.3	182	14.5%
TX479	Corsicana HA	153	33.2%	13.2%	5.8	192	8.1%

*Includes PHAs with at least 20 responses in any one year.

HUD Monitoring of Housing Quality

Existing system for measurement of housing quality under SEMAP. The information collected in this survey on observed physical defects could become a part of the basis for rating PHA performance on housing quality in the Section 8 management Assessment Program (SEMAP).[33] Currently, SEMAP Uses five indicators that are directly or indirectly related to PHA compliance with program inspection requirements:

[33] The following description of the process for measuring PHA performance on housing quality under SEMAP is excerpted from the Housing Choice Voucher Guidebook, Chapter 10. Available at: http://www.hud.gov/offices/pih/programs/hcv/forms/guidebook.cfm See also the information on SEMAP at: http://www.hud.gov/offices/pih/programs/hcv/semap/index.cfm

- Indicator 2, Rent reasonableness;
- Indicator 5, HQS quality control inspections;
- Indicator 6, HQS enforcement;
- Indicator 11, Pre-contract HQS inspections; and
- Indicator 12, Annual HQS inspections.

SEMAP Certifications and Scoring for Indicators 2, 5, and 6 are audited by the PHA through quality control sampling. The resulting scores are verified by the PHA's independent auditor. With regard to Indicator 5, HQS quality control inspections, a PHA supervisor or other qualified person must re-inspect a sample of units under contract during the last PHA fiscal year. Completed HQS inspections included in the sample must be no older than three months at the time of the re-inspection. The sample must represent a cross section of neighborhoods where program units are located, and of inspections completed by all HQS inspectors. The sample should also include a cross section of initial and annual inspections.

Quality control re-inspections should be conducted by staff trained in the PHA's inspection standards and should receive the same guidance as other PHA inspectors on inspection policies and procedures. In addition to monitoring SEMAP compliance, quality control inspections provide feedback on inspectors' work, which can be used to determine if individual performance or general HQS training issues need to be addressed.

The PHA should maintain a quality control tracking system for each SEMAP year, indicating the address of the units, date of original inspection and inspector, date of the quality control inspection, results of the quality control inspection, and location of the unit by zip code, census tract, or other appropriate geography.

Under Indicator 6, HQS enforcement, all life-threatening HQS deficiencies must be corrected within 24 hours of inspection, and all other cited HQS deficiencies must be corrected no more than 30 calendar days from the date of inspection unless the PHA approves an extension of time for correction. For HQS deficiencies that are the owner's responsibility and are not corrected within the prescribed time frames, the PHA must abate housing assistance payments beginning no later than the first of the month following expiration of the PHA violation notice. For HQS deficiencies that are the responsibility of the tenant and are not corrected within the prescribed time frames, the PHA must take prompt and vigorous action to enforce family obligations following program requirements.

Compliance with Indicator 6 is determined through quality control of files and records. The number of failed units in the PHA's past fiscal year establishes the universe. The PHA should establish the definition of deficiencies that will be considered emergency fail items, and should put a procedure in place to record, track, and close all violations within 24 hours of inspection or take abatement action. Promptly following inspection, PHAs should issue violations letters for emergency fails to the responsible party.

PHAs should also encourage tenants to proactively report problems – structural, electrical, safety, etc. – to their landlord, and contact the PHA when the landlord fails to make repairs. Investing in technology, such as email, website complaint forms, etc, can improve complaint

tracking, increase convenience for the tenant, improve landlord accountability, and ultimately resolve housing quality problems quicker.

Inspectors must identify the party responsible for each HQS violation listed on the inspection instrument so that proper notice can be sent to the owner and/or tenant for the appropriate items. This precludes abatement of owner rent when the violation(s) is the responsibility of the tenant. Housing assistance payments are never abated for tenant deficiencies.

The PHA must have a system to promptly identify units for which deficiencies have not been corrected within the required timeframe, in order to indicate abatement of rent and/or termination of assistance to the family. Termination of assistance procedures should be stated in the PHA administrative plan. In order to meet the SEMAP requirement to "take prompt and vigorous action" for tenant violations the PHA should strictly follow these procedures when the family fails to correct HQS violations. PHAs should monitor HQS enforcement on a regular basis (daily, weekly, or monthly as appropriate) to guarantee that re-inspections occur within the proper time frames.

This performance measurement system is based entirely on information generated by the PHA itself. The system could be augmented to include independently collected information resulting from resident assessments collected under the Section 8 housing quality survey.

Comparing defect rates with inspection pass rates. Comparing defect rates identified in the survey data with PHA inspection rates clearly indicates which PHAs need management attention or technical assistance. One would expect that when a PHA passes 100% of units, survey data will reveal a very low rate of deficiencies, no matter which composite measure used. However, survey data indicates that this is not always the case.

Sorting and analyzing data revealed the following facts over the three-year survey period: 72 PHAs passed 100% of units at the initial inspection. Of these 72 PHAs, 25 PHAs had a mean of 5 or more HQS-type problems. Ten PHAs had a mean of 8 or more HQS problems. Also, 7 PHAs had an average of 10 to 16 reported HQS defects per unit.

Similar analysis was also done for the AHS-type definition for the 72 PHAs where 100% of units passed initial inspection. Results were a bit more promising. Thirteen PHAs had 20% of units with 1 or more AHS-type defect. The response data identified three PHAs with 100% of units with at least 1 AHS-type problem, despite 100% of program units passing initial inspection.

Overall, inspectors found some of the units with serious deficiencies. However, they passed nearly 85% of units at the initial inspection, while the survey revealed less than 20% have zero HQS problems. It is possible that some units may develop one or more HQS problems in the weeks and months after inspection due to wear-and-tear and routine problems (i.e. clogged toilet, broken appliance, etc); however, it is statistically unlikely that so many units in so many PHAs systematically develop so many HQS problems after a recent passing inspection. These results are not flukes; the survey is designed to make inferences at the PHA level. In 2000-2002 there were a substantial number of PHAs with high inspection passing rates and high rates of housing deficiencies. This discrepancy is one of the most important findings of the survey.

The above analysis further illustrates that customer satisfaction surveying can provide housing quality information not available from other sources. Armed with this data, it is possible for HUD to identify PHA discrepancies between the inspection process and the actual housing conditions. The authors of this report believe correcting these discrepancies could improve housing quality for tens of thousands of HCV tenants.

Alternative to inclusion in SEMAP. As an alternative to including selected results from the Section 8 Survey in SEMAP, HUD could conduct more intensive monitoring of housing quality using staff from HUD Field Offices and contractor staff that are independent of the PHA. In order to improve housing conditions of program participants, this monitoring effort could focus on PHAs with significantly higher than average incidence of critical housing problems. For the most part this effort would entail monitoring a limited number of larger PHAs; although when a small PHA appears on a list such as Table 3-3, it also warrants close attention.

Independently verifying the adequacy of housing for all PHAs on a nation-wide basis would be very expensive. However, HUD could establish an on-site inspection process for samples of units for PHAs where very serious problems are suspected. The Section 8 housing quality survey offers both a low-cost proxy for independent inspections, and a way of guiding decisions on the possible need for independent inspectors to go on-site for certain problem-prone areas. This survey could be used to target attention, resources, training, and technical assistance to PHAs identified with higher rates of deficiencies.

PHA Self-Assessments

Besides HUD's own monitoring of physical conditions, the survey offers a significant potential for improving conditions as a result of PHA self-assessments. At present, PHAs have no independent means of reviewing their own performance, or comparing their results with results for other PHAs.

Using the data from this study, HUD could create summaries at the PHA level for each of the individual questions included in the survey, and for the composite measures of housing quality. These summaries could be made available over the web at http://www.huduser.org. This would allow PHAs to perform a thorough review of the separate questions asked in the questionnaire, in much more detail that could be presented in this report.

If HUD determines that the Section 8 housing quality survey will be continued, the program office tenant data collection system, the Public and Indian Housing Information System (PIC) could be modified to make available summarized survey results to PHAs on an ongoing basis. PHAs already receive monthly management and monitoring reports for the Section 8 tenant based program from PIC.[34] In providing summary statistics for the different aspects of a PHA's program, PIC frequently provides comparison data for the next level up, such as the State or the

[34] See, for example, the *Resident Characteristics Report*, available at: http://www.hud.gov/offices/pih/systems/pic/50058/rcr/index.cfm

HUD Field Office with jurisdiction over the PHA. Adding housing quality summaries to the PIC system of reports would simply extend this concept to include housing quality and resident satisfaction with various aspects of the Housing Choice Voucher program.[35]

PHAs conducting self-assessments would also be able to compare housing quality results found at their own agency with results for comparable agencies. For example, PHAs administering programs in large central cities with older housing stocks would ideally want to compare their own results with those of other PHAs operating programs of similar size and under similar conditions. Some PHAs operate on a citywide basis, while others serve a whole county, or even groups of counties. The director of a suburban, county-wide agency might want to compare his/her results with those of adjacent, county-wide agencies.

There are significant variations among PHAs with regard to extent of housing discrimination, availability of affordable housing, rental vacancy rate, and other factors that might legitimately be taken into account when making such comparisons. It would not be practical for an automated system to take all possible factors into account. One possibility would be to offer summaries that compare results by size of the local program and geographic location of the PHA. Local program size is often used as a stratifying factor in research done on housing assistance programs, and is meant to convey both variations in the complexity of the market being served, and administrative complexity of the PHA itself.

Controlling for geography captures differences in the age and type of housing and to some extent the tightness of housing markets. The market and operating conditions of a medium sized PHA in Ohio, for example, probably have more in common with other Ohio PHAs than with agencies in Texas. Therefore identifying size category within a State makes it more likely that the comparisons are being made for similar types of agencies. It would be particularly important to compare center city PHAs against other center city PHAs, and suburban agencies against other suburban agencies.

However, since HUD data systems do not capture the geographic area of operation for PHAs, and especially since some agency jurisdictions are very hard to identify (e.g., some local agencies have authority to issue vouchers statewide, and some have checkerboard patterns based on not competing with other local PHAs in the area). The best system might therefore allow the user (i.e., the PHA) to select their own peers from a list of PHAs offered for comparison. The current menu selection of tenant data reports in PIC (such as used in the *Resident Characteristics Report*) allows for such selection of a list of individual PHAs.

Making valid comparisons for large PHAs is particularly difficult. For agencies providing assistance within the nation's largest cities, there probably are no techniques for identifying peers that will work uniformly. For purposes of selecting peer agencies, PIC allows agencies to pick from a list of PHAs in the nation, as opposed to the state, HUD Field Office jurisdiction or even HUD Region.

[35] Unlike other reports in PIC, information on housing quality could not be maintained on a real-time or even on a monthly basis. Rather, reports would be made available once a sample had been completed and the results summarized for a particular PHA.

An example of PHA self-assessment. Whether carried out through a one-time, web-based system or through an ongoing, automated report in PIC, summaries made available to PHAs could provide the detailed type of information presented in Chapter Two, Tables 2-3a to 2-3b. Summaries could also provide survey results on resident satisfaction with PHA and landlord responsiveness to problems.

Table 3-4 provides an example of how a self-assessment might be done (these results are offered for purposes of illustration only). In the columns on the left, an individual agency's results are shown. The column "counts" provides an estimate of the number of program units with each type of problem. "Percent" shows the proportion of units with such problems. Before using the information, PHA Executive Directors will want to check information on the number of responses, response rates, and confidence intervals around the estimates of housing quality (such as in Appendix Table A-1) to make an assessment of the validity of the sample.

In the next set of columns, the results are shown for another agency that the Executive Director has chosen as a peer agency. Comparing his own results against the peer agency, the PHA Director would find out that his agency performs above the norm for the percentage of tenants having no working smoke detector. It performs the same for the percentage with heating broken for 6 hours or more at least once last winter. But for all other problems, the PHA's performance is worse, including a higher percentage of units with eight or more defects. Looking across the indicators, the Director of this PHA would get independent input on key aspects of the PHA's operation, and clues on areas of operation that need to be improved.

The example in Table 3-4 compares results for one PHA ("X") and one peer agency ("Y") for only one point in time, but there could have been administrative or programmatic factors that temporarily altered a PHA's performance (or the performance of the selected peer agency) during the most recent time period. Also, a PHA performing below its peer(s) might have improved its performance markedly during the past year, a fact that would not be discernable in a snapshot. Probably the most important use of survey data would be to provide regularly recurring data that can be compared over time. This would allow identification of trends in the Housing Choice Voucher program, and would permit PHAs to measure the effectiveness of their efforts to improve and correct their local programs.

Although not included in Table 3-4, HUD could insert a third column containing data from the overall national survey. This could further help the PHA gauge how well they are doing. For example, a PHA may have low rates of deficiencies when compared to their peer, but may have high rates when compared to the national average.

Other Potential Uses of Survey Results

The Section 8 housing quality survey provides a rich dataset with an unusually large sample that includes central city, suburban and non-metropolitan areas throughout the country. Because the survey collects information on the condition of paint in the unit, and is linked to data that identify age of the unit and presence of children by age, it is possible to monitor the potential for lead based paint hazards for program participants. Recent research using the Section 8 survey

data has provided detailed information on the distribution of estimated Lead Based Paint (LBP) hazards among renters receiving Housing Choice Vouchers.

The final report found that although renters receiving housing assistance face lower risks of household lead exposure than do unassisted renters, there are still a large number of units occupied by HCV renters that are at high risk, particularly in the Northeast and the Midwest, in both urban and rural areas. The data provided in this report will aid in the identification of geographic areas and specific PHAs in greatest need of increased lead hazard control activities.[36]

In addition, survey data could also be used to monitor PHA response to possible LBP problems. Prior to FY 2006, HUD has reimbursed PHAs for the cost of LBP clearance tests performed by PHAs. Reimbursements for these expenditures have been captured in HUD's Voucher Management System (VMS). This information can be used to monitor LBP compliance in the HCV program. HUD conducted a small test of this concept in FY 2005. A spreadsheet was provided to HUD Field staff indicating the number of children under age 6 in housing built prior to 1978 units, along with data from VMS data showing the number of LBP clearance tests reported by PHAs. Some PHAs had zero clearance test activity as reported in VMS. This could have been due to a reporting issue within the PHA or HUD. It could also be true that there were not any units with deteriorated paint at the time of HQS inspection, or it may indicate that clearance testing was not being done at those PHAs - which would be a serious matter. Comparing such results against information from the Section 8 survey, for indications of the extent of deteriorated paint, might allow for a meaningful, cost-effective HUD monitoring of lead paint clearance testing.

Finally, research conducted in 2006 found that the Section 8 survey offered a rich set of data on the characteristics of rental units and has sufficient sample size to construct a price index for nearly every metropolitan area and nearly every state. The primary purpose of this project was to produce price indices for modest rental housing using Section 8 survey data. The final report provided price indices using different specifications and different data sources. These different price indices displayed similar patterns and were found to be consistent with anecdotal evidence on the variations in prices across areas. The final report indicated that if HUD continues to administer the survey on a yearly basis, these data would be an important source of information that could be used to produce estimates of the price of rental housing across areas.[37]

Table 3-4:
Sample Output for a PHA Self-Assessment

PHA "X"	PHA "Y"

[36] Patterson, Rhiannon; Kaul, Bulbul; Schafer, Penelope, *Risk of Lead Hazards in Housing Among Renters Assisted by the Housing Choice Voucher Program* Research Cadre Task Order 8, Revised Final Report October 23, 2003, Abt Associates Inc.

[37] Early, Dirk W., *Metropolitan Area Cost of Rental Housing Indices Using the Customer Satisfaction Survey,* August 2006, Southwestern University

		Count	Percent	Count	Percent
Number of problems reported	None	82	8%	196	20%
	One	122	12%	176	18%
	2-3 problems	184	18%	196	20%
	4-7 problems	265	26%	206	21%
	8+ problems	377	37%	206	21%
Plumbing Problems	Water leaking today from any kitchen or bathroom sink, drain, or pipe?	204	20%	147	15%
	Toilet not working for 6 hours at least once in last 3 months	184	18%	127	13%
	Bathroom floor covered by water at least once in the last 3 months	122	12%	157	16%
Heating Problems	Not enough heat in every room	224	22%	127	13%
	Heating broken for 6 hours or more at least once last winter	102	10%	98	10%
	Home cold for 24 hours or more at least once last winter	163	16%	98	10%
Structural Problems	Holes or large cracks where outside air or rain can come in	163	22%	127	13%
	Wall, ceiling or floor with serious problems	224	22%	147	15%
	Floor problems such as boards, tiles, carpeting that are missing, curled, or loose	255	25%	176	18%
Safety and Security	No working locks on outside doors	102	10%	39	4%
	No working smoke detector	0	0%	39	4%
	Unsafe handrails, steps or stairs, exterior	143	14%	88	9%
Satisfaction with PHA	Not satisfied with landlord's promptness with emergency repairs	235	23%	147	15%
	PHA is slow to react to complaints	245	24%	108	11%
	PHA does not offer useful information when finding a home	265	26%	118	12%

Conclusions

The Section 8 housing quality survey was designed to identify and correct critical problems reported by households participating in the Housing Choice Voucher program. Most households responding to the survey indicate that they are satisfied with their homes and neighborhoods, but many report the types of defects that are covered in the program's Housing Quality Standards

(HQS). During this survey, resident assessments of the condition of their housing were not made at the time of on-site inspections, but were provided throughout the year. Nonetheless, they underscore the importance of the inspection process, and the need for quality control, both by HUD and by the PHAs themselves, regarding the outcomes of inspections.

During 2000-2002, most HCV program participants of programs administered by large PHAs (based on the number of occupied units at the time of the survey) lived in good quality housing with few physical defects. However, there were 10 large PHAs where more than 35 percent of program units had eight or more HQS-type defects. (The comparable national rate was 22.8 percent.) In most cases, these agencies also had high rates of severe problems under the AHS-based, critical defects definition.

Among the 100 PHAs with the largest reported rates of HQS-type deficiencies, all had estimated rates of at least 33 percent. These PHAs are a mix of large and small PHAs serving central cities, suburbs, and non-metropolitan areas. Together, these PHAs administered a total of 194,237 units, which was 13 percent of the program at the time of the survey. Virtually all of these PHAs had rates of AHS-based critical defects above the national average rate of 13.1 percent. And, half of these PHAs had AHS-based rates of critical defects of 20 percent or greater.

Information on observed physical defects collected in the Section 8 housing quality survey could become a part of the basis for rating PHA performance on housing quality SEMAP. Currently, SEMAP uses five indicators that are directly or indirectly related to PHA compliance with program inspection requirements. SEMAP is based entirely on information generated by the PHA itself. The system could be augmented to include independently collected information resulting from resident assessments collected under the Section 8 housing quality survey.

In addition to including selected results from the Section 8 survey in SEMAP, HUD could conduct more intensive monitoring of housing quality using staff from HUD Field Offices and contractor staff that are independent of the PHA. In order to improve housing conditions of program participants, this monitoring effort could focus on PHAs with significantly higher than average incidence of critical housing problems. For the most part this effort would entail monitoring a limited number of larger PHAs. Yet when a small PHA appears on a list such as Table 3-3, it also warrants close attention.

The deficiency rates found in the survey data analysis can also be compared to inspection pass rates. Identifying PHAs who have high inspection pass rates and also high rates of housing deficiencies could help HUD target attention and assistance, and ultimately lead to significant improvements in housing quality for tens of thousands of HCV tenants.

Besides HUD's own monitoring of physical conditions, the survey offers significant potential for improving conditions as a result of PHA self-assessments. At present, PHAs have no independent means of reviewing their own performance, or comparing their results with results for other PHAs. This chapter has provided examples of how such self-assessments might be done.

APPENDIX A: SAMPLING STRATEGY AND OPERATIONS

Overview

This appendix complements information presented in Chapter I. In this survey, the respondent universe was composed of households participating in the Section 8 Certificate and Housing Voucher programs. The sampling frame for each year of the survey varied, reaching 1.71 million households by the third year (Table 1-1). Participating households received rental assistance through programs administered by approximately 2,400 PHAs that transmitted 50058 Family Reports to HUD. These PHAs served as the basis for a stratified sample.[38] The sample design utilized stratified element sampling, with each stratum representing one individual PHA. A simple random sample of elements was taken from each stratum. Each sample element represented one household participating in the rental assistance program. The sampling within each stratum was conducted independently. Survey mailings included an initial survey, up to two reminder postcards, and if necessary a second survey.

An optimal sample size for a survey depends upon the level of precision needed for one's population estimate.[39] When looking at changes in proportion, the sample size is dependent upon three issues: 1) the initial ratio of proportions, e.g. 60/40, 2) the size of change that is of interest, e.g., a 20 percent move, and 3) the level of significance for the change, e.g., the likelihood that an effect might have occurred by chance. To calculate the sample size for the sampling strata, we assumed an initial proportional split in responses of 70 percent/30 percent and the need to verify that a 12 percent change could have occurred by chance only 5 percent of the time. Sample sizes necessary for comparing a stratum from "time one" to "time two" were calculated using standard textbook formulas for proportions. The estimated sample size for any stratum was therefore determined to be approximately 133.

A 60 percent response rate was expected, so 220 surveys had to be sent in order to realize the goal of receiving 133 responses per PHA. The original sampling strategy was that, in those PHAs with 220 or fewer Section 8 participants all participants would be requested to provide customer feedback. In those PHAs with more than 220 participants, only 220 would be randomly sampled. An additional condition was added that no participant would be asked to respond more often than once every 18 months. There are a small number of PHAs that have ten or fewer Section 8 participants. In small groups of this size it is difficult to maintain confidentiality, especially if the data are further partitioned by demographic or similar variables. To avoid this problem, it was decided that data for PHAs with ten or fewer Section 8 units would only be used as a part of reporting for the next larger unit, e.g., county, state, or nation.

Tenant data systems operated by HUD's Office of Public and Indian Housing provided mailing information obtained for every participant, usually after move-in or annual reexamination but

[38] Some PHAs have dropped out of the program or merged with other PHAs. The sampling frame included 96 percent of the PHAs and 99 percent of households receiving Section 8 tenant based assistance.

[39] See, for example: Dunham, Randall B., and Smith Frank J., 1979, *Organizational Surveys*. Scott Foresman and Company; and Scheaffer, R.L., Mendenhall, W., and Ott, R.L., 1996, *Elementary Survey Sampling*, Belmont, CA: Wadsworth.

always recorded on the 50058 Family Report. For each stratum with more than 220 participants, a computer program automatically selected a random sample. The sampling strategy evolved during the second and third years of the survey, when over-sampling was introduced for large PHAs and State agencies. This was done partly in an attempt to assure that the estimates of housing problems were not subject to unduly large standard error,[40] and also to compensate for under-sampling of these agencies that had occurred in 2000. The third year of the survey over-sampled agencies operating programs in States that had been found to have higher rates of housing inadequacy, based on results from the first year of data collection.

First Year of Sampling

Strategy. The intent during the first year of the survey was simply to produce a sample size for any stratum of approximately 133 responses. As noted above, response rates observed in the pilots were the basis for sampling 220 households, which would be needed to get the necessary 133 responses. In those PHAs with 220 or fewer Section 8 participating households, all participants would be requested to provide customer feedback. In those PHAs with more than 220 participants, only 220 would be randomly sampled.

Operations. The initial samples were drawn on a weekly basis from the Multifamily Tenant Characteristics System (MTCS). The sampling began (for a few test cases) in September 1999; and the last samples were drawn in November 2000. Mailings were made throughout calendar year 2000 using files created in MTCS weekly processing. An algorithm was designed to randomly select 2-3 residents for each stratum for each week, until the stratum's annual sample of 220 was achieved. If a PHA had insufficient units for any week, the sampling program would perform tracking and appropriately increase the sample in the following week.

Although this did not become clear until the second year of the survey, the MTCS weekly sampling procedures did not always work as intended. Compared with the annual targets, some PHAs were being over-sampled, while others were being under-sampled. During the first year of survey operations, 12 of the 29 largest PHAs (all with 6000 or more occupied units) produced less than half of their target sample.

Samples drawn for State agencies during the first year of the survey were done in the same manner as for non-State PHAs. This resulted in a sparse pattern of responses within fairly large areas of some States, including Virginia, Georgia, and Oklahoma, all areas with significant State agency programs.

[40] It was determined that a higher level of precision was needed in order to be able to use survey results for performance measurement.

Table A-1:
Annual targets for first-year of the survey

Non-State PHAs by PHA Size:

Category	Number of Section 8 units	Target
Size 1	1 – 49	All
Size 2	50 – 99	All
Size 3	100 -199	All
Size 4a	200 to 219	All
Size 4b	220 -799	220
Size 5	500 – 999	220
Size 6	1,000 - 2,999	220
Size 7	3,000 or more	220

Note: State PHAs = Same as for Non-State PHA

Second Year of Sampling

Strategy. From January to May 2001, the sampling strategy was the same as for the first year. However, in May 2001, the MTCS ceased operation, and it became necessary to adopt a new method of drawing samples from the tenant data.[41] It was also necessary to make a mid-course correction that would draw larger samples for large PHAs and State agencies.

Operations. Samples for January 2001 to May 2001 mailings were drawn from files created in MTCS weekly processing. This accounted for 53 percent of the second-year initial mailings.

There were no samples drawn in June or July 2001. Beginning in August 2001, PD&R staff began a new process using SAS routines to randomly draw samples from three-month installments of data extracted from the latest available tenant data. This new process involved using two or three sets of samples drawn during the year, with mailings done over the ensuing two to three months, as opposed to the previous weekly samples that had been done under MTCS sample selection.

Samples used in the August 2001 to December 2001 initial mailings were drawn from the MTCS May 2001 dataset. For samples drawn in August 2001, the effective dates of the tenant data reports were from March to May 2001.

[41] The system that replaced MTCS (i.e., the Public and Indian Housing Information Center or "PIC") began tenant data collection in September 2001. The development plan for PIC did not include the ongoing business need to conduct weekly sampling to support the Section 8 Housing Quality Survey.

Beginning in August 2001, sample sizes were boosted for large PHAs and for State agencies. Even though half of the year's sample had already been drawn through the MTCS weekly process, the August 2001 sample for large PHAs with 1,000 or fewer units was set at 225 households, more than double the entire annual target. For PHAs with between 200 and 999 units, the target for sampling was set at 50, again taking into account that more than half of the year's sampling had already been done through the weekly process. For State agencies, the target sample was set at 1,500.[42] If the State agency operated a program of less than 1,500 occupied units, the target for sampling was set at 225. This August 2001 sample accounted for 42 percent of the second-year initial mailings.

Table A-2:
Targets for the August 2001 Sample

Non-state PHAs by PHA size

Category	Number of Section 8 units	Target
Size 1	1 - 49	All
Size 2	50 - 99	All
Size 3	100 -199	All
Size 4	200 to 799	50
Size 5	500 - 999	50
Size 6	1,000 - 2,999	225
Size 7	3,000 or more	225

State PHAs, by PHA size:

Category	Number of Section 8 units	Target
Small PHA	1499 or less	225
Large PHA	1500 or more	1500

There was a final, small set of samples taken during the second year of the survey. Survey operations had been interrupted by the terrorist attacks and the anthrax scare that occurred in the fall of 2001. The final sample for the second year of the survey was drawn in March 2002, using tenant data from the PIC February 2002 dataset. Most of the effective dates of tenant reports were between October 2001 and January 2002. These samples were used for mailings done in April and May 2002. All sampling techniques were the same as used in the August 2001 sample. Households were selected until we reached the aggregate number of households that could be surveyed under the remaining mailing budget. The March 2002 sample accounted for 5 percent

[42] State agencies are responsible for a composite of program activity in many local housing markets. Drawing the larger sample made it more possible to obtain accurate results sub-areas of the state program.

of the second-year initial mailings. HUD hypothesizes that the Anthrax mail scare significantly suppressed response rates during 2001 and 2002.

Third Year of Sampling

Strategy. Results from the first two years of surveying showed enough of a variation in housing quality by location and size of PHA that we believed that greater precision of estimates would be needed than could be obtained by using the size of PHA as the only criterion for the sampling strata. Accordingly, four sampling rates were established for non-State PHAs for the third year of the survey. The rate selected for any particular PHA was determined by the rate of deficiencies found for all PHAs of the same PHA size category in the same State, in order to obtain higher precision of estimates for PHAs with potentially the worst performance.

Data on housing inadequacy and on PHA size category were based on results from the first year of the survey. The definition of housing inadequacy had three components. It used the two composite measures of inadequacy presented in Chapter Two of this report. In addition, the definition also included a third composite measure that was based on major system breakdowns plus a low tenant rating of the unit (i.e. under 5 on a scale of 1 to 10). To be considered deficient, a unit would need to fail on all three measures. Nationally, about eight percent of all program units had all three critical problems present.[43]

The plan called for obtaining annual samples from non-State PHAs according to the following rules:

- 835 households from PHAs where 14 percent or more of units were deficient in the same size category of PHA within the same State;
- 415 households from PHAs where more than 12 percent and less than 14 percent of units were deficient in the same size category of PHA within the same State;
- 165 households from PHAs where more than 9 percent and less than 12 percent of units were deficient in the same size category of PHA within the same State; and
- 85 households from PHAs where less than 9 percent of units were deficient in the same size category of PHA within the same State.

Using this plan, large non-State PHAs continued to be sampled in numbers greater than the 220 annual target sample determined at the beginning of the survey, but only if they operated in areas where 12 percent or more of the housing had critical housing deficiencies. Large agencies would have a sample of 165 if operating in an area with between 9 percent and 12 percent of units with deficiencies, and would have a sample of 85 if less than 9 percent of units had such deficiencies.

[43] See: *First Year Results of the Survey of Households Assisted by the Housing Choice Voucher Program*, August 2002, unpublished manuscript, Table 2-8.

Smaller agencies were sampled in the same manner. If the target sample called for more units than there were occupied households in a PHA, the survey sampled all households.

For State agencies, over-sampling was once again employed, but using a different method than in the second year. A 15 percent sample was drawn from State agencies with more than 1,500 occupied units, and a census was taken for smaller State agencies.

Operations. Sampling for the third year was done in three parts. In October 2002, one-third of the targeted annual samples were drawn from the PIC September 2002 dataset. The effective dates of the tenant data reports were from July to September 2002. These samples were used for mailings done during December 2002 to February 2003. This accounted for 35 percent of the third-year initial mailings.

The following tables show the targets used for each third-year sample.

Table A-3:
Non-State PHAs Sample Sizes for Rates of Housing Inadequacy*

Rate of serious inadequacy	Target
Under 9%	28
9 to 11.9%	55
12 to 13.9%	138
14% or more	278

* Housing inadequacy was based on first-year findings, and was determined within PHA size category for all non-State PHAs in the same State.

Table A-4:
Third Year Sampling Rates for State PHAs:

Category	Number of Section 8 units	Target
Small PHA	1500 or less	All households
Large PHA	1501 or more	15% sample

In March 2003, samples were drawn from the PIC February 2003 dataset. The effective dates of the tenant data reports were from October to December 2002. These samples were used for mailings done from March to June 2003. Samples drawn in March 2003 took into account the number of households that had been selected for each non-State PHA in the prior (October 2002)

samples. For example, if the target sample for a particular PHA was 278 households under the October 2002 sample, and if no households were actually selected at that time, then the target for the March 2003 sample was doubled, to 556. (Similarly, if no households were selected for this PHA under either the October 2002 or March 2003 samples, then the third and final sample for the PHA would be the entire year's target, or 835). The March 2003 samples accounted for about 41 percent of the third-year initial mailings.

The final samples for the third year of the survey were drawn in April 2003, using the PIC March 2003 dataset. The effective dates of the tenant 50058 Family Reports were from January to March 2003. As noted above, the samples were adjusted to take into account the number of households that had been selected in the previous two samples. The April 2003 samples were used in mailings conducted in July 2003 and accounted for about 24 percent of the third-year initial mailings.

APPENDIX B: SURVEY PROCESSING METHODS

This Appendix provides a brief discussion of methods used to process Section 8 tenant-based housing quality survey questionnaires. Survey operations during 2000-2002 were carried out with resources provided through four separate procurements and teams of contractors. Staff from PricewaterhouseCoopers (PwC) made important contributions to initial project planning and sampling. Staff from the Computer Science Corporation (CSC) performed system maintenance, including creation of the files used for sampling and other file creation and transmission tasks. Staff from Johnson, Bassin and Shaw (JBS) manned a toll-free hotline that families could call with their questions. Lastly, Cencor/Andrulis operated the actual survey. They provided services including printing, mailing, return mail tracking, scanning response data, and tabulating response data files for use by HUD.

Survey Costs

PD&R achieved its goal of developing a highly reliable yet cost-effective method of gauging housing quality and customer satisfaction in the HCV program. Over 90% of total survey cost over the three years was directly attributed to the costs of printing and postage. The remaining portion of costs were attributed to JBS staff who responded to calls from tenants, and Cencor/ Andrulis staff who performed scanning, quality control, data tabulation, and other survey administration tasks. PD&R used in-house staff to perform all data analysis, further reducing costs. The approximate annual cost for the survey ranged from about $1.0 million to about $1.3 million, and was affected by response rate, sampling method (see Appendix A), the number of follow-up mailings required, and the rising cost of postage. Actual itemized per-survey pricing is proprietary information and cannot be disclosed.

Processing Steps

The first step was drawing samples of family names and addresses from the Multifamily Tenant Characteristics System (MTCS), and later from the Public and Indian Housing Center (PIC). Samples were transferred to the HUD mailing contractor via secure File Transfer Protocol (FTP) server.

Next, Cencor/Andrulis merged the file of sampled units with files for a cover letter and addressing, and printed the output to a high-speed laser printer. Cencor/Andrulis printed the survey instrument and letter, including a unique barcode for each survey package for return tracking. The cover letter, return envelope, and coded questionnaire were assembled for mailing by an automated stuffing machine. The US Postal Service picked up sealed survey packets directly from the Cencor/Andrulis facility in Fairfax county and delivered to the target audience via first-class mail.

Cencor/Andrulis received returned surveys at their facility. Their staff immediately scanned the barcode of returned surveys, logging them back in to the mailing database. Three weeks after each batch of initial mailings, Cencor/Andrulis extracted the names of tenants who did not yet

respond. Cencor/Andrulis then mailed these tenants a follow-up postcard. After three more weeks, they printed and mailed a second reminder postcard to tenants who still had not responded. For tenants who had not responded after nine weeks, Cencor/Andrulis send a second complete survey package to those who still had not responded. This return-tracking system proved very effective in preventing duplicate mailings to households who had responded; it reduced costs, minimized inconvenience to tenants, and maximized the survey response rate.

Once surveys were received, Cencor/Andrulis staff used Optical Mark Recognition (OMR) scanning technology to automate data entry. Tests of the OMR equipment indicated an accuracy rate of over 99 percent. Response to questionnaire items only required marking the appropriate response box. OMR technology made it possible to read a variety of types of marks made by a variety of marking instruments. Cencor/Andrulis staff did a visual quality check on each scanned survey to ensure each response was valid.

The OMR technology reduced the burden upon respondents and HUD. Delivering the OMR form by mail was considered the most feasible, least intrusive method for Section 8 participants who live throughout the nation. Also, having the hard-copy OMR form in-hand allowed the resident to walk around the home as they completed it. Although web-based surveying was an option, HUD determined that printed mail surveys would elicit a higher response rate, under the assumption that too few Section 8 voucher households would have access to a computer and the internet[44]. Providing tenants with the option of walking through the home as they completed the survey was intended to enhance the reliability of their responses.

On a monthly basis, the contractor tabulated data files containing answers from completed surveys and response status of each member in the sample. Separate files were sent on status of the mailings (CST) and on the actual responses (CSA). Each data record contained a key variable designed to allow (e.g.) customer ratings of the physical characteristics of their home and customer satisfaction data to be merged with demographic data existing in MTCS. This data collection process was more or less ongoing and continuous.

Once HUD staff received the CSA and CST files back, they merged it with selected elements from MTCS or PIC for use in the analysis. Data merging made it possible to assess housing quality for different populations and geographies. No names, addresses or other personal information were included in the merge. HUD's data systems are "certified and accredited" according to NIST standards and are fully FISMA-compliant.[45]

Methods Used to Boost Response Rates

The accuracy and reliability of the collected data depended upon receiving a high rate of return from the sampled units. HUD's strategy to maximize response rate had four components, each

[44] If the survey is re-instated, HUD should reconsider feasibility of web-based surveying. Internet access is much more widely available now as it was in the 2000-2002 period. However, the benefits of web surveying (significantly reduced cost, quicker response, and easier data processing) should be carefully weighted against the potential for bias and much lower response rates.
[45] For details about IT Security, see http://csrc.nist.gov/index.html

consistent with strategies generally accepted by survey researchers and pre-tested in two pilot tests.

First, the questionnaire distribution package was designed to be customer-friendly. The questionnaire was a booklet with an attractive graphic cover. Graphic images were used in the interior of the cover to provide visual relief from a continuous listing of questions. The questions were laid out in a format that was easy to read and were organized by room/area of the rental unit.

Second, the survey was personalized. Mailings were addressed to specific residents, rather than to a generic "current resident." Survey packets were also signed by a specific HUD official.

Third, HUD uses a cover letter, providing a clear and direct explanation of the reasons for the data collection and that urged resident participation. The cover letter encouraged response by explaining that the sampling process is random, that responses would be kept confidential, and that the cost of return postage is paid for by HUD. A toll-free telephone number was provided in the cover letter so that the validity of the survey could be verified. As mentioned above, HUD used an existing contractor to answer calls from families. Hotline staff were provided information to field most requests. In some instances, staff referred callers to the local HUD office or other local sources to address issues raised that were not directly related to the survey. The use of the hotline also served as an early warning system for any problems emerging from the automated mailings, for example when duplicate mailings were mistakenly sent to some families.

Fourth, as described above, up to three follow-up mailings (2 post cards and a second full survey package) were sent to non-respondents at intervals of three weeks. Follow-up mailings significantly increased response rates.

APPENDIX C: SELECTED RESULTS BY PHA

We present selected results, including confidence intervals, for a sample of PHAs included in the sampling frame.

In addition to this printed report, a dataset with selected results will be posted electronically at PD&R's research clearinghouse website, http://www.huduser.org, in an accessible, sort-able, searchable format.

Appendix C-1.1: Survey Specifications, Sample of PHAs with 1-99 Vouchers

PHA Code	PHA Name	Year	Occupied units	Surveys mailed	Responses received	Response rate	Median Days between inspection & survey	% initially not passing inspection
AR193	Cotter Hsg. Agency	2000	99	76	56	73.7%	77	2.0%
AR193	Cotter Hsg. Agency	All	198	89	63	70.8%	166	8.6%
FL026	Bartow	All	147	72	27	37.5%	180	3.5%
FL880	Housing Partnership Inc.	2001	75	40	21	52.5%	193	0.0%
FL880	Housing Partnership Inc.	All	141	46	24	52.2%	181	0.0%
GA116	Carrollton	2001	76	66	36	54.5%	269	16.7%
GA116	Carrollton	All	239	120	61	50.8%	269	24.8%
IL087	Shelby County Housing Authority	2000	21	17	15	88.2%	118	0.0%
IL087	Shelby County Housing Authority	All	75	38	29	76.3%	246	0.0%
LA214	Iberville Parish	2000	34	33	20	60.6%	81	0.0%
LA214	Iberville Parish	All	102	62	32	51.6%	148	4.8%
LA222	Catahoula Parish Police Jury	2000	30	30	19	63.3%	92	10.5%
LA222	Catahoula Parish Police Jury	All	115	82	39	47.6%	168	2.7%
LA258	Morehouse Parish Police Jury	All	294	55	22	40.0%	170	24.9%
MA039	Winchendon Housing Authority	All	96	42	15	35.7%	144	42.8%
MA043	Dracut Housing Authority	2000	61	40	28	70.0%	149	0.0%
MA043	Dracut Housing Authority	2002	67	38	20	52.6%	259	0.0%
MA043	Dracut Housing Authority	All	187	104	61	58.7%	187	0.0%
MA062	Avon Housing Authority	2000	96	80	46	57.5%	48	0.0%
MA062	Avon Housing Authority	2001	89	65	29	44.6%	139	0.0%
MA062	Avon Housing Authority	2002	97	79	33	41.8%	236	0.0%
MA062	Avon Housing Authority	All	282	224	108	48.2%	147	0.0%
MI096	Ferndale Housing Commission	2001	90	71	40	56.3%	184	12.5%
MI096	Ferndale Housing Commission	2002	90	42	21	50.0%	292	0.0%
MI096	Ferndale Housing Commission	All	252	129	71	55.0%	217	7.3%
MI116	Elk Rapids Housing Commission	2001	34	34	20	58.8%	187	15.8%
MI116	Elk Rapids Housing Commission	All	64	54	31	57.4%	65	8.2%
MI117	Ionia Housing Commission	All	53	40	27	67.5%	181	3.2%
MS005	Biloxi Housing Authority	2001	61	61	32	52.5%	113	31.3%
MS005	Biloxi Housing Authority	All	157	72	40	55.6%	202	12.1%
NE012	Nebraska City	2000	29	29	20	69.0%	78	0.0%
NE012	Nebraska City	2001	28	25	17	68.0%	168	0.0%
NE012	Nebraska City	All	84	70	44	62.9%	168	0.0%
NJ205	Sea Isle City HA	2000	68	31	23	74.2%	108	0.0%
NJ205	Sea Isle City HA	All	122	50	34	68.0%	155	0.0%

NY430	Niskayuna, Town	2000	46	46	31	67.4%	59	3.2%
NY430	Niskayuna, Town	All	136	79	45	57.0%	182	7.7%
NY552	New Hartford, Village	2000	90	48	35	72.9%	112	0.0%
NY552	New Hartford, Village	2002	99	59	34	57.6%	337	0.0%
NY552	New Hartford, Village	All	278	132	83	62.9%	226	0.0%
NY568	Poughkeepsie, Town Of	2000	87	53	37	69.8%	80	0.0%
NY568	Poughkeepsie, Town Of	2001	88	57	39	68.4%	162	2.6%
NY568	Poughkeepsie, Town Of	2002	93	61	32	52.5%	257	0.0%
NY568	Poughkeepsie, Town Of	All	268	171	108	63.2%	162	0.8%
SD040	Webster	All	38	23	17	73.9%	195	0.0%
TX546	Ralls HA	2000	46	30	19	63.3%	96	26.3%
TX546	Ralls HA	2002	43	31	19	61.3%	507	36.8%
TX546	Ralls HA	All	141	87	52	59.8%	420	44.2%
UT015	Emery County	2002	68	25	16	64.0%	207	6.3%
UT015	Emery County	All	199	45	29	64.4%	161	2.1%
WI262	Oconto County HA	2000	47	41	34	82.9%	101	0.0%
WI262	Oconto County HA	2001	57	57	37	64.9%	224	0.0%
WI262	Oconto County HA	2002	67	33	17	51.5%	234	0.0%
WI262	Oconto County HA	All	171	131	88	67.2%	206	0.0%
WY013	Evanston	2002	86	26	16	61.5%	238	6.2%
WY013	Evanston	All	239	44	23	52.3%	224	9.4%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-1.2: Mean HQS Problems, Sample of PHAs with 1-99 Vouchers

PHA Code	PHA Name	Year	Mean # HQS problems	Lower Confidence Limit	Upper Confidence Limit
AR193	Cotter Hsg. Agency	2000	3.6	2.7	4.4
AR193	Cotter Hsg. Agency	All	4.6	2.9	6.2
FL026	Bartow	All	4.0	2.2	5.8
FL880	Housing Partnership Inc.	2001	5.0	3.7	6.4
FL880	Housing Partnership Inc.	All	5.8	3.4	8.3
GA116	Carrollton	2001	4.8	3.6	5.9
GA116	Carrollton	All	5.4	4.1	6.7
IL087	Shelby County Housing Authority	2000	1.7	1.2	2.2
IL087	Shelby County Housing Authority	All	2.1	1.4	2.8
LA214	Iberville Parish	2000	3.9	2.9	4.9
LA214	Iberville Parish	All	4.7	2.7	6.7
LA222	Catahoula Parish Police Jury	2000	9.0	7.1	10.9
LA222	Catahoula Parish Police Jury	All	6.5	4.5	8.5
LA258	Morehouse Parish Police Jury	All	4.7	2.8	6.6
MA039	Winchendon Housing Authority	All	6.0	3.5	8.6
MA043	Dracut Housing Authority	2000	2.1	1.3	3.0
MA043	Dracut Housing Authority	2002	1.3	0.1	2.5
MA043	Dracut Housing Authority	All	1.5	1.0	2.0
MA062	Avon Housing Authority	2000	4.6	3.5	5.7
MA062	Avon Housing Authority	2001	4.1	2.6	5.6
MA062	Avon Housing Authority	2002	4.6	3.1	6.1
MA062	Avon Housing Authority	All	4.4	3.6	5.2
MI096	Ferndale Housing Commission	2001	5.9	4.4	7.3

MI096	Ferndale Housing Commission	2002	5.5	4.0	7.0
MI096	Ferndale Housing Commission	All	5.7	4.5	6.8
MI116	Elk Rapids Housing Commission	2001	2.7	1.8	3.5
MI116	Elk Rapids Housing Commission	All	3.4	2.2	4.5
MI117	Ionia Housing Commission	All	4.0	2.8	5.1
MS005	Biloxi Housing Authority	2001	7.4	5.7	9.0
MS005	Biloxi Housing Authority	All	5.3	3.3	7.3
NE012	Nebraska City	2000	3.0	2.4	3.6
NE012	Nebraska City	2001	3.1	1.9	4.3
NE012	Nebraska City	All	2.9	2.3	3.6
NJ205	Sea Isle City HA	2000	4.0	1.5	6.5
NJ205	Sea Isle City HA	All	3.8	1.9	5.6
NY430	Niskayuna, Town	2000	2.7	2.0	3.4
NY430	Niskayuna, Town	All	2.2	1.3	3.2
NY552	New Hartford, Village	2000	3.1	2.1	4.2
NY552	New Hartford, Village	2002	3.3	2.1	4.5
NY552	New Hartford, Village	All	3.6	2.7	4.5
NY568	Poughkeepsie, Town Of	2000	2.7	2.0	3.4
NY568	Poughkeepsie, Town Of	2001	3.2	2.4	4.0
NY568	Poughkeepsie, Town Of	2002	3.5	2.4	4.6
NY568	Poughkeepsie, Town Of	All	3.1	2.6	3.7
SD040	Webster	All	3.3	2.1	4.6
TX546	Ralls HA	2000	3.9	1.7	6.1
TX546	Ralls HA	2002	2.3	1.6	3.1
TX546	Ralls HA	All	3.9	2.7	5.1
UT015	Emery County	2002	4.8	2.1	7.4
UT015	Emery County	All	4.3	2.0	6.6
WI262	Oconto County HA	2000	4.7	3.9	5.6
WI262	Oconto County HA	2001	3.9	3.1	4.7
WI262	Oconto County HA	2002	4.9	3.2	6.6
WI262	Oconto County HA	All	4.5	3.8	5.3
WY013	Evanston	2002	3.8	2.4	5.1
WY013	Evanston	All	5.0	3.3	6.8

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-1.3: % of Units with 8 or More HQS Problems, Sample of PHAs with 1-99 Vouchers

PHA Code	PHA Name	Year	% Units w/8+ HQS Problems	Lower Confidence Limit	Upper Confidence Limit
AR193	Cotter Hsg. Agency	2000	12.5%	6.7%	18.3%
AR193	Cotter Hsg. Agency	All	20.5%	2.9%	38.2%
FL026	Bartow	All	17.4%	2.8%	32.0%
FL880	Housing Partnership Inc.	2001	28.6%	11.8%	45.4%
FL880	Housing Partnership Inc.	All	30.8%	0.0%	62.0%
GA116	Carrollton	2001	16.7%	7.7%	25.6%
GA116	Carrollton	All	24.8%	12.5%	37.1%
IL087	Shelby County Housing Authority	2000	0.0%	0.0%	0.0%
IL087	Shelby County Housing Authority	All	6.3%	0.0%	12.6%

LA214	Iberville Parish	2000	10.0%	1.3%	18.7%
LA214	Iberville Parish	All	26.3%	7.7%	44.8%
LA222	Catahoula Parish Police Jury	2000	52.6%	38.7%	66.6%
LA222	Catahoula Parish Police Jury	All	45.2%	28.2%	62.1%
LA258	Morehouse Parish Police Jury	All	26.6%	7.7%	45.5%
MA039	Winchendon Housing Authority	All	28.1%	6.3%	49.9%
MA043	Dracut Housing Authority	2000	7.1%	0.0%	14.3%
MA043	Dracut Housing Authority	2002	5.0%	0.0%	13.2%
MA043	Dracut Housing Authority	All	4.1%	0.4%	7.8%
MA062	Avon Housing Authority	2000	23.9%	14.9%	32.9%
MA062	Avon Housing Authority	2001	20.7%	8.4%	33.0%
MA062	Avon Housing Authority	2002	18.2%	7.3%	29.0%
MA062	Avon Housing Authority	All	20.9%	14.7%	27.1%
MI096	Ferndale Housing Commission	2001	25.0%	14.9%	35.1%
MI096	Ferndale Housing Commission	2002	33.3%	15.2%	51.4%
MI096	Ferndale Housing Commission	All	29.4%	18.5%	40.3%
MI116	Elk Rapids Housing Commission	2001	5.0%	0.0%	11.3%
MI116	Elk Rapids Housing Commission	All	15.4%	4.6%	26.3%
MI117	Ionia Housing Commission	All	14.7%	4.5%	24.9%
MS005	Biloxi Housing Authority	2001	37.5%	25.7%	49.3%
MS005	Biloxi Housing Authority	All	37.0%	14.0%	60.0%
NE012	Nebraska City	2000	5.0%	0.0%	10.5%
NE012	Nebraska City	2001	17.6%	5.9%	29.4%
NE012	Nebraska City	All	7.6%	3.3%	11.9%
NJ205	Sea Isle City HA	2000	17.4%	4.5%	30.3%
NJ205	Sea Isle City HA	All	21.8%	8.7%	34.9%
NY430	Niskayuna, Town	2000	9.7%	3.6%	15.7%
NY430	Niskayuna, Town	All	3.3%	1.2%	5.3%
NY552	New Hartford, Village	2000	11.4%	3.1%	19.8%
NY552	New Hartford, Village	2002	11.8%	2.9%	20.7%
NY552	New Hartford, Village	All	14.7%	7.0%	22.5%
NY568	Poughkeepsie, Town Of	2000	8.1%	1.3%	14.9%
NY568	Poughkeepsie, Town Of	2001	17.9%	8.8%	27.1%
NY568	Poughkeepsie, Town Of	2002	9.4%	1.1%	17.7%
NY568	Poughkeepsie, Town Of	All	11.8%	7.1%	16.5%
SD040	Webster	All	10.0%	1.0%	19.0%
TX546	Ralls HA	2000	21.1%	6.6%	35.5%
TX546	Ralls HA	2002	5.3%	0.0%	13.0%
TX546	Ralls HA	All	21.5%	11.9%	31.2%
UT015	Emery County	2002	18.8%	1.5%	36.0%
UT015	Emery County	All	13.7%	3.1%	24.4%
WI262	Oconto County HA	2000	23.5%	15.9%	31.1%
WI262	Oconto County HA	2001	13.5%	6.9%	20.1%
WI262	Oconto County HA	2002	35.3%	15.1%	55.5%
WI262	Oconto County HA	All	24.8%	16.3%	33.3%
WY013	Evanston	2002	12.5%	0.0%	27.6%
WY013	Evanston	All	26.9%	12.5%	41.3%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-1.4: % of Units with at Least 1 AHS-Type Defect, Sample of PHAs with 1-99 Vouchers

PHA Code	PHA Name	Year	% Units w/ 1+ AHS-type Defect	Lower Confidence Limit	Upper Confidence Limit
AR193	Cotter Hsg. Agency	2000	12.5%	6.7%	18.3%
AR193	Cotter Hsg. Agency	All	13.4%	0.0%	27.2%
FL026	Bartow	All	12.1%	0.0%	24.6%
FL880	Housing Partnership Inc.	2001	14.3%	1.3%	27.3%
FL880	Housing Partnership Inc.	All	38.8%	8.1%	69.5%
GA116	Carrollton	2001	5.6%	0.1%	11.1%
GA116	Carrollton	All	14.8%	4.5%	25.0%
IL087	Shelby County Housing Authority	2000	0.0%	0.0%	0.0%
IL087	Shelby County Housing Authority	All	6.3%	0.0%	12.6%
LA214	Iberville Parish	2000	0.0%	0.0%	0.0%
LA214	Iberville Parish	All	4.8%	0.0%	13.3%
LA222	Catahoula Parish Police Jury	2000	36.8%	23.3%	50.3%
LA222	Catahoula Parish Police Jury	All	20.5%	7.9%	33.1%
LA258	Morehouse Parish Police Jury	All	12.6%	0.0%	25.8%
MA039	Winchendon Housing Authority	All	22.3%	2.0%	42.5%
MA043	Dracut Housing Authority	2000	7.1%	0.0%	14.3%
MA043	Dracut Housing Authority	2002	5.0%	0.0%	13.2%
MA043	Dracut Housing Authority	All	6.6%	0.9%	12.2%
MA062	Avon Housing Authority	2000	13.0%	5.9%	20.1%
MA062	Avon Housing Authority	2001	10.3%	1.1%	19.6%
MA062	Avon Housing Authority	2002	6.1%	0.0%	12.8%
MA062	Avon Housing Authority	All	9.8%	5.3%	14.2%
MI096	Ferndale Housing Commission	2001	17.5%	8.6%	26.4%
MI096	Ferndale Housing Commission	2002	23.8%	7.5%	40.2%
MI096	Ferndale Housing Commission	All	23.4%	12.9%	33.8%
MI116	Elk Rapids Housing Commission	2001	10.0%	1.3%	18.7%
MI116	Elk Rapids Housing Commission	All	9.6%	1.5%	17.7%
MI117	Ionia Housing Commission	All	11.3%	2.1%	20.5%
MS005	Biloxi Housing Authority	2001	28.1%	17.2%	39.0%
MS005	Biloxi Housing Authority	All	17.1%	4.8%	29.4%
NE012	Nebraska City	2000	5.0%	0.0%	10.5%
NE012	Nebraska City	2001	5.9%	0.0%	13.1%
NE012	Nebraska City	All	8.3%	0.0%	16.6%
NJ205	Sea Isle City HA	2000	17.4%	4.5%	30.3%
NJ205	Sea Isle City HA	All	17.7%	5.8%	29.7%
NY430	Niskayuna, Town	2000	6.5%	1.4%	11.5%
NY430	Niskayuna, Town	All	5.5%	0.0%	11.5%
NY552	New Hartford, Village	2000	8.6%	1.2%	15.9%
NY552	New Hartford, Village	2002	11.8%	2.9%	20.7%
NY552	New Hartford, Village	All	18.4%	9.8%	27.0%
NY568	Poughkeepsie, Town Of	2000	2.7%	0.0%	6.7%
NY568	Poughkeepsie, Town Of	2001	7.7%	1.4%	14.0%
NY568	Poughkeepsie, Town Of	2002	3.1%	0.0%	8.1%
NY568	Poughkeepsie, Town Of	All	4.5%	1.5%	7.5%

SD040	Webster	All	5.0%	0.0%	11.7%
TX546	Ralls HA	2000	10.5%	0.0%	21.4%
TX546	Ralls HA	2002	5.3%	0.0%	13.0%
TX546	Ralls HA	All	7.7%	1.6%	13.8%
UT015	Emery County	2002	6.3%	0.0%	17.0%
UT015	Emery County	All	9.5%	0.0%	19.1%
WI262	Oconto County HA	2000	14.7%	8.4%	21.1%
WI262	Oconto County HA	2001	2.7%	0.0%	5.8%
WI262	Oconto County HA	2002	11.8%	0.0%	25.4%
WI262	Oconto County HA	All	9.6%	3.8%	15.3%
WY013	Evanston	2002	18.8%	0.9%	36.6%
WY013	Evanston	All	23.5%	8.0%	39.1%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-2.1: Survey Specifications, Sample of PHAs with 100-999 Vouchers

PHA Code	PHA Name	Year	Occupied units	Surveys mailed	Responses received	Response rate	Median Days between inspection & survey	% initially not passing inspection
AL073	Ozark	2000	415	253	149	58.9%	71	7.1%
AL073	Ozark	2001	414	76	35	46.1%	280	0.0%
AL073	Ozark	2002	394	247	92	37.2%	270	2.2%
AL073	Ozark	All	1223	576	276	47.9%	194	3.2%
AR039	Wynne Housing Authority	2000	158	101	53	52.5%	69	30.4%
AR039	Wynne Housing Authority	2001	152	102	56	54.9%	163	21.6%
AR039	Wynne Housing Authority	2002	164	124	54	43.5%	235	0.0%
AR039	Wynne Housing Authority	All	474	327	163	49.8%	176	16.3%
CA123	Pomona	2000	862	119	74	62.2%	117	45.9%
CA123	Pomona	2001	862	201	108	53.7%	350	41.1%
CA123	Pomona	2002	863	62	31	50.0%	301	38.7%
CA123	Pomona	All	2586	382	213	55.8%	213	41.9%
CA152	Lassen County	2001	100	84	38	45.2%	218	2.6%
CA152	Lassen County	2002	95	42	24	57.1%	308	25.0%
CA152	Lassen County	All	297	132	66	50.0%	186	8.9%
CT019	Greenwich Housing Authority	2000	184	125	64	51.2%	131	4.0%
CT019	Greenwich Housing Authority	2001	177	62	42	67.7%	124	2.9%
CT019	Greenwich Housing Authority	2002	207	121	43	35.5%	275	0.0%
CT019	Greenwich Housing Authority	All	567	308	149	48.4%	152	2.0%
IA022	Iowa City	2000	966	315	175	55.6%	78	0.6%
IA022	Iowa City	2001	1050	337	161	47.8%	223	1.3%
IA022	Iowa City	2002	1141	56	27	48.2%	253	0.0%
IA022	Iowa City	All	3158	708	363	51.3%	208	0.6%
IA122	Region Xii Reg. HA	2000	765	183	121	66.1%	118	31.1%
IA122	Region Xii Reg. HA	2001	802	284	163	57.4%	236	20.2%
IA122	Region Xii Reg. HA	2002	892	62	34	54.8%	256	38.2%
IA122	Region Xii Reg. HA	All	2458	529	318	60.1%	209	30.1%

IL089	Dekalb County HA	2000	389	270	164	60.7%	66	0.6%
IL089	Dekalb County HA	2001	400	115	58	50.4%	187	1.7%
IL089	Dekalb County HA	2002	440	121	50	41.3%	344	8.0%
IL089	Dekalb County HA	All	1228	506	272	53.8%	186	3.6%
IN067	Knox County Housing Authority	2000	309	191	130	68.1%	47	26.6%
IN067	Knox County Housing Authority	2001	326	172	71	41.3%	162	30.0%
IN067	Knox County Housing Authority	2002	346	126	67	53.2%	235	29.9%
IN067	Knox County Housing Authority	All	981	489	268	54.8%	167	28.9%
KY161	Appalachian Foothills	2000	276	164	100	61.0%	112	8.0%
KY161	Appalachian Foothills	2001	321	96	55	57.3%	201	7.4%
KY161	Appalachian Foothills	2002	434	225	109	48.4%	268	20.2%
KY161	Appalachian Foothills	All	1031	485	264	54.4%	203	13.0%
MA022	Malden Housing Authority	2000	635	55	36	65.5%	105	0.0%
MA022	Malden Housing Authority	2001	610	234	111	47.4%	266	0.0%
MA022	Malden Housing Authority	2002	600	125	58	46.4%	240	1.7%
MA022	Malden Housing Authority	All	1845	414	205	49.5%	204	0.6%
MI064	Ann Arbor Housing Commission	2000	659	192	100	52.1%	74	9.0%
MI064	Ann Arbor Housing Commission	2001	822	290	126	43.4%	214	18.3%
MI064	Ann Arbor Housing Commission	2002	1006	313	122	39.0%	318	55.7%
MI064	Ann Arbor Housing Commission	All	2487	795	348	43.8%	232	31.0%
MI198	Kent County Housing Commission	2000	143	65	33	50.8%	71	3.1%
MI198	Kent County Housing Commission	2001	159	61	26	42.6%	133	4.8%
MI198	Kent County Housing Commission	2002	233	125	55	44.0%	291	9.1%
MI198	Kent County Housing Commission	All	535	251	114	45.4%	226	6.3%
MN144	St Louis Park HA	2000	207	135	87	64.4%	36	7.0%
MN144	St Louis Park HA	2001	218	123	74	60.2%	165	1.4%
MN144	St Louis Park HA	2002	246	60	28	46.7%	247	0.0%
MN144	St Louis Park HA	All	670	318	189	59.4%	186	2.6%
NJ075	Edgewater HA	2000	146	119	77	64.7%	61	2.6%
NJ075	Edgewater HA	2001	144	57	32	56.1%	177	0.0%
NJ075	Edgewater HA	2002	148	102	50	49.0%	219	2.0%
NJ075	Edgewater HA	All	438	278	159	57.2%	164	1.5%
NJ108	West Orange HA	2000	118	28	15	53.6%	48	13.3%
NJ108	West Orange HA	2001	110	48	24	50.0%	191	12.5%
NJ108	West Orange HA	2002	111	54	28	51.9%	224	3.6%
NJ108	West Orange HA	All	338	130	67	51.5%	181	9.9%
PA075	Cumberland County HA	2000	877	289	203	70.2%	117	20.8%
PA075	Cumberland County HA	2001	898	291	172	59.1%	251	15.9%
PA075	Cumberland County HA	2002	1005	226	123	54.4%	269	16.3%
PA075	Cumberland County HA	All	2779	806	498	61.8%	226	17.6%
RQ019	Penuelas, Municipality Of	2000	132	69	37	53.6%	436	78.4%
RQ053	Toa Alta, Municipality Of	2000	122	48	26	54.2%	118	3.8%
SC001	Charleston	2000	946	98	57	58.2%	109	0.0%
SC001	Charleston	2001	953	139	60	43.2%	383	2.1%
SC001	Charleston	2002	1284	294	151	51.4%	270	50.3%
SC001	Charleston	All	3183	531	268	50.5%	239	22.9%
TN111	Knox County	2000	459	154	91	59.1%	98	11.0%
TN111	Knox County	2001	470	66	30	45.5%	233	17.2%
TN111	Knox County	2002	509	118	44	37.3%	232	6.8%
TN111	Knox County	All	1438	338	165	48.8%	178	11.5%

TX392	Denton	2000	940	270	159	58.9%	81	7.5%
TX392	Denton	2001	1111	276	134	48.6%	240	5.3%
TX392	Denton	2002	1131	200	92	46.0%	300	4.3%
TX392	Denton	All	3182	746	385	51.6%	217	5.6%
WI047	Sheboygan HA	2001	161	139	75	54.0%	165	6.7%
WI047	Sheboygan HA	2002	172	139	73	52.5%	292	12.3%
WI047	Sheboygan HA	All	499	303	161	53.1%	165	6.4%
WI245	Barron County HA	2000	123	36	18	50.0%	108	11.1%
WI245	Barron County HA	2002	135	79	38	48.1%	277	5.3%
WI245	Barron County HA	All	385	144	68	47.2%	253	8.4%
WV036	Kanawha County Housing Authority	2000	851	148	93	62.8%	96	8.6%
WV036	Kanawha County Housing Authority	2001	895	175	90	51.4%	251	48.9%
WV036	Kanawha County Housing Authority	2002	982	115	49	42.6%	224	28.6%
WV036	Kanawha County Housing Authority	All	2728	438	232	53.0%	199	29.0%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-2.2: Mean HQS Problems, Sample of PHAs with 100-999 Vouchers

PHA Code	PHA Name	Year	Mean # HQS problems	Lower Confidence Limit	Upper Confidence Limit
AL073	Ozark	2000	4.0	3.4	4.6
AL073	Ozark	2001	4.5	3.0	6.1
AL073	Ozark	2002	4.9	3.9	5.8
AL073	Ozark	All	4.4	3.8	5.1
AR039	Wynne Housing Authority	2000	2.6	2.0	3.3
AR039	Wynne Housing Authority	2001	3.7	2.8	4.6
AR039	Wynne Housing Authority	2002	3.6	2.7	4.5
AR039	Wynne Housing Authority	All	3.3	2.9	3.8
CA123	Pomona	2000	4.6	3.6	5.6
CA123	Pomona	2001	4.4	3.5	5.2
CA123	Pomona	2002	6.7	4.4	9.1
CA123	Pomona	All	5.2	4.3	6.1
CA152	Lassen County	2001	5.4	3.5	7.4
CA152	Lassen County	2002	5.1	3.0	7.2
CA152	Lassen County	All	5.0	3.3	6.8
CT019	Greenwich Housing Authority	2000	4.4	3.5	5.2
CT019	Greenwich Housing Authority	2001	3.5	2.4	4.6
CT019	Greenwich Housing Authority	2002	2.6	1.9	3.4
CT019	Greenwich Housing Authority	All	3.5	2.9	4.0
IA022	Iowa City	2000	4.0	3.5	4.6
IA022	Iowa City	2001	3.9	3.4	4.5
IA022	Iowa City	2002	5.0	3.1	6.9
IA022	Iowa City	All	4.4	3.6	5.1
IA122	Region Xii Reg. HA	2000	3.2	2.4	3.9
IA122	Region Xii Reg. HA	2001	3.1	2.6	3.6
IA122	Region Xii Reg. HA	2002	2.7	1.5	3.9
IA122	Region Xii Reg. HA	All	3.0	2.4	3.5
IL089	Dekalb County HA	2000	3.5	3.0	4.0
IL089	Dekalb County HA	2001	3.1	2.2	4.1

IL089	Dekalb County HA	2002	3.7	2.5	4.8
IL089	Dekalb County HA	All	3.4	2.9	4.0
IN067	Knox County Housing Authority	2000	3.5	2.9	4.0
IN067	Knox County Housing Authority	2001	3.3	2.5	4.2
IN067	Knox County Housing Authority	2002	3.9	2.8	5.1
IN067	Knox County Housing Authority	All	3.6	3.1	4.1
KY161	Appalachian Foothills	2000	1.5	1.1	1.8
KY161	Appalachian Foothills	2001	2.5	1.6	3.4
KY161	Appalachian Foothills	2002	2.3	1.7	3.0
KY161	Appalachian Foothills	All	2.2	1.8	2.5
MA022	Malden Housing Authority	2000	4.8	3.2	6.4
MA022	Malden Housing Authority	2001	3.2	2.5	3.8
MA022	Malden Housing Authority	2002	2.7	1.7	3.7
MA022	Malden Housing Authority	All	3.6	2.9	4.2
MI064	Ann Arbor Housing Commission	2000	3.2	2.4	4.0
MI064	Ann Arbor Housing Commission	2001	4.3	3.6	5.0
MI064	Ann Arbor Housing Commission	2002	4.4	3.5	5.2
MI064	Ann Arbor Housing Commission	All	4.0	3.6	4.5
MI198	Kent County Housing Commission	2000	8.1	6.1	10.1
MI198	Kent County Housing Commission	2001	6.2	4.3	8.1
MI198	Kent County Housing Commission	2002	4.7	3.5	5.9
MI198	Kent County Housing Commission	All	6.0	5.1	7.0
MN144	St Louis Park HA	2000	3.4	2.8	3.9
MN144	St Louis Park HA	2001	3.7	3.0	4.4
MN144	St Louis Park HA	2002	6.3	3.2	9.3
MN144	St Louis Park HA	All	4.5	3.4	5.7
NJ075	Edgewater HA	2000	5.3	4.4	6.2
NJ075	Edgewater HA	2001	3.4	2.2	4.6
NJ075	Edgewater HA	2002	4.1	3.0	5.1
NJ075	Edgewater HA	All	4.3	3.6	4.9
NJ108	West Orange HA	2000	4.1	2.4	5.8
NJ108	West Orange HA	2001	5.2	3.5	6.9
NJ108	West Orange HA	2002	5.5	3.6	7.4
NJ108	West Orange HA	All	4.9	3.9	5.9
PA075	Cumberland County HA	2000	3.2	2.7	3.6
PA075	Cumberland County HA	2001	3.6	3.1	4.2
PA075	Cumberland County HA	2002	3.8	3.1	4.5
PA075	Cumberland County HA	All	3.5	3.2	3.9
RQ019	Penuelas, Municipality Of	2000	4.4	3.4	5.3
RQ053	Toa Alta, Municipality Of	2000	5.5	3.7	7.4
SC001	Charleston	2000	6.6	5.0	8.3
SC001	Charleston	2001	5.9	4.7	7.0
SC001	Charleston	2002	5.8	5.0	6.7
SC001	Charleston	All	6.1	5.4	6.8
TN111	Knox County	2000	5.6	4.3	6.8
TN111	Knox County	2001	4.1	2.2	6.0
TN111	Knox County	2002	4.3	2.9	5.8
TN111	Knox County	All	4.7	3.8	5.6
TX392	Denton	2000	4.4	3.7	5.1
TX392	Denton	2001	4.4	3.7	5.1

TX392	Denton	2002	4.4	3.5	5.4
TX392	Denton	All	4.4	3.9	4.9
WI047	Sheboygan HA	2001	4.0	3.3	4.8
WI047	Sheboygan HA	2002	3.9	3.3	4.5
WI047	Sheboygan HA	All	3.2	2.6	3.8
WI245	Barron County HA	2000	4.3	1.6	7.0
WI245	Barron County HA	2002	5.7	4.1	7.4
WI245	Barron County HA	All	5.3	3.8	6.9
WV036	Kanawha County Housing Authority	2000	4.4	3.5	5.4
WV036	Kanawha County Housing Authority	2001	4.2	3.3	5.2
WV036	Kanawha County Housing Authority	2002	4.8	2.9	6.7
WV036	Kanawha County Housing Authority	All	4.5	3.7	5.3

Appendix C-2.3: % of Units with 8 or More HQS Problems, Sample of PHAs with 100-999 Vouchers

PHA Code	PHA Name	Year	% Units w/8+ HQS Problems	Lower Confidence Limit	Upper Confidence Limit
AL073	Ozark	2000	17.4%	12.55%	22.3%
AL073	Ozark	2001	20.0%	7.14%	32.9%
AL073	Ozark	2002	25.0%	17.21%	32.8%
AL073	Ozark	All	20.7%	15.45%	26.0%
AR039	Wynne Housing Authority	2000	7.5%	1.69%	13.4%
AR039	Wynne Housing Authority	2001	14.3%	6.94%	21.6%
AR039	Wynne Housing Authority	2002	18.5%	9.95%	27.1%
AR039	Wynne Housing Authority	All	13.5%	9.24%	17.8%
CA123	Pomona	2000	27.0%	17.29%	36.8%
CA123	Pomona	2001	18.5%	11.63%	25.4%
CA123	Pomona	2002	35.5%	18.67%	52.3%
CA123	Pomona	All	27.0%	20.14%	33.9%
CA152	Lassen County	2001	21.1%	10.71%	31.4%
CA152	Lassen County	2002	16.7%	3.50%	29.8%
CA152	Lassen County	All	21.0%	3.66%	38.3%
CT019	Greenwich Housing Authority	2000	20.3%	12.29%	28.3%
CT019	Greenwich Housing Authority	2001	19.0%	8.55%	29.5%
CT019	Greenwich Housing Authority	2002	7.0%	0.12%	13.8%
CT019	Greenwich Housing Authority	All	15.1%	10.19%	19.9%
IA022	Iowa City	2000	17.1%	12.08%	22.2%
IA022	Iowa City	2001	16.8%	11.44%	22.1%
IA022	Iowa City	2002	29.6%	12.29%	47.0%
IA022	Iowa City	All	21.5%	14.84%	28.2%
IA122	Region Xii Reg. HA	2000	13.2%	7.66%	18.8%
IA122	Region Xii Reg. HA	2001	11.7%	7.25%	16.1%
IA122	Region Xii Reg. HA	2002	5.9%	0.00%	13.8%
IA122	Region Xii Reg. HA	All	10.0%	6.41%	13.7%
IL089	Dekalb County HA	2000	12.8%	8.90%	16.7%
IL089	Dekalb County HA	2001	12.1%	4.25%	19.9%
IL089	Dekalb County HA	2002	16.0%	6.34%	25.7%

IL089	Dekalb County HA	All	13.7%	9.24%	18.2%
IN067	Knox County Housing Authority	2000	10.8%	6.70%	14.8%
IN067	Knox County Housing Authority	2001	11.3%	4.72%	17.8%
IN067	Knox County Housing Authority	2002	11.9%	4.92%	19.0%
IN067	Knox County Housing Authority	All	11.3%	7.81%	14.9%
KY161	Appalachian Foothills	2000	2.0%	0.00%	4.2%
KY161	Appalachian Foothills	2001	9.1%	2.11%	16.1%
KY161	Appalachian Foothills	2002	8.3%	3.76%	12.7%
KY161	Appalachian Foothills	All	6.8%	3.90%	9.8%
MA022	Malden Housing Authority	2000	27.8%	13.37%	42.2%
MA022	Malden Housing Authority	2001	10.8%	5.56%	16.1%
MA022	Malden Housing Authority	2002	12.1%	4.03%	20.1%
MA022	Malden Housing Authority	All	17.1%	11.19%	22.9%
MI064	Ann Arbor Housing Commission	2000	13.0%	6.90%	19.1%
MI064	Ann Arbor Housing Commission	2001	22.2%	15.52%	28.9%
MI064	Ann Arbor Housing Commission	2002	14.8%	8.83%	20.7%
MI064	Ann Arbor Housing Commission	All	16.8%	13.12%	20.4%
MI198	Kent County Housing Commission	2000	51.5%	36.33%	66.7%
MI198	Kent County Housing Commission	2001	34.6%	17.56%	51.7%
MI198	Kent County Housing Commission	2002	25.5%	15.30%	35.6%
MI198	Kent County Housing Commission	All	35.1%	27.27%	43.0%
MN144	St Louis Park HA	2000	9.2%	4.55%	13.8%
MN144	St Louis Park HA	2001	12.2%	6.07%	18.3%
MN144	St Louis Park HA	2002	32.1%	15.56%	48.7%
MN144	St Louis Park HA	All	18.6%	12.03%	25.2%
NJ075	Edgewater HA	2000	29.9%	22.80%	36.9%
NJ075	Edgewater HA	2001	12.5%	2.23%	22.8%
NJ075	Edgewater HA	2002	20.0%	10.89%	29.1%
NJ075	Edgewater HA	All	20.8%	15.66%	26.0%
NJ108	West Orange HA	2000	6.7%	0.00%	18.9%
NJ108	West Orange HA	2001	25.0%	9.35%	40.6%
NJ108	West Orange HA	2002	25.0%	10.88%	39.1%
NJ108	West Orange HA	All	18.6%	10.54%	26.7%
PA075	Cumberland County HA	2000	12.8%	8.77%	16.8%
PA075	Cumberland County HA	2001	15.1%	10.29%	19.9%
PA075	Cumberland County HA	2002	14.6%	8.76%	20.5%
PA075	Cumberland County HA	All	14.2%	11.29%	17.1%
RQ019	Penuelas, Municipality Of	2000	16.2%	6.00%	26.4%
RQ053	Toa Alta, Municipality Of	2000	30.8%	14.72%	46.8%
SC001	Charleston	2000	40.4%	27.89%	52.8%
SC001	Charleston	2001	36.7%	24.76%	48.6%
SC001	Charleston	2002	29.1%	22.31%	36.0%
SC001	Charleston	All	34.7%	28.89%	40.6%
TN111	Knox County	2000	25.3%	17.24%	33.3%
TN111	Knox County	2001	23.3%	8.44%	38.2%
TN111	Knox County	2002	25.0%	12.63%	37.4%
TN111	Knox County	All	24.5%	17.51%	31.6%
TX392	Denton	2000	18.9%	13.31%	24.4%
TX392	Denton	2001	16.4%	10.51%	22.3%
TX392	Denton	2002	16.3%	9.03%	23.6%

TX392	Denton	All	17.1%	13.41%	20.8%
WI047	Sheboygan HA	2001	16.0%	9.90%	22.1%
WI047	Sheboygan HA	2002	11.0%	5.48%	16.4%
WI047	Sheboygan HA	All	11.5%	6.00%	17.0%
WI245	Barron County HA	2000	22.2%	3.96%	40.5%
WI245	Barron County HA	2002	23.7%	12.07%	35.3%
WI245	Barron County HA	All	23.7%	12.90%	34.4%
WV036	Kanawha County Housing Authority	2000	19.4%	11.74%	27.0%
WV036	Kanawha County Housing Authority	2001	20.0%	12.12%	27.9%
WV036	Kanawha County Housing Authority	2002	22.4%	10.94%	34.0%
WV036	Kanawha County Housing Authority	All	20.7%	15.25%	26.1%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-2.4: % of Units with at Least 1 AHS-Type Defect, Sample of PHAs with 100-999 Vouchers

PHA Code	PHA Name	Year	% Units w/1+ AHS-type Defect	Lower Confidence Limit	Upper Confidence Limit
AL073	Ozark	2000	10.7%	6.7%	14.7%
AL073	Ozark	2001	11.4%	1.2%	21.7%
AL073	Ozark	2002	14.1%	7.9%	20.4%
AL073	Ozark	All	12.1%	7.8%	16.3%
AR039	Wynne Housing Authority	2000	1.9%	0.0%	4.9%
AR039	Wynne Housing Authority	2001	14.3%	6.9%	21.6%
AR039	Wynne Housing Authority	2002	9.3%	2.9%	15.7%
AR039	Wynne Housing Authority	All	8.4%	5.0%	11.8%
CA123	Pomona	2000	9.5%	3.0%	15.9%
CA123	Pomona	2001	11.1%	5.5%	16.7%
CA123	Pomona	2002	19.4%	5.5%	33.2%
CA123	Pomona	All	13.3%	7.9%	18.7%
CA152	Lassen County	2001	18.4%	8.6%	28.3%
CA152	Lassen County	2002	16.7%	3.5%	29.8%
CA152	Lassen County	All	11.5%	6.2%	16.9%
CT019	Greenwich Housing Authority	2000	6.3%	1.4%	11.1%
CT019	Greenwich Housing Authority	2001	0.0%	0.0%	0.0%
CT019	Greenwich Housing Authority	2002	2.3%	0.0%	6.4%
CT019	Greenwich Housing Authority	All	2.9%	0.7%	5.0%
IA022	Iowa City	2000	8.0%	4.4%	11.6%
IA022	Iowa City	2001	5.0%	1.9%	8.1%
IA022	Iowa City	2002	22.2%	6.4%	38.0%
IA022	Iowa City	All	12.1%	6.2%	18.0%
IA122	Region Xii Reg. HA	2000	8.3%	3.7%	12.8%
IA122	Region Xii Reg. HA	2001	7.4%	3.8%	11.0%
IA122	Region Xii Reg. HA	2002	5.9%	0.0%	13.8%
IA122	Region Xii Reg. HA	All	7.1%	3.7%	10.5%
IL089	Dekalb County HA	2000	8.5%	5.3%	11.8%
IL089	Dekalb County HA	2001	6.9%	0.8%	13.0%
IL089	Dekalb County HA	2002	10.0%	2.1%	17.9%
IL089	Dekalb County HA	All	8.5%	4.9%	12.1%

IN067	Knox County Housing Authority	2000	7.7%	4.2%	11.2%
IN067	Knox County Housing Authority	2001	11.3%	4.7%	17.8%
IN067	Knox County Housing Authority	2002	4.5%	0.0%	9.0%
IN067	Knox County Housing Authority	All	7.7%	4.8%	10.7%
KY161	Appalachian Foothills	2000	3.0%	0.3%	5.7%
KY161	Appalachian Foothills	2001	7.3%	1.0%	13.6%
KY161	Appalachian Foothills	2002	5.5%	1.8%	9.2%
KY161	Appalachian Foothills	All	5.4%	2.8%	8.0%
MA022	Malden Housing Authority	2000	8.3%	0.0%	17.2%
MA022	Malden Housing Authority	2001	9.9%	4.9%	15.0%
MA022	Malden Housing Authority	2002	10.3%	2.8%	17.9%
MA022	Malden Housing Authority	All	9.5%	5.3%	13.8%
MI064	Ann Arbor Housing Commission	2000	10.0%	4.6%	15.4%
MI064	Ann Arbor Housing Commission	2001	14.3%	8.6%	19.9%
MI064	Ann Arbor Housing Commission	2002	8.2%	3.6%	12.8%
MI064	Ann Arbor Housing Commission	All	10.7%	7.7%	13.7%
MI198	Kent County Housing Commission	2000	21.2%	8.8%	33.6%
MI198	Kent County Housing Commission	2001	19.2%	5.1%	33.4%
MI198	Kent County Housing Commission	2002	10.9%	3.6%	18.2%
MI198	Kent County Housing Commission	All	16.1%	9.9%	22.3%
MN144	St Louis Park HA	2000	4.6%	1.2%	8.0%
MN144	St Louis Park HA	2001	5.4%	1.2%	9.6%
MN144	St Louis Park HA	2002	7.1%	0.0%	16.3%
MN144	St Louis Park HA	All	5.8%	2.0%	9.6%
NJ075	Edgewater HA	2000	16.9%	11.1%	22.7%
NJ075	Edgewater HA	2001	12.5%	2.2%	22.8%
NJ075	Edgewater HA	2002	10.0%	3.2%	16.8%
NJ075	Edgewater HA	All	13.1%	8.6%	17.6%
NJ108	West Orange HA	2000	13.3%	0.0%	30.0%
NJ108	West Orange HA	2001	4.2%	-3.1%	11.4%
NJ108	West Orange HA	2002	10.7%	0.6%	20.8%
NJ108	West Orange HA	All	9.5%	2.4%	16.6%
PA075	Cumberland County HA	2000	5.9%	3.1%	8.8%
PA075	Cumberland County HA	2001	5.8%	2.7%	9.0%
PA075	Cumberland County HA	2002	8.9%	4.2%	13.7%
PA075	Cumberland County HA	All	7.0%	4.8%	9.2%
RQ019	Penuelas, Municipality Of	2000	21.6%	10.2%	33.0%
RQ053	Toa Alta, Municipality Of	2000	26.9%	11.5%	42.3%
SC001	Charleston	2000	21.1%	10.7%	31.4%
SC001	Charleston	2001	16.7%	7.5%	25.9%
SC001	Charleston	2002	11.9%	7.0%	16.8%
SC001	Charleston	All	16.1%	11.5%	20.6%
TN111	Knox County	2000	17.6%	10.5%	24.6%
TN111	Knox County	2001	13.3%	1.4%	25.3%
TN111	Knox County	2002	9.1%	0.9%	17.3%
TN111	Knox County	All	13.2%	7.8%	18.6%
TX392	Denton	2000	11.3%	6.8%	15.8%
TX392	Denton	2001	6.7%	2.7%	10.7%
TX392	Denton	2002	12.0%	5.6%	18.3%
TX392	Denton	All	9.9%	7.0%	12.9%

WI047	Sheboygan HA	2001	9.3%	4.5%	14.2%
WI047	Sheboygan HA	2002	5.5%	1.5%	9.5%
WI047	Sheboygan HA	All	4.9%	2.8%	7.0%
WI245	Barron County HA	2000	22.2%	4.0%	40.5%
WI245	Barron County HA	2002	10.5%	2.1%	18.9%
WI245	Barron County HA	All	13.5%	5.2%	21.9%
WV036	Kanawha County Housing Authority	2000	9.7%	4.0%	15.4%
WV036	Kanawha County Housing Authority	2001	10.0%	4.1%	15.9%
WV036	Kanawha County Housing Authority	2002	12.2%	3.2%	21.3%
WV036	Kanawha County Housing Authority	All	10.7%	6.5%	14.9%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-3.1: Survey Specifications, Sample of PHAs with 1000-2499 Vouchers

PHA Code	PHA Name	Year	Occupied units	Surveys mailed	Responses received	Response rate	Median Days between inspection & survey	% initially not passing inspection
CA055	Vallejo	2000	1409	191	111	58.1%	108	9.9%
CA055	Vallejo	2001	1509	141	70	49.6%	293	10.3%
CA055	Vallejo	2002	1772	59	25	42.4%	297	12.0%
CA055	Vallejo	All	4690	391	206	52.7%	209	10.8%
CA076	Santa Barbara City	2000	1436	126	84	66.7%	85	1.2%
CA076	Santa Barbara City	2001	1554	323	189	58.5%	321	2.1%
CA076	Santa Barbara City	2002	1551	55	32	58.2%	377	9.4%
CA076	Santa Barbara City	All	4541	504	305	60.5%	268	4.3%
CA093	Santa Ana Housing Authority	2000	1886	266	181	68.0%	80	20.4%
CA093	Santa Ana Housing Authority	2001	1807	360	196	54.4%	236	7.7%
CA093	Santa Ana Housing Authority	2002	2151	62	43	69.4%	304	27.9%
CA093	Santa Ana Housing Authority	All	5843	688	420	61.0%	235	19.3%
FL004	Orlando	2000	1879	119	76	63.9%	99	4.0%
FL004	Orlando	2001	2080	358	174	48.6%	237	7.5%
FL004	Orlando	2002	2359	123	56	45.5%	219	14.3%
FL004	Orlando	All	6317	600	306	51.0%	186	9.0%
FL010	Ft. Lauderdale	2000	1258	217	120	55.3%	102	15.8%
FL010	Ft. Lauderdale	2001	1400	256	122	47.7%	315	9.1%
FL010	Ft. Lauderdale	2002	1338	217	99	45.6%	240	7.1%
FL010	Ft. Lauderdale	All	3996	690	341	49.4%	226	10.5%
FL089	Hillsborough County	2000	1473	173	95	54.9%	67	17.9%
FL089	Hillsborough County	2001	1809	370	181	48.9%	224	27.6%
FL089	Hillsborough County	2002	1966	121	60	49.6%	262	23.3%
FL089	Hillsborough County	All	5248	664	336	50.6%	205	23.3%
IN003	Fort Wayne Housing Authority	2001	1583	243	104	42.8%	326	34.0%
IN003	Fort Wayne Housing Authority	2002	1689	120	49	40.8%	305	57.1%
IN003	Fort Wayne Housing Authority	All	4731	371	156	42.0%	243	31.3%
KS004	Wichita	2000	1756	137	88	64.2%	88	0.0%
KS004	Wichita	2001	1928	345	158	45.8%	238	0.0%
KS004	Wichita	2002	2227	315	147	46.7%	258	10.9%
KS004	Wichita	All	5911	797	393	49.3%	207	4.2%
MA012	Worcester Housing Authority	2000	1491	134	85	63.4%	96	0.0%

MA012	Worcester Housing Authority	2001	1468	342	162	47.4%	320	0.0%
MA012	Worcester Housing Authority	2002	1517	306	143	46.7%	282	0.0%
MA012	Worcester Housing Authority	All	4476	782	390	49.9%	233	0.0%
MS006	Tennessee Valley RHA	2000	1131	231	137	59.3%	103	73.0%
MS006	Tennessee Valley RHA	2001	1189	170	69	40.6%	279	64.7%
MS006	Tennessee Valley RHA	2002	1304	279	119	42.7%	279	62.2%
MS006	Tennessee Valley RHA	All	3623	680	325	47.8%	224	66.4%
NC007	Asheville Housing Authority	2000	1039	151	98	64.9%	130	0.0%
NC007	Asheville Housing Authority	2001	1212	297	146	49.2%	223	0.0%
NC007	Asheville Housing Authority	2002	1237	300	136	45.3%	282	5.9%
NC007	Asheville Housing Authority	All	3488	748	380	50.8%	208	2.1%
NC011	Greensboro Housing Authority	2000	1285	163	95	58.3%	93	0.0%
NC011	Greensboro Housing Authority	2001	1337	363	184	50.7%	201	0.0%
NC011	Greensboro Housing Authority	2002	2059	830	331	39.9%	275	2.7%
NC011	Greensboro Housing Authority	All	4681	1356	610	45.0%	204	1.2%
NC057	Gastonia Housing Authority	2000	1002	92	65	70.7%	119	0.0%
NC057	Gastonia Housing Authority	2001	979	174	70	40.2%	406	0.0%
NC057	Gastonia Housing Authority	2002	1034	306	128	41.8%	260	18.8%
NC057	Gastonia Housing Authority	All	3015	572	263	46.0%	207	6.4%
NC145	Economic Improvement Council, Inc.	2000	1327	141	85	60.3%	127	47.1%
NC145	Economic Improvement Council, Inc.	2001	1378	374	170	45.5%	242	45.5%
NC145	Economic Improvement Council, Inc.	2002	1604	689	253	36.7%	310	43.1%
NC145	Economic Improvement Council, Inc.	All	4309	1204	508	42.2%	230	45.1%
NC167	Northwestern Reg. Hsg. Authority	2000	1385	183	126	68.9%	101	48.4%
NC167	Northwestern Reg. Hsg. Authority	2001	1417	356	138	38.8%	244	36.0%
NC167	Northwestern Reg. Hsg. Authority	2002	1527	614	306	49.8%	256	31.0%
NC167	Northwestern Reg. Hsg. Authority	All	4329	1153	570	49.4%	212	38.2%
NJ002	Newark HA	2000	1783	78	47	60.3%	75	65.2%
NJ002	Newark HA	2001	2859	399	182	45.6%	173	53.2%
NJ002	Newark HA	2002	4080	300	140	46.7%	262	83.6%
NJ002	Newark HA	All	8722	777	369	47.5%	203	70.2%
NJ009	Jersey City Housing Authority	2000	2058	250	154	61.6%	72	1.3%
NJ009	Jersey City Housing Authority	2001	2319	398	206	51.8%	210	2.5%
NJ009	Jersey City Housing Authority	2002	2584	318	155	48.7%	224	1.9%
NJ009	Jersey City Housing Authority	All	6961	966	515	53.3%	185	1.9%
NJ067	Bergen County HA	2000	2307	255	168	65.9%	77	0.6%
NJ067	Bergen County HA	2001	2402	313	170	54.3%	295	6.5%
NJ067	Bergen County HA	2002	2701	324	151	46.6%	253	3.3%
NJ067	Bergen County HA	All	7410	892	489	54.8%	237	3.5%
OR022	Washington County	2000	1458	168	104	61.9%	96	8.7%
OR022	Washington County	2001	2018	389	192	49.4%	236	1.0%
OR022	Washington County	2002	2269	61	34	55.7%	320	8.8%
OR022	Washington County	All	5745	618	330	53.4%	235	6.1%
PA007	Chester HA	2000	1219	132	64	48.5%	114	25.8%
PA007	Chester HA	2001	1116	129	54	41.9%	489	25.9%
PA007	Chester HA	2002	1236	310	127	41.0%	305	52.8%
PA007	Chester HA	All	3571	571	245	42.9%	260	35.3%
TX007	Brownsville	2000	1406	239	130	54.4%	80	74.6%
TX007	Brownsville	2001	1471	384	167	43.5%	221	76.6%
TX007	Brownsville	2002	1606	118	46	39.0%	270	41.3%

TX007	Brownsville	All	4483	741	343	46.3%	210	63.3%
TX481	Panhandle	2000	1771	141	86	61.0%	59	11.6%
TX481	Panhandle	2001	1773	312	130	41.7%	197	30.5%
TX481	Panhandle	2002	1822	114	45	39.5%	245	33.3%
TX481	Panhandle	All	5366	567	261	46.0%	183	25.2%
TX559	Dallas County	2000	1867	231	132	57.1%	81	0.8%
TX559	Dallas County	2001	2240	180	89	49.4%	587	2.3%
TX559	Dallas County	2002	3051	113	56	49.6%	307	7.1%
TX559	Dallas County	All	7157	524	277	52.9%	226	4.0%
VA003	Newport News RHA	2000	2115	138	87	63.0%	75	0.0%
VA003	Newport News RHA	2001	2201	353	186	52.7%	251	6.5%
VA003	Newport News RHA	2002	2146	317	145	45.7%	309	36.6%
VA003	Newport News RHA	All	6461	808	418	51.7%	206	14.3%
WV001	Charleston Housing Authority	2000	1236	368	225	61.1%	88	0.0%
WV001	Charleston Housing Authority	2001	1439	417	173	41.5%	239	0.0%
WV001	Charleston Housing Authority	2002	1366	120	39	32.5%	254	20.5%
WV001	Charleston Housing Authority	All	4041	905	437	48.3%	213	6.9%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-3.2: Mean HQS Problems, Sample of PHAs with 1000-2499 Vouchers

PHA Code	PHA Name	Year	Mean # HQS problems	Lower Confidence Limit	Upper Confidence Limit
CA055	Vallejo	2000	4.9	3.9	5.8
CA055	Vallejo	2001	5.1	3.8	6.5
CA055	Vallejo	2002	4.9	3.1	6.7
CA055	Vallejo	All	5.0	4.1	5.8
CA076	Santa Barbara City	2000	2.7	2.1	3.3
CA076	Santa Barbara City	2001	3.1	2.5	3.7
CA076	Santa Barbara City	2002	3.1	2.1	4.1
CA076	Santa Barbara City	All	3.0	2.5	3.4
CA093	Santa Ana Housing Authority	2000	3.2	2.7	3.7
CA093	Santa Ana Housing Authority	2001	2.3	2.0	2.7
CA093	Santa Ana Housing Authority	2002	2.7	1.9	3.4
CA093	Santa Ana Housing Authority	All	2.7	2.4	3.1
FL004	Orlando	2000	3.0	2.3	3.7
FL004	Orlando	2001	4.3	3.6	5.1
FL004	Orlando	2002	4.3	2.9	5.6
FL004	Orlando	All	3.9	3.3	4.5
FL010	Ft. Lauderdale	2000	6.4	5.4	7.5
FL010	Ft. Lauderdale	2001	7.1	6.0	8.2
FL010	Ft. Lauderdale	2002	6.2	5.1	7.2
FL010	Ft. Lauderdale	All	6.6	5.9	7.2
FL089	Hillsborough County	2000	3.5	2.8	4.2
FL089	Hillsborough County	2001	5.1	4.4	5.8
FL089	Hillsborough County	2002	4.4	3.2	5.5
FL089	Hillsborough County	All	4.4	3.8	4.9
IN003	Fort Wayne Housing Authority	2001	5.3	4.3	6.4

IN003	Fort Wayne Housing Authority	2002	5.1	3.7	6.6
IN003	Fort Wayne Housing Authority	All	5.1	3.6	6.5
KS004	Wichita	2000	5.7	4.4	6.9
KS004	Wichita	2001	4.9	4.1	5.7
KS004	Wichita	2002	4.6	3.7	5.5
KS004	Wichita	All	5.0	4.5	5.6
MA012	Worcester Housing Authority	2000	5.8	4.5	7.1
MA012	Worcester Housing Authority	2001	4.9	4.1	5.7
MA012	Worcester Housing Authority	2002	5.8	4.9	6.8
MA012	Worcester Housing Authority	All	5.5	4.9	6.1
MS006	Tennessee Valley RHA	2000	4.6	3.9	5.3
MS006	Tennessee Valley RHA	2001	4.7	3.5	5.8
MS006	Tennessee Valley RHA	2002	5.6	4.6	6.6
MS006	Tennessee Valley RHA	All	5.0	4.4	5.6
NC007	Asheville Housing Authority	2000	3.1	2.4	3.8
NC007	Asheville Housing Authority	2001	3.1	2.5	3.8
NC007	Asheville Housing Authority	2002	3.5	2.9	4.2
NC007	Asheville Housing Authority	All	3.3	2.9	3.7
NC011	Greensboro Housing Authority	2000	5.5	4.5	6.4
NC011	Greensboro Housing Authority	2001	5.2	4.5	5.9
NC011	Greensboro Housing Authority	2002	5.1	4.6	5.6
NC011	Greensboro Housing Authority	All	5.2	4.8	5.6
NC057	Gastonia Housing Authority	2000	5.6	3.9	7.2
NC057	Gastonia Housing Authority	2001	4.4	3.4	5.4
NC057	Gastonia Housing Authority	2002	5.3	4.2	6.3
NC057	Gastonia Housing Authority	All	5.1	4.4	5.8
NC145	Economic Improvement Council, Inc.	2000	5.0	3.7	6.2
NC145	Economic Improvement Council, Inc.	2001	4.2	3.5	4.8
NC145	Economic Improvement Council, Inc.	2002	5.5	4.8	6.1
NC145	Economic Improvement Council, Inc.	All	4.9	4.4	5.4
NC167	Northwestern Reg. Hsg. Authority	2000	3.7	2.9	4.5
NC167	Northwestern Reg. Hsg. Authority	2001	4.5	3.7	5.4
NC167	Northwestern Reg. Hsg. Authority	2002	4.7	4.1	5.2
NC167	Northwestern Reg. Hsg. Authority	All	4.3	3.9	4.7
NJ002	Newark HA	2000	6.4	4.3	8.4
NJ002	Newark HA	2001	7.1	6.1	8.1
NJ002	Newark HA	2002	7.3	6.2	8.5
NJ002	Newark HA	All	7.1	6.3	7.8
NJ009	Jersey City Housing Authority	2000	6.8	5.8	7.8
NJ009	Jersey City Housing Authority	2001	6.8	5.9	7.7
NJ009	Jersey City Housing Authority	2002	6.7	5.8	7.7
NJ009	Jersey City Housing Authority	All	6.8	6.2	7.4
NJ067	Bergen County HA	2000	4.4	3.6	5.2
NJ067	Bergen County HA	2001	4.6	3.9	5.4
NJ067	Bergen County HA	2002	4.0	3.4	4.7
NJ067	Bergen County HA	All	4.3	3.9	4.8
OR022	Washington County	2000	2.5	1.8	3.2
OR022	Washington County	2001	3.2	2.6	3.8
OR022	Washington County	2002	3.5	2.3	4.7
OR022	Washington County	All	3.2	2.6	3.7

PA007	Chester HA	2000	5.7	4.1	7.2
PA007	Chester HA	2001	7.7	6.0	9.4
PA007	Chester HA	2002	7.0	6.0	7.9
PA007	Chester HA	All	6.8	5.9	7.6
TX007	Brownsville	2000	3.3	2.8	3.8
TX007	Brownsville	2001	3.7	3.1	4.3
TX007	Brownsville	2002	3.3	1.8	4.8
TX007	Brownsville	All	3.4	2.9	4.0
TX481	Panhandle	2000	4.1	3.1	5.0
TX481	Panhandle	2001	4.8	3.9	5.7
TX481	Panhandle	2002	4.9	3.4	6.4
TX481	Panhandle	All	4.6	3.9	5.3
TX559	Dallas County	2000	5.7	4.9	6.4
TX559	Dallas County	2001	6.9	5.5	8.3
TX559	Dallas County	2002	5.2	3.8	6.7
TX559	Dallas County	All	5.9	5.1	6.6
VA003	Newport News RHA	2000	5.1	4.1	6.1
VA003	Newport News RHA	2001	4.0	3.4	4.6
VA003	Newport News RHA	2002	4.9	4.1	5.7
VA003	Newport News RHA	All	4.7	4.2	5.1
WV001	Charleston Housing Authority	2000	4.4	3.8	5.0
WV001	Charleston Housing Authority	2001	5.1	4.3	5.8
WV001	Charleston Housing Authority	2002	6.1	3.8	8.3
WV001	Charleston Housing Authority	All	5.2	4.4	6.0

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-3.3: % of Units with 8 or More HQS Problems, Sample of PHAs with 1000-2499 Vouchers

PHA Code	PHA Name	Year	% Units w/8+ HQS Problems	Lower Confidence Limit	Upper Confidence Limit
CA055	Vallejo	2000	23.4%	15.83%	31.0%
CA055	Vallejo	2001	24.3%	14.41%	34.2%
CA055	Vallejo	2002	24.0%	7.03%	41.0%
CA055	Vallejo	All	23.9%	16.41%	31.4%
CA076	Santa Barbara City	2000	9.5%	3.40%	15.7%
CA076	Santa Barbara City	2001	10.6%	6.46%	14.7%
CA076	Santa Barbara City	2002	12.5%	0.98%	24.0%
CA076	Santa Barbara City	All	10.9%	6.30%	15.5%
CA093	Santa Ana Housing Authority	2000	11.6%	7.15%	16.1%
CA093	Santa Ana Housing Authority	2001	6.1%	2.95%	9.3%
CA093	Santa Ana Housing Authority	2002	9.3%	0.61%	18.0%
CA093	Santa Ana Housing Authority	All	9.1%	5.42%	12.7%
FL004	Orlando	2000	9.2%	2.80%	15.6%
FL004	Orlando	2001	15.5%	10.35%	20.7%
FL004	Orlando	2002	19.6%	9.27%	30.0%
FL004	Orlando	All	15.2%	10.54%	19.8%
FL010	Ft. Lauderdale	2000	35.8%	27.64%	44.0%

FL010	Ft. Lauderdale	2001	40.2%	31.82%	48.5%
FL010	Ft. Lauderdale	2002	31.3%	22.48%	40.1%
FL010	Ft. Lauderdale	All	35.8%	30.94%	40.7%
FL089	Hillsborough County	2000	11.6%	5.32%	17.8%
FL089	Hillsborough County	2001	25.4%	19.38%	31.4%
FL089	Hillsborough County	2002	16.7%	7.30%	26.0%
FL089	Hillsborough County	All	18.3%	13.81%	22.7%
IN003	Fort Wayne Housing Authority	2001	28.8%	20.39%	37.3%
IN003	Fort Wayne Housing Authority	2002	26.5%	14.22%	38.8%
IN003	Fort Wayne Housing Authority	All	29.4%	8.60%	50.2%
KS004	Wichita	2000	26.1%	17.14%	35.1%
KS004	Wichita	2001	27.2%	20.54%	33.9%
KS004	Wichita	2002	19.0%	12.89%	25.2%
KS004	Wichita	All	23.8%	19.66%	28.0%
MA012	Worcester Housing Authority	2000	29.4%	19.95%	38.9%
MA012	Worcester Housing Authority	2001	25.3%	18.97%	31.6%
MA012	Worcester Housing Authority	2002	30.8%	23.54%	38.0%
MA012	Worcester Housing Authority	All	28.5%	24.03%	33.0%
MS006	Tennessee Valley RHA	2000	24.1%	17.35%	30.8%
MS006	Tennessee Valley RHA	2001	23.2%	13.45%	32.9%
MS006	Tennessee Valley RHA	2002	27.7%	20.03%	35.4%
MS006	Tennessee Valley RHA	All	25.1%	20.38%	29.8%
NC007	Asheville Housing Authority	2000	12.2%	6.04%	18.5%
NC007	Asheville Housing Authority	2001	12.3%	7.31%	17.3%
NC007	Asheville Housing Authority	2002	14.0%	8.45%	19.5%
NC007	Asheville Housing Authority	All	12.9%	9.68%	16.1%
NC011	Greensboro Housing Authority	2000	30.5%	21.57%	39.5%
NC011	Greensboro Housing Authority	2001	20.1%	14.72%	25.5%
NC011	Greensboro Housing Authority	2002	25.7%	21.36%	30.0%
NC011	Greensboro Housing Authority	All	25.4%	21.95%	28.9%
NC057	Gastonia Housing Authority	2000	23.1%	13.10%	33.1%
NC057	Gastonia Housing Authority	2001	22.9%	13.31%	32.4%
NC057	Gastonia Housing Authority	2002	22.7%	15.84%	29.5%
NC057	Gastonia Housing Authority	All	22.9%	17.75%	28.0%
NC145	Economic Improvement Council, Inc.	2000	23.5%	14.75%	32.3%
NC145	Economic Improvement Council, Inc.	2001	18.8%	13.31%	24.3%
NC145	Economic Improvement Council, Inc.	2002	25.3%	20.37%	30.2%
NC145	Economic Improvement Council, Inc.	All	22.7%	18.97%	26.4%
NC167	Northwestern Reg. Hsg. Authority	2000	13.5%	7.78%	19.2%
NC167	Northwestern Reg. Hsg. Authority	2001	20.3%	13.89%	26.7%
NC167	Northwestern Reg. Hsg. Authority	2002	20.9%	16.83%	25.0%
NC167	Northwestern Reg. Hsg. Authority	All	18.3%	15.21%	21.5%
NJ002	Newark HA	2000	31.9%	18.62%	45.2%
NJ002	Newark HA	2001	36.8%	30.01%	43.6%
NJ002	Newark HA	2002	40.0%	32.00%	48.0%
NJ002	Newark HA	All	37.3%	32.17%	42.4%
NJ009	Jersey City Housing Authority	2000	35.7%	28.41%	43.0%
NJ009	Jersey City Housing Authority	2001	34.5%	28.26%	40.7%
NJ009	Jersey City Housing Authority	2002	34.2%	26.93%	41.5%
NJ009	Jersey City Housing Authority	All	34.7%	30.71%	38.8%

NJ067	Bergen County HA	2000	19.6%	13.84%	25.4%
NJ067	Bergen County HA	2001	21.2%	15.24%	27.1%
NJ067	Bergen County HA	2002	19.2%	13.08%	25.3%
NJ067	Bergen County HA	All	20.0%	16.52%	23.4%
OR022	Washington County	2000	9.6%	4.13%	15.1%
OR022	Washington County	2001	10.4%	6.30%	14.5%
OR022	Washington County	2002	8.8%	0.00%	18.4%
OR022	Washington County	All	9.6%	5.29%	13.9%
PA007	Chester HA	2000	28.1%	17.32%	38.9%
PA007	Chester HA	2001	40.7%	27.84%	53.6%
PA007	Chester HA	2002	37.8%	29.78%	45.8%
PA007	Chester HA	All	35.4%	29.29%	41.5%
TX007	Brownsville	2000	9.2%	4.47%	14.0%
TX007	Brownsville	2001	14.4%	9.35%	19.4%
TX007	Brownsville	2002	13.0%	3.35%	22.7%
TX007	Brownsville	All	12.3%	8.16%	16.4%
TX481	Panhandle	2000	17.4%	9.57%	25.3%
TX481	Panhandle	2001	21.5%	14.71%	28.4%
TX481	Panhandle	2002	24.4%	11.90%	37.0%
TX481	Panhandle	All	21.2%	15.70%	26.6%
TX559	Dallas County	2000	28.0%	20.62%	35.4%
TX559	Dallas County	2001	34.8%	25.08%	44.6%
TX559	Dallas County	2002	25.0%	13.66%	36.3%
TX559	Dallas County	All	28.9%	22.83%	34.9%
VA003	Newport News RHA	2000	23.0%	14.28%	31.7%
VA003	Newport News RHA	2001	16.1%	11.06%	21.2%
VA003	Newport News RHA	2002	21.4%	14.91%	27.8%
VA003	Newport News RHA	All	20.1%	16.15%	24.1%
WV001	Charleston Housing Authority	2000	20.9%	16.07%	25.7%
WV001	Charleston Housing Authority	2001	27.2%	20.93%	33.4%
WV001	Charleston Housing Authority	2002	28.2%	14.10%	42.3%
WV001	Charleston Housing Authority	All	25.6%	20.14%	31.1%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-3.4: % of Units with at Least 1 AHS-Type Defect, Sample of PHAs with 1000-2499 Vouchers

PHA Code	PHA Name	Year	% Units w/ 1+ AHS-type Defect	Lower Confidence Limit	Upper Confidence Limit
CA055	Vallejo	2000	12.6%	6.7%	18.6%
CA055	Vallejo	2001	22.9%	13.2%	32.5%
CA055	Vallejo	2002	16.0%	1.4%	30.6%
CA055	Vallejo	All	17.2%	10.6%	23.8%
CA076	Santa Barbara City	2000	2.4%	0.0%	5.6%
CA076	Santa Barbara City	2001	4.8%	1.9%	7.6%
CA076	Santa Barbara City	2002	6.3%	0.0%	14.7%
CA076	Santa Barbara City	All	4.5%	1.3%	7.7%
CA093	Santa Ana Housing Authority	2000	3.9%	1.2%	6.5%
CA093	Santa Ana Housing Authority	2001	4.6%	1.8%	7.4%

CA093	Santa Ana Housing Authority	2002	4.7%	0.0%	11.0%
CA093	Santa Ana Housing Authority	All	4.4%	1.8%	7.0%
FL004	Orlando	2000	3.9%	0.0%	8.3%
FL004	Orlando	2001	10.3%	6.0%	14.7%
FL004	Orlando	2002	10.7%	2.6%	18.8%
FL004	Orlando	All	8.6%	5.0%	12.2%
FL010	Ft. Lauderdale	2000	19.2%	12.4%	25.9%
FL010	Ft. Lauderdale	2001	21.3%	14.3%	28.3%
FL010	Ft. Lauderdale	2002	14.1%	7.5%	20.8%
FL010	Ft. Lauderdale	All	18.2%	14.3%	22.2%
FL089	Hillsborough County	2000	9.5%	3.7%	15.2%
FL089	Hillsborough County	2001	13.8%	9.0%	18.6%
FL089	Hillsborough County	2002	8.3%	1.4%	15.3%
FL089	Hillsborough County	All	10.5%	7.1%	14.0%
IN003	Fort Wayne Housing Authority	2001	14.4%	7.9%	21.0%
IN003	Fort Wayne Housing Authority	2002	18.4%	7.6%	29.2%
IN003	Fort Wayne Housing Authority	All	11.4%	6.9%	15.8%
KS004	Wichita	2000	13.6%	6.6%	20.7%
KS004	Wichita	2001	12.0%	7.2%	16.9%
KS004	Wichita	2002	12.9%	7.7%	18.2%
KS004	Wichita	All	12.8%	9.6%	16.1%
MA012	Worcester Housing Authority	2000	17.6%	9.7%	25.6%
MA012	Worcester Housing Authority	2001	13.6%	8.6%	18.6%
MA012	Worcester Housing Authority	2002	20.3%	14.0%	26.6%
MA012	Worcester Housing Authority	All	17.2%	13.4%	21.0%
MS006	Tennessee Valley RHA	2000	8.8%	4.3%	13.2%
MS006	Tennessee Valley RHA	2001	14.5%	6.4%	22.6%
MS006	Tennessee Valley RHA	2002	16.8%	10.4%	23.2%
MS006	Tennessee Valley RHA	All	13.5%	9.7%	17.3%
NC007	Asheville Housing Authority	2000	6.1%	1.6%	10.7%
NC007	Asheville Housing Authority	2001	8.9%	4.6%	13.3%
NC007	Asheville Housing Authority	2002	7.4%	3.2%	11.5%
NC007	Asheville Housing Authority	All	7.5%	5.0%	10.0%
NC011	Greensboro Housing Authority	2000	20.0%	12.2%	27.8%
NC011	Greensboro Housing Authority	2001	13.6%	9.0%	18.2%
NC011	Greensboro Housing Authority	2002	12.4%	9.1%	15.6%
NC011	Greensboro Housing Authority	All	14.8%	11.9%	17.7%
NC057	Gastonia Housing Authority	2000	15.4%	6.8%	23.9%
NC057	Gastonia Housing Authority	2001	11.4%	4.2%	18.7%
NC057	Gastonia Housing Authority	2002	13.3%	7.8%	18.8%
NC057	Gastonia Housing Authority	All	13.4%	9.2%	17.5%
NC145	Economic Improvement Council, Inc.	2000	12.9%	6.0%	19.9%
NC145	Economic Improvement Council, Inc.	2001	7.1%	3.4%	10.7%
NC145	Economic Improvement Council, Inc.	2002	14.6%	10.6%	18.6%
NC145	Economic Improvement Council, Inc.	All	11.7%	8.8%	14.5%
NC167	Northwestern Reg. Hsg. Authority	2000	7.9%	3.4%	12.5%
NC167	Northwestern Reg. Hsg. Authority	2001	8.7%	4.2%	13.2%
NC167	Northwestern Reg. Hsg. Authority	2002	13.4%	10.0%	16.8%
NC167	Northwestern Reg. Hsg. Authority	All	10.1%	7.7%	12.5%
NJ002	Newark HA	2000	17.0%	6.3%	27.7%

NJ002	Newark HA	2001	23.6%	17.6%	29.6%
NJ002	Newark HA	2002	25.7%	18.6%	32.9%
NJ002	Newark HA	All	23.3%	18.8%	27.7%
NJ009	Jersey City Housing Authority	2000	19.5%	13.4%	25.5%
NJ009	Jersey City Housing Authority	2001	16.5%	11.7%	21.4%
NJ009	Jersey City Housing Authority	2002	20.0%	13.9%	26.1%
NJ009	Jersey City Housing Authority	All	18.7%	15.4%	22.0%
NJ067	Bergen County HA	2000	9.5%	5.2%	13.8%
NJ067	Bergen County HA	2001	8.8%	4.7%	12.9%
NJ067	Bergen County HA	2002	6.6%	2.8%	10.5%
NJ067	Bergen County HA	All	8.2%	5.9%	10.6%
OR022	Washington County	2000	2.9%	0.0%	6.0%
OR022	Washington County	2001	9.9%	5.9%	13.9%
OR022	Washington County	2002	14.7%	2.7%	26.7%
OR022	Washington County	All	10.0%	5.0%	15.0%
PA007	Chester HA	2000	14.1%	5.7%	22.4%
PA007	Chester HA	2001	25.9%	14.4%	37.4%
PA007	Chester HA	2002	20.5%	13.8%	27.1%
PA007	Chester HA	All	20.0%	14.9%	25.1%
TX007	Brownsville	2000	5.4%	1.7%	9.1%
TX007	Brownsville	2001	6.0%	2.6%	9.4%
TX007	Brownsville	2002	4.3%	0.0%	10.2%
TX007	Brownsville	All	5.2%	2.6%	7.9%
TX481	Panhandle	2000	7.0%	1.7%	12.3%
TX481	Panhandle	2001	13.8%	8.1%	19.6%
TX481	Panhandle	2002	6.7%	0.0%	13.9%
TX481	Panhandle	All	9.1%	5.6%	12.7%
TX559	Dallas County	2000	17.4%	11.2%	23.7%
TX559	Dallas County	2001	15.7%	8.3%	23.2%
TX559	Dallas County	2002	17.9%	7.8%	27.9%
TX559	Dallas County	All	17.1%	11.9%	22.2%
VA003	Newport News RHA	2000	11.5%	4.9%	18.1%
VA003	Newport News RHA	2001	8.1%	4.3%	11.8%
VA003	Newport News RHA	2002	15.2%	9.5%	20.8%
VA003	Newport News RHA	All	11.5%	8.4%	14.7%
WV001	Charleston Housing Authority	2000	16.4%	12.1%	20.8%
WV001	Charleston Housing Authority	2001	16.2%	11.0%	21.3%
WV001	Charleston Housing Authority	2002	20.5%	7.9%	33.2%
WV001	Charleston Housing Authority	All	17.7%	12.9%	22.6%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-4.1: Survey Specifications, Sample of PHAs with 2500-5999 Vouchers

PHA Code	PHA Name	Year	Occupied units	Surveys mailed	Responses received	Response rate	Median Days between inspection & survey	% initially not passing inspection
AZ001	Phoenix Hd	2000	3960	176	109	61.9%	61	0.0%
AZ001	Phoenix Hd	2001	4389	474	256	54.0%	245	0.0%
AZ001	Phoenix Hd	2002	4682	60	31	51.7%	268	0.0%

AZ001	Phoenix Hd	All	13031	710	396	55.8%	213	0.0%
CA006	Fresno City Housing Authority	2000	3946	228	117	51.3%	118	4.3%
CA006	Fresno City Housing Authority	2001	5377	464	232	50.0%	276	2.6%
CA006	Fresno City Housing Authority	2002	6219	120	51	42.5%	235	2.0%
CA006	Fresno City Housing Authority	All	15542	812	400	49.3%	208	2.8%
CA019	San Bernardino County	2000	5976	334	222	66.5%	78	2.7%
CA019	San Bernardino County	2001	6708	535	313	58.5%	277	1.3%
CA019	San Bernardino County	2002	7266	119	58	48.7%	255	5.2%
CA019	San Bernardino County	All	19950	988	593	60.0%	230	3.1%
CA021	Santa Barbara County	2000	2609	212	125	59.0%	67	0.8%
CA021	Santa Barbara County	2001	2407	307	184	59.9%	278	3.8%
CA021	Santa Barbara County	2002	3202	61	21	34.4%	335	4.8%
CA021	Santa Barbara County	All	8218	580	330	56.9%	230	3.2%
CA024	San Joaquin	2000	3013	119	83	69.7%	130	8.4%
CA024	San Joaquin	2001	3444	306	168	54.9%	249	18.3%
CA024	San Joaquin	2002	3709	215	113	52.6%	247	16.8%
CA024	San Joaquin	All	10165	640	364	56.9%	211	14.8%
CA056	San Jose City Housing Authority	2000	4486	260	161	61.9%	81	0.0%
CA056	San Jose City Housing Authority	2001	4718	466	277	59.4%	256	0.0%
CA056	San Jose City Housing Authority	2002	5568	120	64	53.3%	299	6.3%
CA056	San Jose City Housing Authority	All	14773	846	502	59.3%	232	2.4%
CA067	Alameda County Hsg Auth	2001	4715	201	78	38.8%	325	1.3%
CA067	Alameda County Hsg Auth	2002	4927	124	59	47.6%	263	5.1%
CA067	Alameda County Hsg Auth	All	14511	330	139	42.1%	271	2.6%
CO001	Denver	2000	4109	124	71	57.3%	65	15.5%
CO001	Denver	2001	4076	365	184	50.4%	309	47.5%
CO001	Denver	2002	4504	296	127	42.9%	263	22.0%
CO001	Denver	All	12689	785	382	48.7%	225	21.6%
FL003	Tampa	2000	2515	182	99	54.4%	105	7.5%
FL003	Tampa	2001	2779	374	183	48.9%	235	2.8%
FL003	Tampa	2002	3355	119	55	46.2%	252	27.3%
FL003	Tampa	All	8649	675	337	49.9%	210	13.9%
FL066	Hialeah	2000	3068	261	162	62.1%	104	32.3%
FL066	Hialeah	2001	3101	370	193	52.2%	210	9.3%
FL066	Hialeah	2002	3092	120	49	40.8%	280	0.0%
FL066	Hialeah	All	9260	751	404	53.8%	238	12.4%
HI003	Honolulu, City & County Of	2000	3402	62	39	62.9%	***	35.9%
HI003	Honolulu, City & County Of	2001	3045	449	212	47.2%	246	8.7%
HI003	Honolulu, City & County Of	2002	3093	310	147	47.4%	279	32.7%
HI003	Honolulu, City & County Of	All	9540	821	398	48.5%	196	26.3%
KY105	Jefferson	2000	3817	319	158	49.5%	82	0.0%
KY105	Jefferson	2001	3782	458	201	43.9%	260	0.0%
KY105	Jefferson	2002	3778	313	121	38.7%	245	1.7%
KY105	Jefferson	All	11378	1090	480	44.0%	200	0.6%
KY131	Louisville,hajc-City Of	2000	2825	346	197	56.9%	66	0.0%
KY131	Louisville,hajc-City Of	2001	2864	364	152	41.8%	269	0.0%
KY131	Louisville,hajc-City Of	2002	3047	312	111	35.6%	250	6.3%
KY131	Louisville,hajc-City Of	All	8735	1022	460	45.0%	211	2.2%
KY901	Kentucky Housing Corporation	2000	3218	298	185	62.1%	84	13.5%
KY901	Kentucky Housing Corporation	2001	3803	1564	770	49.2%	244	2.9%

KY901	Kentucky Housing Corporation	2002	4218	510	248	48.6%	285	15.3%
KY901	Kentucky Housing Corporation	All	11240	2372	1203	50.7%	229	10.6%
MS040	Mississippi Regional HA No. Viii	2000	3885	309	189	61.2%	63	33.9%
MS040	Mississippi Regional HA No. Viii	2001	4094	483	224	46.4%	257	36.2%
MS040	Mississippi Regional HA No. Viii	2002	4969	586	241	41.1%	284	47.3%
MS040	Mississippi Regional HA No. Viii	All	12948	1378	654	47.5%	232	39.7%
NE001	Omaha	2000	3226	204	93	45.6%	91	0.0%
NE001	Omaha	2001	2688	416	163	39.2%	272	0.0%
NE001	Omaha	2002	2974	615	233	37.9%	267	1.7%
NE001	Omaha	All	8887	1235	489	39.6%	213	0.6%
NH901	New Hampshire Housing Finance Agency	2000	2573	235	150	63.8%	79	14.0%
NH901	New Hampshire Housing Finance Agency	2001	2800	998	491	49.2%	260	12.2%
NH901	New Hampshire Housing Finance Agency	2002	2933	299	141	47.2%	284	13.5%
NH901	New Hampshire Housing Finance Agency	All	8306	1532	782	51.0%	218	13.2%
NY001	Syracuse HA	2000	2586	147	79	53.7%	97	31.6%
NY001	Syracuse HA	2001	2580	326	156	47.9%	326	24.4%
NY001	Syracuse HA	2002	2714	627	258	41.1%	278	24.8%
NY001	Syracuse HA	All	7881	1100	493	44.8%	236	26.9%
NY041	Rochester HA	2000	3693	318	185	58.2%	60	0.0%
NY041	Rochester HA	2001	4330	473	218	46.1%	217	0.0%
NY041	Rochester HA	2002	5022	124	56	45.2%	271	17.9%
NY041	Rochester HA	All	13045	915	459	50.2%	202	6.9%
OH006	Lucas Mha	2000	2576	176	99	56.3%	128	15.2%
OH006	Lucas Mha	2001	2463	306	141	46.1%	279	2.1%
OH006	Lucas Mha	2002	2708	636	265	41.7%	287	5.7%
OH006	Lucas Mha	All	7746	1118	505	45.2%	231	7.7%
OH007	Akron Mha	2000	3163	145	63	43.4%	99	28.6%
OH007	Akron Mha	2001	3158	387	174	45.0%	558	30.6%
OH007	Akron Mha	2002	3656	619	220	35.5%	285	54.5%
OH007	Akron Mha	All	9977	1151	457	39.7%	270	38.8%
OK073	Tulsa	2000	3027	205	128	62.4%	137	0.0%
OK073	Tulsa	2001	2960	416	174	41.8%	263	0.0%
OK073	Tulsa	2002	3695	602	261	43.4%	271	0.0%
OK073	Tulsa	All	9682	1223	563	46.0%	211	0.0%
SC911	Sc State Housing Authority	2000	2901	107	65	60.7%	120	7.7%
SC911	Sc State Housing Authority	2001	2901	886	397	44.8%	274	29.3%
SC911	Sc State Housing Authority	2002	2158	229	109	47.6%	287	52.3%
SC911	Sc State Housing Authority	All	7960	1222	571	46.7%	210	27.6%
TN903	Tennessee Housing	2000	4462	264	157	59.5%	89	0.0%
TN903	Tennessee Housing	2001	4806	1681	760	45.2%	291	0.0%
TN903	Tennessee Housing	2002	5459	567	224	39.5%	296	49.3%
TN903	Tennessee Housing	All	14727	2512	1141	45.4%	239	18.2%
TX003	El Paso	2000	3226	273	190	69.6%	56	0.0%
TX003	El Paso	2001	3491	311	185	59.5%	302	2.2%
TX003	El Paso	2002	3615	307	157	51.1%	302	31.8%
TX003	El Paso	All	10331	891	532	59.7%	247	12.0%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

*** Value deleted due to poor data quality

Appendix C-4.2: Mean HQS Problems, Sample of PHAs with 2500-5999 Vouchers

PHA Code	PHA Name	Year	Mean # HQS problems	Lower Confidence Limit	Upper Confidence Limit
AZ001	Phoenix Hd	2000	4.3	3.5	5.1
AZ001	Phoenix Hd	2001	4.0	3.4	4.6
AZ001	Phoenix Hd	2002	5.9	3.9	8.0
AZ001	Phoenix Hd	All	4.8	4.0	5.6
CA006	Fresno City Housing Authority	2000	4.4	3.5	5.3
CA006	Fresno City Housing Authority	2001	5.3	4.6	6.0
CA006	Fresno City Housing Authority	2002	5.0	3.6	6.5
CA006	Fresno City Housing Authority	All	5.0	4.3	5.6
CA019	San Bernardino County	2000	3.4	3.0	3.9
CA019	San Bernardino County	2001	4.3	3.7	4.8
CA019	San Bernardino County	2002	6.4	4.5	8.3
CA019	San Bernardino County	All	4.8	4.1	5.5
CA021	Santa Barbara County	2000	3.2	2.6	3.9
CA021	Santa Barbara County	2001	3.5	2.9	4.1
CA021	Santa Barbara County	2002	5.4	2.6	8.2
CA021	Santa Barbara County	All	4.1	3.0	5.3
CA024	San Joaquin	2000	3.5	2.4	4.5
CA024	San Joaquin	2001	3.6	3.0	4.2
CA024	San Joaquin	2002	5.0	4.0	6.0
CA024	San Joaquin	All	4.1	3.6	4.6
CA056	San Jose City Housing Authority	2000	3.2	2.5	3.9
CA056	San Jose City Housing Authority	2001	3.0	2.6	3.5
CA056	San Jose City Housing Authority	2002	2.4	1.7	3.1
CA056	San Jose City Housing Authority	All	2.8	2.5	3.2
CA067	Alameda County Hsg Auth	2001	3.4	2.6	4.3
CA067	Alameda County Hsg Auth	2002	4.2	3.1	5.3
CA067	Alameda County Hsg Auth	All	2.9	2.1	3.7
CO001	Denver	2000	5.1	3.5	6.7
CO001	Denver	2001	5.1	4.3	5.9
CO001	Denver	2002	4.1	3.3	5.0
CO001	Denver	All	4.8	4.1	5.4
FL003	Tampa	2000	5.0	4.0	6.0
FL003	Tampa	2001	4.6	4.0	5.2
FL003	Tampa	2002	7.3	5.4	9.1
FL003	Tampa	All	5.8	4.9	6.6
FL066	Hialeah	2000	3.2	2.6	3.7
FL066	Hialeah	2001	3.5	2.9	4.1
FL066	Hialeah	2002	2.6	1.5	3.7
FL066	Hialeah	All	3.1	2.6	3.5
HI003	Honolulu, City & County Of	2000	4.1	3.0	5.1
HI003	Honolulu, City & County Of	2001	4.0	3.4	4.7
HI003	Honolulu, City & County Of	2002	4.7	3.9	5.5
HI003	Honolulu, City & County Of	All	4.3	3.8	4.8

KY105	Jefferson	2000	5.0	4.2	5.8
KY105	Jefferson	2001	5.7	4.9	6.4
KY105	Jefferson	2002	5.7	4.7	6.6
KY105	Jefferson	All	5.4	5.0	5.9
KY131	Louisville,hajc-City Of	2000	5.3	4.5	6.1
KY131	Louisville,hajc-City Of	2001	6.4	5.4	7.5
KY131	Louisville,hajc-City Of	2002	5.5	4.5	6.5
KY131	Louisville,hajc-City Of	All	5.7	5.2	6.3
KY901	Kentucky Housing Corporation	2000	2.5	2.1	3.0
KY901	Kentucky Housing Corporation	2001	3.0	2.8	3.3
KY901	Kentucky Housing Corporation	2002	3.3	2.7	3.8
KY901	Kentucky Housing Corporation	All	3.0	2.7	3.2
MS040	Mississippi Regional HA No. Viii	2000	5.8	4.8	6.8
MS040	Mississippi Regional HA No. Viii	2001	5.5	4.7	6.2
MS040	Mississippi Regional HA No. Viii	2002	5.8	5.0	6.5
MS040	Mississippi Regional HA No. Viii	All	5.7	5.2	6.2
NE001	Omaha	2000	5.8	4.6	7.0
NE001	Omaha	2001	5.9	5.1	6.8
NE001	Omaha	2002	5.6	4.9	6.4
NE001	Omaha	All	5.8	5.2	6.3
NH901	New Hampshire Housing Finance Agency	2000	4.1	3.3	5.0
NH901	New Hampshire Housing Finance Agency	2001	4.1	3.7	4.5
NH901	New Hampshire Housing Finance Agency	2002	4.0	3.3	4.7
NH901	New Hampshire Housing Finance Agency	All	4.1	3.7	4.5
NY001	Syracuse HA	2000	4.4	3.3	5.6
NY001	Syracuse HA	2001	4.8	4.1	5.6
NY001	Syracuse HA	2002	5.8	5.1	6.6
NY001	Syracuse HA	All	5.1	4.5	5.6
NY041	Rochester HA	2000	4.5	3.9	5.2
NY041	Rochester HA	2001	4.3	3.7	5.0
NY041	Rochester HA	2002	4.8	3.3	6.4
NY041	Rochester HA	All	4.6	3.9	5.2
OH006	Lucas Mha	2000	4.2	3.3	5.1
OH006	Lucas Mha	2001	5.0	4.3	5.8
OH006	Lucas Mha	2002	5.3	4.8	5.9
OH006	Lucas Mha	All	4.9	4.4	5.3
OH007	Akron Mha	2000	7.0	5.6	8.4
OH007	Akron Mha	2001	6.0	5.2	6.8
OH007	Akron Mha	2002	6.0	5.3	6.8
OH007	Akron Mha	All	6.3	5.7	6.9
OK073	Tulsa	2000	6.6	5.6	7.6
OK073	Tulsa	2001	5.5	4.7	6.4
OK073	Tulsa	2002	5.7	5.0	6.3
OK073	Tulsa	All	5.9	5.4	6.4
SC911	Sc State Housing Authority	2000	4.6	3.3	5.8
SC911	Sc State Housing Authority	2001	4.8	4.3	5.2
SC911	Sc State Housing Authority	2002	4.9	4.0	5.9
SC911	Sc State Housing Authority	All	4.7	4.2	5.3
TN903	Tennessee Housing	2000	3.2	2.6	3.7
TN903	Tennessee Housing	2001	3.8	3.5	4.1

TN903	Tennessee Housing	2002	4.0	3.4	4.5
TN903	Tennessee Housing	All	3.7	3.4	4.0
TX003	El Paso	2000	3.3	2.8	3.9
TX003	El Paso	2001	4.4	3.7	5.1
TX003	El Paso	2002	3.8	3.2	4.4
TX003	El Paso	All	3.8	3.5	4.2

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-4.3: % of Units with 8 or More HQS Problems, Sample of PHAs with 2500-5999 Vouchers

PHA Code	PHA Name	Year	% Units w/8+ HQS Problems	Lower Confidence Limit	Upper Confidence Limit
AZ001	Phoenix Hd	2000	19.3%	11.9%	26.6%
AZ001	Phoenix Hd	2001	14.5%	10.3%	18.6%
AZ001	Phoenix Hd	2002	25.8%	10.2%	41.4%
AZ001	Phoenix Hd	All	20.0%	13.8%	26.2%
CA006	Fresno City Housing Authority	2000	22.2%	14.8%	29.7%
CA006	Fresno City Housing Authority	2001	27.6%	21.9%	33.2%
CA006	Fresno City Housing Authority	2002	27.5%	15.1%	39.8%
CA006	Fresno City Housing Authority	All	26.2%	20.5%	31.8%
CA019	San Bernardino County	2000	12.6%	8.3%	16.9%
CA019	San Bernardino County	2001	19.8%	15.5%	24.1%
CA019	San Bernardino County	2002	32.8%	20.6%	44.9%
CA019	San Bernardino County	All	22.4%	17.5%	27.2%
CA021	Santa Barbara County	2000	14.4%	8.4%	20.4%
CA021	Santa Barbara County	2001	16.3%	11.2%	21.4%
CA021	Santa Barbara County	2002	14.3%	0.0%	29.6%
CA021	Santa Barbara County	All	14.9%	8.5%	21.3%
CA024	San Joaquin	2000	13.3%	6.0%	20.5%
CA024	San Joaquin	2001	16.1%	10.6%	21.5%
CA024	San Joaquin	2002	23.9%	16.1%	31.7%
CA024	San Joaquin	All	18.1%	14.1%	22.1%
CA056	San Jose City Housing Authority	2000	10.6%	5.9%	15.2%
CA056	San Jose City Housing Authority	2001	10.8%	7.3%	14.4%
CA056	San Jose City Housing Authority	2002	7.8%	1.2%	14.4%
CA056	San Jose City Housing Authority	All	9.6%	6.5%	12.7%
CA067	Alameda County Hsg Auth	2001	19.2%	10.5%	28.0%
CA067	Alameda County Hsg Auth	2002	20.3%	10.0%	30.6%
CA067	Alameda County Hsg Auth	All	13.2%	8.7%	17.7%
CO001	Denver	2000	18.3%	9.3%	27.3%
CO001	Denver	2001	24.5%	18.4%	30.5%
CO001	Denver	2002	16.5%	10.1%	22.9%
CO001	Denver	All	19.7%	15.5%	23.8%
FL003	Tampa	2000	22.2%	14.2%	30.3%
FL003	Tampa	2001	23.0%	17.0%	28.9%
FL003	Tampa	2002	40.0%	27.0%	53.0%
FL003	Tampa	All	29.4%	23.5%	35.2%

FL066	Hialeah	2000	10.5%	5.9%	15.1%
FL066	Hialeah	2001	11.9%	7.5%	16.4%
FL066	Hialeah	2002	10.2%	1.7%	18.7%
FL066	Hialeah	All	10.9%	7.3%	14.4%
HI003	Honolulu, City & County Of	2000	12.8%	2.3%	23.4%
HI003	Honolulu, City & County Of	2001	17.0%	12.1%	21.9%
HI003	Honolulu, City & County Of	2002	18.4%	12.2%	24.5%
HI003	Honolulu, City & County Of	All	15.9%	11.4%	20.5%
KY105	Jefferson	2000	23.4%	16.9%	29.9%
KY105	Jefferson	2001	29.4%	23.2%	35.5%
KY105	Jefferson	2002	26.4%	18.7%	34.2%
KY105	Jefferson	All	26.4%	22.5%	30.3%
KY131	Louisville,hajc-City Of	2000	26.9%	20.9%	32.9%
KY131	Louisville,hajc-City Of	2001	29.6%	22.5%	36.7%
KY131	Louisville,hajc-City Of	2002	27.9%	19.7%	36.2%
KY131	Louisville,hajc-City Of	All	28.1%	24.0%	32.3%
KY901	Kentucky Housing Corporation	2000	10.3%	6.0%	14.5%
KY901	Kentucky Housing Corporation	2001	11.7%	9.7%	13.7%
KY901	Kentucky Housing Corporation	2002	13.3%	9.2%	17.4%
KY901	Kentucky Housing Corporation	All	11.9%	9.8%	14.0%
MS040	Mississippi Regional HA No. Viii	2000	27.5%	21.3%	33.7%
MS040	Mississippi Regional HA No. Viii	2001	26.8%	21.1%	32.4%
MS040	Mississippi Regional HA No. Viii	2002	28.6%	23.1%	34.2%
MS040	Mississippi Regional HA No. Viii	All	27.7%	24.4%	31.1%
NE001	Omaha	2000	23.7%	15.1%	32.2%
NE001	Omaha	2001	31.3%	24.4%	38.2%
NE001	Omaha	2002	26.6%	21.2%	32.1%
NE001	Omaha	All	27.0%	22.8%	31.1%
NH901	New Hampshire Housing Finance Agency	2000	20.7%	14.4%	27.0%
NH901	New Hampshire Housing Finance Agency	2001	18.9%	15.8%	22.1%
NH901	New Hampshire Housing Finance Agency	2002	16.3%	10.3%	22.3%
NH901	New Hampshire Housing Finance Agency	All	18.5%	15.5%	21.6%
NY001	Syracuse HA	2000	21.5%	12.5%	30.5%
NY001	Syracuse HA	2001	25.6%	19.0%	32.3%
NY001	Syracuse HA	2002	27.5%	22.3%	32.7%
NY001	Syracuse HA	All	24.9%	20.9%	29.0%
NY041	Rochester HA	2000	21.6%	15.8%	27.4%
NY041	Rochester HA	2001	19.3%	14.2%	24.4%
NY041	Rochester HA	2002	23.2%	12.1%	34.3%
NY041	Rochester HA	All	21.5%	16.6%	26.3%
OH006	Lucas Mha	2000	15.2%	8.2%	22.1%
OH006	Lucas Mha	2001	27.7%	20.5%	34.9%
OH006	Lucas Mha	2002	26.0%	21.0%	31.1%
OH006	Lucas Mha	All	22.9%	19.2%	26.6%
OH007	Akron Mha	2000	42.9%	30.7%	55.1%
OH007	Akron Mha	2001	31.6%	24.9%	38.3%
OH007	Akron Mha	2002	29.5%	23.7%	35.4%
OH007	Akron Mha	All	34.4%	29.5%	39.3%
OK073	Tulsa	2000	36.7%	28.5%	44.9%
OK073	Tulsa	2001	27.6%	21.1%	34.0%

OK073	Tulsa	2002	29.9%	24.5%	35.2%
OK073	Tulsa	All	31.3%	27.5%	35.1%
SC911	Sc State Housing Authority	2000	16.9%	7.8%	26.0%
SC911	Sc State Housing Authority	2001	21.9%	18.1%	25.7%
SC911	Sc State Housing Authority	2002	24.8%	16.8%	32.7%
SC911	Sc State Housing Authority	All	20.9%	16.7%	25.1%
TN903	Tennessee Housing	2000	12.7%	7.6%	17.9%
TN903	Tennessee Housing	2001	15.3%	12.9%	17.6%
TN903	Tennessee Housing	2002	18.3%	13.3%	23.3%
TN903	Tennessee Housing	All	15.6%	13.1%	18.2%
TX003	El Paso	2000	12.1%	7.6%	16.6%
TX003	El Paso	2001	23.2%	17.3%	29.2%
TX003	El Paso	2002	12.1%	7.1%	17.1%
TX003	El Paso	All	15.9%	12.9%	18.9%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-4.4: % of Units with at Least 1 AHS-Type Defect, Sample of PHAs with 2500-5999 Vouchers

PHA Code	PHA Name	Year	% Units w/ 1+ AHS-type Defect	Lower Confidence Limit	Upper Confidence Limit
AZ001	Phoenix Hd	2000	10.1%	4.5%	15.7%
AZ001	Phoenix Hd	2001	10.2%	6.6%	13.8%
AZ001	Phoenix Hd	2002	16.1%	3.0%	29.2%
AZ001	Phoenix Hd	All	12.3%	7.1%	17.4%
CA006	Fresno City Housing Authority	2000	7.7%	2.9%	12.5%
CA006	Fresno City Housing Authority	2001	12.9%	8.7%	17.2%
CA006	Fresno City Housing Authority	2002	9.8%	1.6%	18.0%
CA006	Fresno City Housing Authority	All	10.3%	6.6%	14.1%
CA019	San Bernardino County	2000	4.1%	1.5%	6.6%
CA019	San Bernardino County	2001	8.9%	5.9%	12.0%
CA019	San Bernardino County	2002	12.1%	3.6%	20.5%
CA019	San Bernardino County	All	8.6%	5.3%	11.9%
CA021	Santa Barbara County	2000	5.6%	1.7%	9.5%
CA021	Santa Barbara County	2001	3.3%	0.8%	5.7%
CA021	Santa Barbara County	2002	14.3%	0.0%	29.6%
CA021	Santa Barbara County	All	8.3%	2.2%	14.4%
CA024	San Joaquin	2000	7.2%	1.7%	12.8%
CA024	San Joaquin	2001	8.3%	4.2%	12.4%
CA024	San Joaquin	2002	11.5%	5.7%	17.3%
CA024	San Joaquin	All	9.2%	6.1%	12.2%
CA056	San Jose City Housing Authority	2000	5.6%	2.1%	9.1%
CA056	San Jose City Housing Authority	2001	7.6%	4.6%	10.6%
CA056	San Jose City Housing Authority	2002	1.6%	0.0%	4.6%
CA056	San Jose City Housing Authority	All	4.7%	2.9%	6.5%
CA067	Alameda County Hsg Auth	2001	6.4%	1.0%	11.8%
CA067	Alameda County Hsg Auth	2002	8.5%	1.4%	15.6%
CA067	Alameda County Hsg Auth	All	5.0%	2.0%	8.0%
CO001	Denver	2000	14.1%	6.0%	22.2%

CO001	Denver	2001	14.1%	9.2%	19.1%
CO001	Denver	2002	11.0%	5.6%	16.4%
CO001	Denver	All	13.0%	9.4%	16.6%
FL003	Tampa	2000	12.1%	5.8%	18.5%
FL003	Tampa	2001	14.2%	9.3%	19.1%
FL003	Tampa	2002	29.1%	17.1%	41.1%
FL003	Tampa	All	19.4%	14.1%	24.6%
FL066	Hialeah	2000	7.4%	3.5%	11.3%
FL066	Hialeah	2001	5.7%	2.5%	8.9%
FL066	Hialeah	2002	2.0%	0.0%	6.0%
FL066	Hialeah	All	5.0%	2.9%	7.2%
HI003	Honolulu, City & County Of	2000	10.3%	0.7%	19.8%
HI003	Honolulu, City & County Of	2001	6.6%	3.4%	9.8%
HI003	Honolulu, City & County Of	2002	12.2%	7.1%	17.4%
HI003	Honolulu, City & County Of	All	9.7%	5.8%	13.7%
KY105	Jefferson	2000	13.9%	8.6%	19.2%
KY105	Jefferson	2001	18.4%	13.2%	23.6%
KY105	Jefferson	2002	16.5%	10.0%	23.1%
KY105	Jefferson	All	16.3%	13.0%	19.6%
KY131	Louisville,hajc-City Of	2000	14.2%	9.5%	18.9%
KY131	Louisville,hajc-City Of	2001	19.7%	13.6%	25.9%
KY131	Louisville,hajc-City Of	2002	15.3%	8.7%	21.9%
KY131	Louisville,hajc-City Of	All	16.4%	13.0%	19.8%
KY901	Kentucky Housing Corporation	2000	7.0%	3.4%	10.6%
KY901	Kentucky Housing Corporation	2001	7.1%	5.5%	8.8%
KY901	Kentucky Housing Corporation	2002	8.9%	5.4%	12.3%
KY901	Kentucky Housing Corporation	All	7.8%	6.0%	9.5%
MS040	Mississippi Regional HA No. Viii	2000	16.4%	11.2%	21.6%
MS040	Mississippi Regional HA No. Viii	2001	13.4%	9.0%	17.7%
MS040	Mississippi Regional HA No. Viii	2002	17.4%	12.7%	22.1%
MS040	Mississippi Regional HA No. Viii	All	15.8%	13.1%	18.6%
NE001	Omaha	2000	20.4%	12.3%	28.5%
NE001	Omaha	2001	19.6%	13.7%	25.6%
NE001	Omaha	2002	18.9%	14.0%	23.7%
NE001	Omaha	All	19.7%	15.9%	23.5%
NH901	New Hampshire Housing Finance Agency	2000	8.7%	4.3%	13.1%
NH901	New Hampshire Housing Finance Agency	2001	11.2%	8.7%	13.7%
NH901	New Hampshire Housing Finance Agency	2002	11.3%	6.2%	16.5%
NH901	New Hampshire Housing Finance Agency	All	10.5%	8.0%	12.9%
NY001	Syracuse HA	2000	10.1%	3.5%	16.7%
NY001	Syracuse HA	2001	12.2%	7.2%	17.2%
NY001	Syracuse HA	2002	14.3%	10.3%	18.4%
NY001	Syracuse HA	All	12.3%	9.2%	15.3%
NY041	Rochester HA	2000	14.6%	9.6%	19.6%
NY041	Rochester HA	2001	11.9%	7.7%	16.1%
NY041	Rochester HA	2002	14.3%	5.1%	23.5%
NY041	Rochester HA	All	13.6%	9.5%	17.6%
OH006	Lucas Mha	2000	14.1%	7.4%	20.9%

OH006	Lucas Mha	2001	12.1%	6.8%	17.3%
OH006	Lucas Mha	2002	15.5%	11.3%	19.6%
OH006	Lucas Mha	All	13.9%	10.8%	17.1%
OH007	Akron Mha	2000	30.2%	18.8%	41.5%
OH007	Akron Mha	2001	18.4%	12.8%	24.0%
OH007	Akron Mha	2002	18.6%	13.6%	23.6%
OH007	Akron Mha	All	22.2%	17.8%	26.6%
OK073	Tulsa	2000	21.9%	14.8%	28.9%
OK073	Tulsa	2001	14.9%	9.8%	20.1%
OK073	Tulsa	2002	16.1%	11.8%	20.4%
OK073	Tulsa	All	17.5%	14.4%	20.7%
SC911	Sc State Housing Authority	2000	15.4%	6.6%	24.1%
SC911	Sc State Housing Authority	2001	12.1%	9.1%	15.1%
SC911	Sc State Housing Authority	2002	15.6%	8.9%	22.3%
SC911	Sc State Housing Authority	All	14.2%	10.4%	18.1%
TN903	Tennessee Housing	2000	7.0%	3.1%	10.9%
TN903	Tennessee Housing	2001	8.9%	7.1%	10.8%
TN903	Tennessee Housing	2002	9.8%	6.0%	13.6%
TN903	Tennessee Housing	All	8.7%	6.7%	10.6%
TX003	El Paso	2000	6.3%	3.0%	9.7%
TX003	El Paso	2001	9.7%	5.6%	13.9%
TX003	El Paso	2002	4.5%	1.3%	7.6%
TX003	El Paso	All	6.8%	4.7%	8.9%

* Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-5.1: Survey Specifications, Sample of PHAs with 6000+ Vouchers

PHA Code	PHA Name	Year	Occupied units	Surveys mailed	Responses received	Response rate	Median Days between inspection & survey	% initially not passing inspection
CA002	Los Angeles County	2000	14329	70	45	64.3%	81	8.9%
CA002	Los Angeles County	2001	14197	382	240	62.8%	335	2.9%
CA002	Los Angeles County	2002	19043	118	63	53.4%	513	7.9%
CA002	Los Angeles County	All	47569	570	348	61.1%	248	6.7%
CA003	Oakland HA	2000	9563	566	311	54.9%	52	0.0%
CA003	Oakland HA	2001	9639	668	299	44.8%	174	0.0%
CA003	Oakland HA	2002	9603	118	54	45.8%	564	0.0%
CA003	Oakland HA	All	28806	1352	664	49.1%	174	0.0%
CA004	Los Angeles City	2000	35801	1111	725	65.3%	88	0.0%
CA004	Los Angeles City	2001	33809	491	253	51.5%	249	0.0%
CA004	Los Angeles City	2002	36535	123	59	48.0%	232	0.0%
CA004	Los Angeles City	All	106144	1725	1037	60.1%	209	0.0%
CA027	Riverside County	2000	7297	305	220	72.1%	62	0.0%
CA027	Riverside County	2001	6835	460	289	62.8%	286	0.0%
CA027	Riverside County	2002	6867	118	59	50.0%	276	5.1%
CA027	Riverside County	All	20999	883	568	64.3%	229	1.7%
CA059	Santa Clara County	2000	6292	288	180	62.5%	86	0.0%

CA059	Santa Clara County	2001	6351	468	284	60.7%	232	0.0%
CA059	Santa Clara County	2002	8013	119	61	51.3%	311	3.3%
CA059	Santa Clara County	All	20655	875	525	60.0%	230	1.3%
CA063	San Diego Housing Commission	2000	8672	293	203	69.3%	***	0.0%
CA063	San Diego Housing Commission	2001	7665	496	287	57.9%	172	0.0%
CA063	San Diego Housing Commission	2002	7665	115	59	51.3%	197	0.0%
CA063	San Diego Housing Commission	All	24002	904	549	60.7%	149	0.0%
CA094	Orange County	2000	7072	130	96	73.8%	82	0.0%
CA094	Orange County	2001	7400	429	270	62.9%	224	0.0%
CA094	Orange County	2002	8445	124	73	58.9%	276	4.1%
CA094	Orange County	All	22917	683	439	64.3%	189	1.5%
GA006	Atlanta Housing Authority	2000	7767	174	113	64.9%	92	16.0%
GA006	Atlanta Housing Authority	2001	8919	466	220	47.2%	309	28.0%
GA006	Atlanta Housing Authority	2002	10602	599	301	50.3%	279	7.6%
GA006	Atlanta Housing Authority	All	27288	1239	634	51.2%	238	15.7%
GA901	Georgia Dept Of Community Affairs	2000	11766	293	180	61.4%	75	0.0%
GA901	Georgia Dept Of Community Affairs	2001	13598	1652	746	45.2%	242	0.0%
GA901	Georgia Dept Of Community Affairs	2002	14802	1560	803	51.5%	207	62.0%
GA901	Georgia Dept Of Community Affairs	All	40166	3505	1729	49.3%	194	22.9%
IL002	Chicago Housing Authority	2000	24709	283	180	63.6%	123	26.7%
IL002	Chicago Housing Authority	2001	20198	470	244	51.9%	463	28.0%
IL002	Chicago Housing Authority	2002	20198	605	297	49.1%	304	23.9%
IL002	Chicago Housing Authority	All	65105	1358	721	53.1%	253	26.2%
IL025	Cook County Housing Authority	2000	9593	250	147	58.8%	99	7.5%
IL025	Cook County Housing Authority	2001	9998	464	215	46.3%	250	11.0%
IL025	Cook County Housing Authority	2002	10667	634	302	47.6%	269	8.9%
IL025	Cook County Housing Authority	All	30258	1348	664	49.3%	224	9.1%
MA002	Boston Housing Authority	2000	7558	202	109	54.0%	121	45.0%
MA002	Boston Housing Authority	2001	7821	453	195	43.0%	224	37.1%
MA002	Boston Housing Authority	2002	8703	624	218	34.9%	277	12.4%
MA002	Boston Housing Authority	All	24082	1279	522	40.8%	202	30.6%
MA901	Mass Dhcd	2000	13986	160	103	64.4%	101	7.9%
MA901	Mass Dhcd	2001	12583	1624	673	41.4%	281	18.5%
MA901	Mass Dhcd	2002	12583	1480	651	44.0%	258	21.7%
MA901	Mass Dhcd	All	39152	3264	1427	43.7%	211	15.8%
MD002	Baltimore City Housing Authority	2000	7814	92	53	57.6%	96	7.5%
MD002	Baltimore City Housing Authority	2001	7052	389	199	51.2%	270	3.0%
MD002	Baltimore City Housing Authority	2002	8031	620	306	49.4%	488	10.5%
MD002	Baltimore City Housing Authority	All	22897	1101	558	50.7%	241	7.2%
MI901	Michigan State	2000	8862	185	125	67.6%	89	44.0%
MI901	Michigan State	2001	9728	1650	875	53.0%	271	37.3%
MI901	Michigan State	2002	11408	1128	577	51.2%	291	33.3%
MI901	Michigan State	All	29997	2963	1577	53.2%	250	37.7%
NJ912	New Jersey DCA	2000	15552	190	134	70.5%	79	4.6%
NJ912	New Jersey DCA	2001	15990	1655	864	52.2%	***	97.1%
NJ912	New Jersey DCA	2002	16964	545	291	53.4%	257	11.7%
NJ912	New Jersey DCA	All	48506	2390	1289	53.9%	91	38.5%
NY005	New York City HA	2000	75589	189	119	63.0%	138	5.9%
NY005	New York City HA	2001	76880	496	261	52.6%	299	4.6%
NY005	New York City HA	2002	81844	1164	499	42.9%	294	3.6%

NY005	New York City HA	All	234313	1849	879	47.5%	252	4.7%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2000	14074	36	18	50.0%	74	50.0%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2001	15423	359	175	48.7%	278	37.7%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2002	16744	606	278	45.9%	361	6.8%
NY110	New York City Dept Of Hsg Preserv. & Dev.	All	46241	1001	471	47.1%	261	30.3%
NY902	Nys Housing Finance Agency	2000	9944	204	130	63.7%	72	16.9%
NY902	Nys Housing Finance Agency	2001	10461	1597	778	48.7%	294	20.4%
NY902	Nys Housing Finance Agency	2002	2867	444	202	45.5%	283	19.8%
NY902	Nys Housing Finance Agency	All	23272	2245	1110	49.4%	223	18.9%
NY903	Nys Housing Finance Agency	2000	12213	114	68	59.6%	113	8.8%
NY903	Nys Housing Finance Agency	2001	12340	1568	724	46.2%	327	19.0%
NY903	Nys Housing Finance Agency	2002	12951	549	183	33.3%	295	12.6%
NY903	Nys Housing Finance Agency	All	37505	2231	975	43.7%	266	13.5%
OK901	Oklahoma Housing Finance Agency	2000	8848	299	182	60.9%	94	17.1%
OK901	Oklahoma Housing Finance Agency	2001	8293	1681	706	42.0%	291	9.2%
OK901	Oklahoma Housing Finance Agency	2002	8946	884	386	43.7%	293	28.2%
OK901	Oklahoma Housing Finance Agency	All	26087	2864	1274	44.5%	234	18.4%
PA002	Philadelphia HA	2000	10270	255	139	54.5%	85	0.0%
PA002	Philadelphia HA	2001	10534	421	187	44.4%	249	0.0%
PA002	Philadelphia HA	All	20804	676	326	48.2%	164	0.0%
RQ901	Puerto Rico Dept Of Housing	2000	6805	145	76	52.4%	86	35.5%
RQ901	Puerto Rico Dept Of Housing	2001	8334	1619	492	30.4%	258	19.8%
RQ901	Puerto Rico Dept Of Housing	2002	7711	147	52	35.4%	272	5.8%
RQ901	Puerto Rico Dept Of Housing	All	22850	1911	620	32.4%	224	19.7%
TX005	Houston Housing Authority	2000	10813	221	144	65.2%	89	0.0%
TX005	Houston Housing Authority	2001	11681	370	179	48.4%	266	0.0%
TX005	Houston Housing Authority	2002	12832	601	306	50.9%	235	11.8%
TX005	Houston Housing Authority	All	35326	1192	629	52.8%	212	4.3%
VA901	Virginia Housing Development Authority	2000	10748	156	101	64.7%	89	19.8%
VA901	Virginia Housing Development Authority	2001	10084	1659	773	46.6%	258	22.4%
VA901	Virginia Housing Development Authority	2002	7370	719	375	52.2%	282	16.8%
VA901	Virginia Housing Development Authority	All	28203	2534	1249	49.3%	214	20.0%

* Individual years included only if responses for that year were >= 15 and response rate was >= 30%.

*** Value deleted due to poor data quality

Appendix C-5.2: Mean HQS Problems, Sample of PHAs with 6000+ Vouchers

PHA Code	PHA Name	Year	Mean # HQS problems	Lower Confidence Limit	Upper Confidence Limit
CA002	Los Angeles County	2000	2.0	1.3	2.7
CA002	Los Angeles County	2001	3.0	2.5	3.6
CA002	Los Angeles County	2002	3.3	2.2	4.4
CA002	Los Angeles County	All	2.8	2.3	3.4
CA003	Oakland HA	2000	6.0	5.3	6.7
CA003	Oakland HA	2001	6.0	5.2	6.8
CA003	Oakland HA	2002	4.9	3.3	6.4
CA003	Oakland HA	All	5.6	5.0	6.2
CA004	Los Angeles City	2000	5.1	4.7	5.5

CA004	Los Angeles City	2001	4.2	3.6	4.8
CA004	Los Angeles City	2002	5.4	3.9	7.0
CA004	Los Angeles City	All	4.9	4.3	5.5
CA027	Riverside County	2000	3.9	3.2	4.6
CA027	Riverside County	2001	3.5	3.0	4.0
CA027	Riverside County	2002	2.6	1.8	3.5
CA027	Riverside County	All	3.4	3.0	3.8
CA059	Santa Clara County	2000	3.0	2.5	3.6
CA059	Santa Clara County	2001	3.0	2.6	3.4
CA059	Santa Clara County	2002	2.6	1.7	3.4
CA059	Santa Clara County	All	2.8	2.4	3.2
CA063	San Diego Housing Commission	2000	3.9	3.2	4.6
CA063	San Diego Housing Commission	2001	3.6	3.1	4.1
CA063	San Diego Housing Commission	2002	3.6	2.6	4.7
CA063	San Diego Housing Commission	All	3.7	3.3	4.2
CA094	Orange County	2000	3.7	2.8	4.5
CA094	Orange County	2001	2.5	2.0	2.9
CA094	Orange County	2002	3.0	2.1	3.9
CA094	Orange County	All	3.0	2.6	3.5
GA006	Atlanta Housing Authority	2000	5.9	4.9	6.9
GA006	Atlanta Housing Authority	2001	7.4	6.5	8.3
GA006	Atlanta Housing Authority	2002	6.8	6.1	7.5
GA006	Atlanta Housing Authority	All	6.7	6.2	7.2
GA901	Georgia Dept Of Community Affairs	2000	4.6	3.8	5.4
GA901	Georgia Dept Of Community Affairs	2001	4.6	4.2	5.0
GA901	Georgia Dept Of Community Affairs	2002	4.6	4.2	4.9
GA901	Georgia Dept Of Community Affairs	All	4.6	4.3	4.9
IL002	Chicago Housing Authority	2000	5.2	4.4	6.0
IL002	Chicago Housing Authority	2001	5.1	4.3	5.9
IL002	Chicago Housing Authority	2002	5.7	5.1	6.4
IL002	Chicago Housing Authority	All	5.3	4.9	5.8
IL025	Cook County Housing Authority	2000	4.0	3.2	4.7
IL025	Cook County Housing Authority	2001	4.1	3.4	4.8
IL025	Cook County Housing Authority	2002	3.6	3.1	4.1
IL025	Cook County Housing Authority	All	3.9	3.5	4.3
MA002	Boston Housing Authority	2000	6.6	5.3	7.8
MA002	Boston Housing Authority	2001	4.7	3.8	5.5
MA002	Boston Housing Authority	2002	5.8	5.0	6.6
MA002	Boston Housing Authority	All	5.7	5.1	6.2
MA901	Mass Dhcd	2000	4.9	3.9	5.8
MA901	Mass Dhcd	2001	5.3	4.8	5.7
MA901	Mass Dhcd	2002	4.9	4.5	5.3
MA901	Mass Dhcd	All	5.0	4.6	5.4
MD002	Baltimore City Housing Authority	2000	6.4	5.0	7.8
MD002	Baltimore City Housing Authority	2001	7.4	6.5	8.4
MD002	Baltimore City Housing Authority	2002	7.7	7.0	8.5
MD002	Baltimore City Housing Authority	All	7.2	6.6	7.8
MI901	Michigan State	2000	4.1	3.2	4.9
MI901	Michigan State	2001	4.3	4.0	4.6
MI901	Michigan State	2002	4.2	3.8	4.6

MI901	Michigan State	All	4.2	3.9	4.5
NJ912	New Jersey DCA	2000	5.4	4.4	6.4
NJ912	New Jersey DCA	2001	5.1	4.7	5.5
NJ912	New Jersey DCA	2002	5.8	5.1	6.5
NJ912	New Jersey DCA	All	5.4	5.0	5.9
NY005	New York City HA	2000	7.0	5.8	8.3
NY005	New York City HA	2001	7.1	6.3	7.9
NY005	New York City HA	2002	8.5	7.9	9.2
NY005	New York City HA	All	7.6	7.1	8.1
NY110	New York City Dept Of Hsg Preserv. & Dev.	2000	6.3	3.3	9.2
NY110	New York City Dept Of Hsg Preserv. & Dev.	2001	7.3	6.4	8.3
NY110	New York City Dept Of Hsg Preserv. & Dev.	2002	6.9	6.2	7.6
NY110	New York City Dept Of Hsg Preserv. & Dev.	All	6.9	5.9	7.9
NY902	Nys Housing Finance Agency	2000	4.4	3.5	5.2
NY902	Nys Housing Finance Agency	2001	4.1	3.8	4.4
NY902	Nys Housing Finance Agency	2002	4.3	3.6	5.0
NY902	Nys Housing Finance Agency	All	4.2	3.8	4.6
NY903	Nys Housing Finance Agency	2000	3.8	2.6	4.9
NY903	Nys Housing Finance Agency	2001	5.3	4.9	5.7
NY903	Nys Housing Finance Agency	2002	5.5	4.6	6.3
NY903	Nys Housing Finance Agency	All	4.9	4.4	5.3
OK901	Oklahoma Housing Finance Agency	2000	4.7	3.9	5.5
OK901	Oklahoma Housing Finance Agency	2001	4.8	4.4	5.2
OK901	Oklahoma Housing Finance Agency	2002	4.8	4.3	5.3
OK901	Oklahoma Housing Finance Agency	All	4.8	4.4	5.1
PA002	Philadelphia HA	2000	5.9	5.0	6.9
PA002	Philadelphia HA	2001	6.3	5.4	7.3
PA002	Philadelphia HA	All	6.1	5.4	6.8
RQ901	Puerto Rico Dept Of Housing	2000	5.3	4.2	6.4
RQ901	Puerto Rico Dept Of Housing	2001	5.4	4.9	5.9
RQ901	Puerto Rico Dept Of Housing	2002	6.8	5.2	8.4
RQ901	Puerto Rico Dept Of Housing	All	5.8	5.2	6.5
TX005	Houston Housing Authority	2000	6.5	5.4	7.6
TX005	Houston Housing Authority	2001	7.0	6.0	8.0
TX005	Houston Housing Authority	2002	6.9	6.1	7.6
TX005	Houston Housing Authority	All	6.8	6.3	7.3
VA901	Virginia Housing Development Authority	2000	4.2	3.2	5.3
VA901	Virginia Housing Development Authority	2001	4.3	3.9	4.6
VA901	Virginia Housing Development Authority	2002	4.2	3.7	4.7
VA901	Virginia Housing Development Authority	All	4.2	3.8	4.7

* Note: Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-5.3: % of Units with 8 or More HQS Problems, Sample of PHAs with 6000+ Vouchers

PHA Code	PHA Name	Year	% Units w/8+ HQS Problems	Lower Confidence Limit	Upper Confidence Limit
CA002	Los Angeles County	2000	6.7%	0.0%	14.0%
CA002	Los Angeles County	2001	13.3%	9.1%	17.6%

CA002	Los Angeles County	2002	15.9%	6.8%	25.0%
CA002	Los Angeles County	All	12.3%	7.9%	16.8%
CA003	Oakland HA	2000	32.2%	27.0%	37.3%
CA003	Oakland HA	2001	29.1%	24.0%	34.2%
CA003	Oakland HA	2002	25.9%	14.2%	37.7%
CA003	Oakland HA	All	29.1%	24.5%	33.7%
CA004	Los Angeles City	2000	25.9%	22.8%	29.1%
CA004	Los Angeles City	2001	19.8%	14.9%	24.7%
CA004	Los Angeles City	2002	20.3%	10.0%	30.7%
CA004	Los Angeles City	All	22.0%	18.0%	26.1%
CA027	Riverside County	2000	17.3%	12.3%	22.2%
CA027	Riverside County	2001	16.3%	12.1%	20.4%
CA027	Riverside County	2002	10.2%	2.4%	17.9%
CA027	Riverside County	All	14.6%	11.3%	18.0%
CA059	Santa Clara County	2000	10.0%	5.7%	14.3%
CA059	Santa Clara County	2001	12.3%	8.6%	16.1%
CA059	Santa Clara County	2002	6.6%	0.3%	12.8%
CA059	Santa Clara County	All	9.4%	6.4%	12.4%
CA063	San Diego Housing Commission	2000	15.8%	10.8%	20.7%
CA063	San Diego Housing Commission	2001	16.7%	12.5%	21.0%
CA063	San Diego Housing Commission	2002	15.3%	6.0%	24.5%
CA063	San Diego Housing Commission	All	15.9%	12.2%	19.6%
CA094	Orange County	2000	13.5%	6.7%	20.4%
CA094	Orange County	2001	8.1%	4.9%	11.4%
CA094	Orange County	2002	8.2%	1.9%	14.5%
CA094	Orange County	All	9.8%	6.5%	13.1%
GA006	Atlanta Housing Authority	2000	31.0%	22.5%	39.5%
GA006	Atlanta Housing Authority	2001	40.0%	33.6%	46.4%
GA006	Atlanta Housing Authority	2002	35.2%	29.9%	40.5%
GA006	Atlanta Housing Authority	All	35.6%	31.8%	39.4%
GA901	Georgia Dept Of Community Affairs	2000	19.4%	13.7%	25.2%
GA901	Georgia Dept Of Community Affairs	2001	21.4%	18.6%	24.3%
GA901	Georgia Dept Of Community Affairs	2002	20.8%	18.1%	23.5%
GA901	Georgia Dept Of Community Affairs	All	20.6%	18.4%	22.8%
IL002	Chicago Housing Authority	2000	24.4%	18.2%	30.7%
IL002	Chicago Housing Authority	2001	23.8%	18.5%	29.1%
IL002	Chicago Housing Authority	2002	30.3%	25.1%	35.5%
IL002	Chicago Housing Authority	All	26.1%	22.7%	29.4%
IL025	Cook County Housing Authority	2000	19.0%	12.7%	25.4%
IL025	Cook County Housing Authority	2001	16.7%	11.8%	21.7%
IL025	Cook County Housing Authority	2002	14.6%	10.6%	18.5%
IL025	Cook County Housing Authority	All	16.7%	13.8%	19.6%
MA002	Boston Housing Authority	2000	34.9%	25.9%	43.8%
MA002	Boston Housing Authority	2001	20.0%	14.4%	25.6%
MA002	Boston Housing Authority	2002	32.1%	26.0%	38.2%
MA002	Boston Housing Authority	All	29.0%	25.0%	33.0%
MA901	Mass Dhcd	2000	28.2%	19.5%	36.9%
MA901	Mass Dhcd	2001	27.9%	24.6%	31.2%
MA901	Mass Dhcd	2002	24.1%	20.9%	27.3%
MA901	Mass Dhcd	All	26.8%	23.3%	30.2%

MD002	Baltimore City Housing Authority	2000	37.7%	24.6%	50.9%
MD002	Baltimore City Housing Authority	2001	39.7%	33.0%	46.4%
MD002	Baltimore City Housing Authority	2002	40.8%	35.4%	46.3%
MD002	Baltimore City Housing Authority	All	39.4%	34.1%	44.7%
MI901	Michigan State	2000	20.0%	13.0%	27.0%
MI901	Michigan State	2001	20.7%	18.1%	23.2%
MI901	Michigan State	2002	18.4%	15.3%	21.5%
MI901	Michigan State	All	19.6%	17.1%	22.1%
NJ912	New Jersey DCA	2000	27.6%	20.0%	35.2%
NJ912	New Jersey DCA	2001	23.8%	21.1%	26.6%
NJ912	New Jersey DCA	2002	28.2%	23.0%	33.3%
NJ912	New Jersey DCA	All	26.6%	23.4%	29.7%
NY005	New York City HA	2000	36.1%	27.5%	44.8%
NY005	New York City HA	2001	39.1%	33.2%	45.0%
NY005	New York City HA	2002	46.1%	41.7%	50.5%
NY005	New York City HA	All	40.6%	36.9%	44.3%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2000	27.8%	6.5%	49.1%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2001	41.7%	34.4%	49.0%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2002	35.6%	30.0%	41.2%
NY110	New York City Dept Of Hsg Preserv. & Dev.	All	35.3%	28.1%	42.5%
NY902	Nys Housing Finance Agency	2000	17.7%	11.2%	24.2%
NY902	Nys Housing Finance Agency	2001	17.9%	15.3%	20.5%
NY902	Nys Housing Finance Agency	2002	18.8%	13.6%	24.0%
NY902	Nys Housing Finance Agency	All	17.9%	14.8%	21.0%
NY903	Nys Housing Finance Agency	2000	13.2%	5.1%	21.3%
NY903	Nys Housing Finance Agency	2001	25.7%	22.6%	28.8%
NY903	Nys Housing Finance Agency	2002	27.3%	20.9%	33.8%
NY903	Nys Housing Finance Agency	All	22.2%	18.6%	25.8%
OK901	Oklahoma Housing Finance Agency	2000	24.2%	18.0%	30.3%
OK901	Oklahoma Housing Finance Agency	2001	21.5%	18.6%	24.4%
OK901	Oklahoma Housing Finance Agency	2002	22.0%	18.0%	26.1%
OK901	Oklahoma Housing Finance Agency	All	22.6%	19.9%	25.3%
PA002	Philadelphia HA	2000	30.2%	22.6%	37.8%
PA002	Philadelphia HA	2001	30.5%	23.9%	37.0%
PA002	Philadelphia HA	All	30.4%	25.3%	35.4%
RQ901	Puerto Rico Dept Of Housing	2000	30.3%	19.9%	40.6%
RQ901	Puerto Rico Dept Of Housing	2001	23.2%	19.6%	26.8%
RQ901	Puerto Rico Dept Of Housing	2002	32.7%	19.9%	45.5%
RQ901	Puerto Rico Dept Of Housing	All	28.5%	23.0%	34.0%
TX005	Houston Housing Authority	2000	33.3%	25.7%	41.0%
TX005	Houston Housing Authority	2001	36.9%	29.8%	43.9%
TX005	Houston Housing Authority	2002	36.6%	31.3%	41.9%
TX005	Houston Housing Authority	All	35.7%	31.9%	39.5%
VA901	Virginia Housing Development Authority	2000	17.8%	10.4%	25.3%
VA901	Virginia Housing Development Authority	2001	19.4%	16.7%	22.1%
VA901	Virginia Housing Development Authority	2002	20.0%	16.1%	23.9%
VA901	Virginia Housing Development Authority	All	19.0%	15.8%	22.1%

* Note: Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

Appendix C-5.4: % of Units with at Least 1 AHS-Type Defect, Sample of PHAs with 6000+ Vouchers

PHA Code	PHA Name	Year	% Units w/ 1+ AHS-type Defect	Lower Confidence Limit	Upper Confidence Limit
CA002	Los Angeles County	2000	2.2%	0.0%	6.6%
CA002	Los Angeles County	2001	8.3%	4.9%	11.8%
CA002	Los Angeles County	2002	6.3%	0.3%	12.4%
CA002	Los Angeles County	All	5.7%	2.8%	8.6%
CA003	Oakland HA	2000	21.5%	17.0%	26.0%
CA003	Oakland HA	2001	18.4%	14.1%	22.7%
CA003	Oakland HA	2002	16.7%	6.7%	26.7%
CA003	Oakland HA	All	18.9%	14.9%	22.8%
CA004	Los Angeles City	2000	13.7%	11.2%	16.1%
CA004	Los Angeles City	2001	9.1%	5.6%	12.6%
CA004	Los Angeles City	2002	18.6%	8.6%	28.7%
CA004	Los Angeles City	All	13.9%	10.2%	17.6%
CA027	Riverside County	2000	8.6%	5.0%	12.3%
CA027	Riverside County	2001	6.9%	4.1%	9.8%
CA027	Riverside County	2002	5.1%	0.0%	10.7%
CA027	Riverside County	All	6.9%	4.5%	9.3%
CA059	Santa Clara County	2000	5.0%	1.9%	8.1%
CA059	Santa Clara County	2001	4.2%	1.9%	6.5%
CA059	Santa Clara County	2002	6.6%	0.3%	12.8%
CA059	Santa Clara County	All	5.4%	2.7%	8.1%
CA063	San Diego Housing Commission	2000	12.3%	7.8%	16.8%
CA063	San Diego Housing Commission	2001	6.6%	3.8%	9.4%
CA063	San Diego Housing Commission	2002	13.6%	4.8%	22.3%
CA063	San Diego Housing Commission	All	10.9%	7.5%	14.3%
CA094	Orange County	2000	6.3%	1.4%	11.1%
CA094	Orange County	2001	4.1%	1.8%	6.4%
CA094	Orange County	2002	5.5%	0.2%	10.7%
CA094	Orange County	All	5.3%	2.7%	7.8%
GA006	Atlanta Housing Authority	2000	17.7%	10.7%	24.7%
GA006	Atlanta Housing Authority	2001	24.5%	18.9%	30.2%
GA006	Atlanta Housing Authority	2002	21.3%	16.7%	25.8%
GA006	Atlanta Housing Authority	All	21.3%	18.1%	24.6%
GA901	Georgia Dept Of Community Affairs	2000	13.9%	8.9%	18.9%
GA901	Georgia Dept Of Community Affairs	2001	11.9%	9.7%	14.2%

GA901	Georgia Dept Of Community Affairs	2002	11.7%	9.5%	13.9%
GA901	Georgia Dept Of Community Affairs	All	12.4%	10.6%	14.3%
IL002	Chicago Housing Authority	2000	16.7%	11.2%	22.1%
IL002	Chicago Housing Authority	2001	14.3%	10.0%	18.7%
IL002	Chicago Housing Authority	2002	15.5%	11.4%	19.6%
IL002	Chicago Housing Authority	All	15.6%	12.8%	18.4%
IL025	Cook County Housing Authority	2000	11.6%	6.4%	16.7%
IL025	Cook County Housing Authority	2001	12.6%	8.2%	16.9%
IL025	Cook County Housing Authority	2002	7.3%	4.4%	10.2%
IL025	Cook County Housing Authority	All	10.4%	8.0%	12.8%
MA002	Boston Housing Authority	2000	22.9%	15.1%	30.8%
MA002	Boston Housing Authority	2001	12.3%	7.7%	16.9%
MA002	Boston Housing Authority	2002	16.1%	11.2%	20.9%
MA002	Boston Housing Authority	All	17.0%	13.6%	20.4%
MA901	Mass Dhcd	2000	13.6%	7.0%	20.2%
MA901	Mass Dhcd	2001	16.2%	13.5%	18.9%
MA901	Mass Dhcd	2002	12.6%	10.1%	15.1%
MA901	Mass Dhcd	All	14.1%	11.5%	16.8%
MD002	Baltimore City Housing Authority	2000	17.0%	6.8%	27.2%
MD002	Baltimore City Housing Authority	2001	24.1%	18.2%	30.0%
MD002	Baltimore City Housing Authority	2002	28.8%	23.8%	33.7%
MD002	Baltimore City Housing Authority	All	23.3%	19.0%	27.6%
MI901	Michigan State	2000	12.8%	7.0%	18.6%
MI901	Michigan State	2001	12.8%	10.7%	14.9%
MI901	Michigan State	2002	10.4%	8.0%	12.8%
MI901	Michigan State	All	11.9%	9.8%	14.0%
NJ912	New Jersey DCA	2000	13.4%	7.7%	19.2%
NJ912	New Jersey DCA	2001	13.3%	11.1%	15.5%
NJ912	New Jersey DCA	2002	16.5%	12.3%	20.7%
NJ912	New Jersey DCA	All	14.5%	12.0%	16.9%
NY005	New York City HA	2000	23.5%	15.9%	31.2%
NY005	New York City HA	2001	24.1%	18.9%	29.3%
NY005	New York City HA	2002	24.2%	20.5%	28.0%
NY005	New York City HA	All	24.0%	20.7%	27.3%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2000	16.7%	0.0%	34.4%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2001	16.6%	11.1%	22.1%
NY110	New York City Dept Of Hsg Preserv. & Dev.	2002	20.5%	15.8%	25.2%
NY110	New York City Dept Of Hsg Preserv. & Dev.	All	18.0%	12.1%	24.0%
NY902	Nys Housing Finance Agency	2000	13.1%	7.3%	18.9%
NY902	Nys Housing Finance Agency	2001	10.9%	8.8%	13.0%
NY902	Nys Housing Finance Agency	2002	14.9%	10.1%	19.6%
NY902	Nys Housing Finance Agency	All	12.3%	9.6%	15.0%
NY903	Nys Housing Finance Agency	2000	13.2%	5.1%	21.3%
NY903	Nys Housing Finance Agency	2001	12.0%	9.7%	14.3%
NY903	Nys Housing Finance Agency	2002	16.4%	11.1%	21.7%
NY903	Nys Housing Finance Agency	All	13.9%	10.6%	17.2%
OK901	Oklahoma Housing Finance Agency	2000	13.2%	8.3%	18.1%
OK901	Oklahoma Housing Finance Agency	2001	12.0%	9.7%	14.3%
OK901	Oklahoma Housing Finance Agency	2002	12.2%	9.0%	15.4%
OK901	Oklahoma Housing Finance Agency	All	12.5%	10.4%	14.6%

PA002	Philadelphia HA	2000	17.3%	11.0%	23.5%
PA002	Philadelphia HA	2001	19.3%	13.6%	24.9%
PA002	Philadelphia HA	All	18.3%	14.1%	22.5%
RQ901	Puerto Rico Dept Of Housing	2000	9.2%	2.7%	15.7%
RQ901	Puerto Rico Dept Of Housing	2001	11.8%	9.0%	14.6%
RQ901	Puerto Rico Dept Of Housing	2002	19.2%	8.5%	30.0%
RQ901	Puerto Rico Dept Of Housing	All	13.5%	9.3%	17.8%
TX005	Houston Housing Authority	2000	18.1%	11.8%	24.3%
TX005	Houston Housing Authority	2001	23.5%	17.3%	29.6%
TX005	Houston Housing Authority	2002	22.5%	17.9%	27.2%
TX005	Houston Housing Authority	All	21.5%	18.2%	24.7%
VA901	Virginia Housing Development Authority	2000	11.9%	5.6%	18.2%
VA901	Virginia Housing Development Authority	2001	10.9%	8.8%	13.0%
VA901	Virginia Housing Development Authority	2002	12.8%	9.5%	16.1%
VA901	Virginia Housing Development Authority	All	11.8%	9.1%	14.4%

* Note: Individual years were included only if responses for that year were >= 15 and response rate was >= 30%.

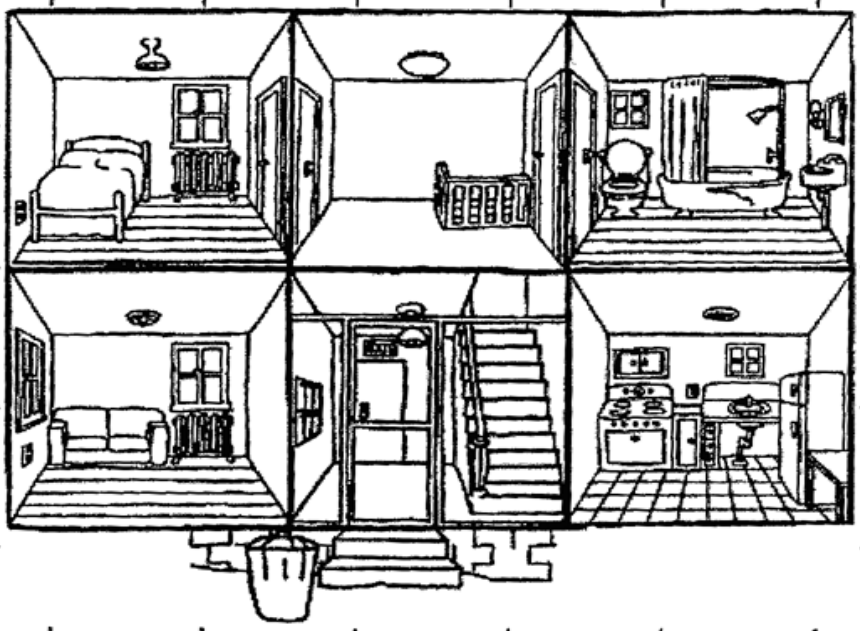
APPENDIX D: SURVEY INSTRUMENT

On the following pages are images of the survey instrument used during the third year of the survey. The instrument used during the first and second year is identical, except two questions were added in the third year and not included in years one and two. These questions asked about transportation options (difficulty traveling by bus to grocery shopping and jobs, and difficulty traveling by car to grocery shopping and jobs).

COMFORT WALLS CEILINGS FLOORS OMB No. 2528-0170 (exp. 12/31/02)

FIRE EXITS LOCKS OVEN DOORS FLOORS CEILINGS WALLS COMFORT

COMFORT WALLS CEILINGS FLOORS DOORS OVEN LOCKS FIRE EXITS



TELL US ABOUT YOUR HOME

US Department of Housing and Urban Development

Your Home - All parts of your home help make it a good place to live. Look around your home, and...

Please mark the bubbles by the word that best describes your home TODAY

This is an automated form. Please take the time to fill in all bubbles like this. ● *Please do not fill in the bubbles like this.* ⊗

Kitchens and Bathrooms			
Do all of the stove burners work?	○ Yes	○ No	
Does your kitchen have a working oven (not toaster ovens)?	○ Yes	○ No	
Does the refrigerator keep food cold enough that it does not spoil?	○ Yes	○ No	
Does the tap water have a problem with color or bad odor?	○ Yes	○ No	○ Sometimes
Is there a working light fixture on the kitchen ceiling or wall?	○ Yes	○ No	
How many working wall outlets are in the kitchen?	○ None	○ 1	○ 2 or more
Is there hot and cold running water at each kitchen and bathroom sink, tub, and shower?	○ Yes	○ No	
Is water leaking today from any kitchen and bathroom sink or drain or pipe?	○ Yes	○ No	
Is any kitchen or bathroom sink, tub, or shower drain clogged?	○ Yes, clogged	○ No, but slow	○ No Problems
Does the bathroom have either a window that opens or a ventilation system that works?	○ Yes	○ No	
Are all toilets working today?	○ Yes	○ No	
In the last three months	○ Did not live here, then go to Electrical		
how many times did your toilets not work for 6 hours or more?	○ None	○ 1-3	○ 4 or more
has any bathroom floor been covered by water because of plumbing problems?	○ Yes	○ No	

Electrical Wiring to Outlets, Switches, and Light Fixtures on Ceilings or Walls			
Is all the building's wiring in your home enclosed in walls or metal coverings?	○ Yes	○ No	
Do all electrical outlets and switches have cover plates?	○ Yes	○ No	
Not counting the bathroom, does each room have at least one working outlet?	○ Yes	○ No	
Do all ceiling and wall mounted light fixtures work?	○ Yes	○ No	○ No Fixtures

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How many times have fuses blown or circuit breakers tripped in the last 3 months?	○ None	○ 1-3	○ 4 or more

Heating and Cooling			
Does the heating system provide enough heat in every room?	○ Yes	○ No	○ Don't Know
In cold weather, do you ever need to use your oven to heat your home?	○ Yes	○ No	○ Sometimes
If your home comes with air conditioning, does it work correctly?	○ Yes	○ No	○ No AC
Can you adjust the heat when it is too hot or too cold?	○ Yes	○ No	○ Partially
Last winter	○ Did not live here, then go to Walls		
how many times did the heating break down for 6 hours or more?	○ None	○ 1-3	○ 4 or more
was your home ever so cold for 24 hours or more, that someone in your home was uncomfortable?	○ Yes	○ No	○ Wasn't Here

Looking at the Walls, Ceilings and Floors		
Are there any holes or large cracks where outdoor air or rain can come in?	○ Yes	○ No
Is there any paint that can be chipped or peeled by finger scraping?	○ Yes	○ No
Is there any area of peeling paint or broken plaster bigger than the size of this page?	○ Yes	○ No
Do you see any walls, ceilings or floors with serious problems like sagging, leaning, buckling or large holes?	○ Yes	○ No
Is there mildew, mold, or water damage on any wall, floor or ceiling?	○ Yes	○ No
Are there any floor problems such as boards, tiles, carpeting or linoleum that are missing, curled, or loose?	○ Yes	○ No
Is there any place where the floor problems can cause you to trip?	○ Yes	○ No

Sanitation and Safety			
Did you see any rats or signs of rats anywhere in your building or outside around the grounds this week?	○ Yes	○ No	
Have you seen many cockroaches in your home this week?	○ Yes	○ No	
In your home, do you smell bad odors such as sewer, natural gas, etc.?	○ Yes	○ No	○ Sometimes

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Travel by **bus** to grocery shopping and jobs

○ Not a problem ○ Some problem ○ Big problem ○ No bus service available to me

Travel by **car** to grocery shopping and jobs

○ Not a problem ○ Some problem ○ Big problem ○ No car

Vacant or run-down homes or stores	○ Not a Problem	○ Some Problem	○ Big Problem	○ Don't Know

How would you rate the neighborhood on a scale of 1 to 10? (1 is worst, 10 is best)	○ 1 Worst	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10 Best

How satisfied are you with each of the following in your home?

Quality of routine repairs and maintenance.	○ Very Satisfied	○ Satisfied	○ Neither	○ Dissatisfied	○ Very Dissatisfied
Landlord's promptness of emergency repairs.	○ Very Satisfied	○ Satisfied	○ Neither	○ Dissatisfied	○ Very Dissatisfied
The landlord, in general.	○ Very Satisfied	○ Satisfied	○ Neither	○ Dissatisfied	○ Very Dissatisfied
Living here, in general.	○ Very Satisfied	○ Satisfied	○ Neither	○ Dissatisfied	○ Very Dissatisfied

How much do you agree or disagree with the following?

The yards, playground, and off-street parking are safe.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree
The landlord is slow to react to complaints.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree

On a scale of 1 to 10, how would you rate your home as a place to live? (1 is worst, 10 is best)	○ 1 Worst	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10 Best

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In your home, are secure handrails on all stairs and landings?	○ Yes	○ No	○ Does Not Apply
Do all outside doors have locks that work?	○ Yes	○ No	
Do all windows have locks that work?	○ Yes	○ No	
Do all bedrooms have a window that can open?	○ Yes	○ No	
Does any window have broken glass that could cut someone?	○ Yes	○ No	
In the last three months, has your mail been stolen or tampered with?	○ Yes	○ No	
Is there a working smoke detector on each floor in your home?	○ Yes	○ No	○ Don't Know
In case of fire do you have at least 2 ways to get out of your home? (Ways include a fire escape, exit door, balcony, window you can crawl through, or stairs from a public hall. For example, two ways might be a door and a window, or two fire exits from a public hall.)	○ Yes	○ No	

Outside of Your Home			
Is the condition of any porch or balcony dangerous?	○ Yes	○ No	○ Does Not Apply
Are there any outside handrails, steps, or stairs that are unsafe?	○ Yes	○ No	○ Does Not Apply
Is any sidewalk, driveway, or parking lot damaged in a way that could cause you to trip?	○ Yes	○ No	
Is there enough light for safety?	○ Yes	○ No	
Are fences or gates in bad repair?	○ Yes	○ No	○ Does Not Apply
Do you see any problems with the roof, such as sagging, holes, or missing roofing?	○ Yes	○ No	○ Can't See Roof
Do you see any walls with serious leaning, buckling, or large holes?	○ Yes	○ No	
Does the garbage service pick up each week?	○ Yes	○ No	
Do you have either covered dumpsters or covered cans for your garbage and trash?	○ Yes	○ No	

Your Neighborhood				
Do you feel that any of the things below is a big problem in your neighborhood?				
Crime or Drugs	○ Not a Problem	○ Some Problem	○ Big Problem	○ Don't Know
Trash or junk on nearby streets, sidewalks, or properties	○ Not a Problem	○ Some Problem	○ Big Problem	○ Don't Know

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Your Housing Agency

Your Housing Agency is the city, county, or state government office that gives Section 8 Vouchers or Certificates to help you pay rent. You speak with them once a year, and maybe more than that if you move or have a problem with your landlord.

People at the Housing Agency are polite.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree
The Housing Agency is quick to react to complaints.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree
The Housing Agency offers useful information when finding a home.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree
It's easy to reach someone at the Housing Agency when I have a question or a problem.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree

Time --- Things can change as time passes.

Have you been here one year or more? ○ Yes, please continue ○ No, Skip to **Apartments**

The condition of the inside and outside of your building	○ Better	○ Same	○ Worse
Landlord's supervision of vacant units	○ Better	○ Same	○ Worse
Landlord's repair of problems	○ Better	○ Same	○ Worse

Apartments

Do you live in an apartment? ○ Yes ○ No, then you are finished Thank You!

How many apartments are in your building?	○ 2-3	○ 4-7	○ 8 or more
Is there a shared laundry room for you and other tenants?	○ Yes	○ Not Working	○ No
Is there a play area for residents of your complex?	○ Yes	○ Not Useable	○ No
Does your building have a working elevator?	○ Yes	○ Not Working	○ No Elevator

I am safe from crime in the halls, stairways, laundry, and elevators.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree
Most tenants here are acceptable as neighbors.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree
The landlord does a good job handling problem tenants.	○ Strongly Disagree	○ Disagree	○ Neither	○ Agree	○ Strongly Agree

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Thank you!

APPENDIX E: COMPARISON OF AMERICAN HOUSING SURVEY TO SECTION 8 SURVEY

Research completed in 2003 by Buron et al. found that compared with the wording used in American Housing Survey (AHS) questions on housing quality, the wording of Section 8 survey questions usually (but not always) captures more housing problems, and therefore would lead to lower measures of housing quality even if housing quality was the same. For a direct comparison to HUD's standard measure of housing adequacy, the Section 8 survey questions would need to be tested in similar circumstances with similar samples to reach definitive conclusions on the direction and magnitude of wording differences on responses.[46]

There are also substantial differences in the Section 8 survey methodology that may lead to differences in responses when comparing results to AHS survey results. For example, the AHS is a long computer-assisted, in-person or telephone interview that covers many topics and has complicated skip patterns. The Section 8 survey is a short, self-administered mail survey that primarily covers issues of housing quality. Unlike the wording differences in questions, Buron et al. indicated that it would not be possible to hypothesize on how these methodological differences might affect responses without testing the same questions using the different methodologies.[47]

Finally, the Section 8 survey has a lower response rate (52 percent) than the AHS (93 percent). This may lead to greater non-response bias on the Section 8 survey. One possibility is that respondents who have issues with their housing are most likely to respond to the survey. If this was the case, the measures of housing quality are biased downward (lower quality) for the Section 8 survey sample relative to the population of voucher recipients as measured in the AHS.[48]

The two most similar questions on the two surveys ask residents to rate their home and neighborhood on a scale of one to ten. Despite substantial differences in survey methods and response rates, voucher household estimates from both surveys are similar. For both questions, mean CSA estimates are slightly higher than estimates for HCV households participating in the AHS. The 2001 AHS mean home rating for HCV households is 7.43, compared to 7.50 for our survey. The HCV mean neighborhood rating is 7.11 for the AHS, and 7.26 for our survey.

Buron et al. also proposed a more comprehensive measure of housing quality than either of the composite measures used in this report. This proposed summary measure made full use of the all the relevant questions from the Section 8 survey and developed more gradations of quality than our two measures. Recognizing that many different measures could have been developed using

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[46] Buron, Larry; Kaul, Bulbul; and Patterson, Rhiannon (2003) *Quality of Housing Choice Voucher Housing, Research Cadre Task Order #4,* Abt Associates, Inc prepared under contract for U.S. Department of Housing and Urban Development, Washington D.C.

[47] Buron op. cit.

[48] Buron op. cit.

the Section 8 survey data, the researchers developed a 10-scale measure, within which the three bottom categories can be grouped as "severely inadequate," the three middle categories as "moderately inadequate," and the four top categories as "adequate or high quality."

To assign housing units to each of these categories, they categorized each of the six dimensions of housing quality topics asked about on the Section 8 survey as having a severe problems, moderate problems, or minimal to no problems. The report provided the criteria for defining severe, moderate, and minimal problems for each of the following housing dimensions: 1) kitchens and bathrooms, 2) electrical, 3) heating system, 4) walls, ceilings, and floors, 5) sanitation and safety, and 6) exterior of unit. The report also indicated how these "problem" measures for the six housing quality topics could be translated into a summary measure of housing quality.

This research found that 22.8 percent of housing voucher recipients fall into the severely inadequate housing category. This means that at least one dimension of their housing had severe problems. In fact, the different tiers within the severely inadequate category indicated that most had at least two dimensions with severe problems.[49]

The summary measure proposed by Buron et al. categorizes more voucher recipients as having severely inadequate housing than either of the definitions presented in this report. Buron et al.'s estimate that 22.8 percent of voucher recipients live in severely inadequate housing was based on data from the first year of the survey. The comparable statistics from Table 2-9 are that between 12.4 and 23.9 percent of voucher participants report conditions that represent severe problems.

[49] Buron et al. noted that as this is the first attempt at a relatively complex summary measure of housing quality from Section 8 survey data, it needs further scrutiny before acceptance as a standard summary measure.