U.S. Department of Housing and Urban Development
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Quality Control for Rental Assistance Subsidies Determinations

Final Report for FY 2004

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Prepared for:

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Executive Summary

The Department of Housing and Urban Development (HUD) Quality Control for Rental Assistance Subsidies Determinations studies provide national estimates of the extent, severity, costs, and sources of rent errors for the Public Housing, Section 8 Housing Choice Voucher, Section 8 project-based, and Section 202 and Section 811 programs with PRAC or PAC tenant subsidies. These so-called "deep subsidy" programs account for nearly all of HUD's current housing assistance outlays administered by the Offices of Housing and Public and Indian Housing, as well as the large majority of units assisted by HUD. This study was designed to measure the extent of administrative error by housing providers. The errors we evaluated in this study affect the rent contributions tenants should have been charged. *The findings presented in this report are a result of data collected from August 2003 through January 2004 for actions taken by public housing authority (PHA) and project staff during FY 2004(October 2003 through September 2004).* These findings show that errors in the Public Housing, Section 8 Housing Choice Voucher, Section 8 project-based, and Section 202 and Section 811 programs with PRAC or PAC tenant subsidies continued to decline compared with results from previous studies.

HUD's rental housing assistance programs are administered on HUD's behalf by third-party program administrators, including PHAs, public and private project owners, and contracted management agents. In the programs examined, eligible tenants are generally required to pay 30 percent of their income toward shelter costs (rent plus utilities), with HUD providing the balance of the rental payment. New program applicants are required to provide certain information on household characteristics, income, assets, and expenses that is used to determine what rent they should pay. Existing tenants are required to recertify this information annually and also, in some circumstances, when there are significant changes in household income or composition. Applicant or tenant failure to correctly report income may result in HUD's over- or underpayment of housing assistance. The failure of the responsible program administrator to correctly interview the tenant or process, calculate, and bill the tenant's rental assistance may also result in HUD's over- or underpayment of housing assistance.

In 2000, HUD began to establish a baseline error measurement to cover the major types of rental housing assistance payment errors: 1) program administrator income and rent determination error, 2) intentional tenant misreporting of income, and 3) errors in program administrator billings for assistance payments. A second study covering (re)certifications conducted in FY 2003 was conducted in 2003/2004. The study referenced in this report covers FY 2004, and is being used to update the 2003 measurement of errors in program administrator income and rent determinations. The tenant data collected for this study were also used to provide the sample and data used for income matching to measure the extent of intentionally unreported tenant income. A methodology for developing baseline estimates for the third error component, billing error, has been developed and tested, but studies with sufficient sample sizes to produce nationally reliable error estimates will not provide results until FY 2005. The balance of this report relates solely to program administrator income and rent determination error.

For purposes of this study, "error" is defined as any rent calculation or eligibility determination that differs from what would have occurred if the PHA or other program administrator had followed all HUD income certification and rent calculation requirements during the most recent

income certification or annual recertification. When appropriate, study findings are compared with findings from the previous study.

Study Assumptions. The extent of the identified error is sensitive to a number of assumptions made in the study. Doubling the error threshold of plus or minus $5 per month, for example, would affect the number of units with errors and modestly affect overall dollar error estimates. Changes in tenant behavior that result in correcting errors are more difficult to estimate. Some tenants with large rent increases resulting from corrected calculations might leave the program. Because those with the largest rent increases usually have above-average corrected incomes and rents, this could minimize or even reverse any potential subsidy savings. And those with decreased rents might be more likely to remain, thereby increasing subsidy requirements. The corrections themselves are desirable outcomes, because they better target limited housing assistance to those most in need of such assistance, but it is unclear what the corrections' net effect will be on subsidy costs. The most appropriate use of this study is as a tool for strengthening HUD's procedures for ensuring administrative compliance with regulations. HUD's objective of providing the right subsidies to the right families is a worthy one that this study can assist in achieving. (Large program outlays are already being made to achieve these objectives.)

A. Methodology

HUD Requirements and Study Standards. Using the *Code of Federal Regulations* and official HUD handbooks and notices, all HUD requirements relevant to the determination of rent were consolidated into a set of HUD requirements. Nationally recognized experts were involved in establishing and reviewing the standards used in this study.

The Sample. A nationally representative sample of 600 projects in the United States and Puerto Rico was selected for this study. These projects were selected from the universe of the three program types covered by the study—

- Public Housing
- PHA-administered Section 8 (Vouchers and Moderate Rehabilitation)
- Owner-administered Section 8, Section 202 PRAC, Section 811 PRAC, Section 202/162 PAC

A random sample of four households was selected for most projects, but more tenants were selected from unusually large projects. The final study data set includes responses from 2,400 households.

The Data Collection Process. The data collection effort included creating and automating more than 30 data collection instruments, contacting and obtaining information from PHA/owner staff, hiring and training more than 60 field interviewers, and selecting the tenant sample. Field interviewers obtained data from tenant files, and interviewed tenants using computer-assisted personal interviewing software developed for this study. The automated data collection process included built-in consistency and edit checks that prompted interviewers to probe inconsistent

and anomalous responses. Collected data were electronically transferred daily to ORC Macro headquarters for review. Requested third-party verifications related to income and expenses were also processed at ORC Macro headquarters.

Calculation of Rent Error. A quality control (QC) rent was calculated for each household in the sample using the information reported by the PHA/project and household. Rent error was calculated by subtracting the QC rent from the actual tenant rent (the rent from HUD Forms 50058 or 50059 that had been calculated by the project staff). A discrepancy of $5 or less between the actual and QC rent was not counted as an error. This $5 differential was used to eliminate rounding differences and minor calculation discrepancies that have little effect on programwide subsidy errors.

B. Major Rent Error Findings

National Rent Error Estimates. The analysis of the 2004 tenant files, tenant interview, and income verification data indicates that—

- 66 percent of all households paid the correct amount of rent within $5 (53 percent paid exactly the right amount)
- 18 percent of all households paid at least $5 less than they should have (with an average error of $72)
- 16 percent of all households paid at least $5 more than they should (with an average error of $37)

Rent Error Estimates Varied by Program Type. The highest rate of underpayment of rent (21 percent) was found in the PHA-administered Section 8 program. The lowest rate of overpayment (14 percent) was found in the Public Housing program. Underpayment of rent was found in 17 percent of Public Housing households and 15 percent of owner-administered households. Overpayment of rent was found in 15 percent of PHA-administered Section 8 households and 18 percent of owner-administered households. The exhibit that follows summarizes this information.

Exhibit ES-1
Frequency of Rent Error by Program Type

Program	Rent Underpayment (Subsidy Overpayment)	Rent Overpayment (Subsidy Underpayment)
Public Housing	17%	14%
PHA-Administered Section 8	21%	15%
Owner-Administered	15%	18%
Total	18%	16%

Dollar Error Effect of Rent Errors. All summary error estimates represent the summation of net case-level errors. That is, a case is determined to have a net overpayment error, no error, or a net underpayment error. Major findings were—

- *Rent Underpayments of Approximately $681 Million Annually (down from $896 in FY 2003).* For tenants who paid less monthly rent than they should pay (18 percent), the average monthly underpayment was $72. For purposes of generalization, total underpayment errors were spread across all households (including those with no error and overpayment error) to produce a programwide average monthly underpayment error of $13 ($156 annually). Multiplying the $156 by the approximately 4.4 million units represented by the study sample results in an overall annual underpayment dollar error of approximately $681 million per year.

- *Rent Overpayments of Approximately $306 Million Annually (down from $519 in FY 2003).* For tenants who paid more monthly rent than they should pay (16 percent), the average monthly overpayment was $37. When this error was spread across all households, it produced an average monthly overpayment of $6 ($70 annually[1]). Multiplying the $70 by the approximately 4.4 million assisted housing units represented by the study sample results in an overall annual overpayment dollar error of approximately $306 million per year.

- *Aggregate Net Rent Error of $375 Million Annually.* When combined, the average *gross* rent error per case is $19 ($13 + $6). Over- and underpayment errors partly offset each other. The *net* overall average monthly rent error is $7 ($13-$6). HUD subsidies for Public Housing and Section 8 programs equal the allowed expense level or payment standard minus the tenant rent, which means that rent errors have a dollar-for-dollar correspondence with subsidy payment errors, except in the Public Housing program in years in which it is not fully funded (in which case errors have slightly less than a dollar-for-dollar effect). The study found that the *net* subsidy cost of the under- and overpayments was approximately $375 million per year ($681 million - $306 million).

Subsidy over- and underpayment dollars are summarized in Exhibit ES-2.

Exhibit ES-2
Subsidy Dollar Error

Type Dollar Error	Subsidy Overpayment	Subsidy Underpayment
Average Monthly Per Tenant Error for Households with Errors	$72 (18% of cases)	$37 (16% of cases)
Average Monthly Per Tenant Error Across All Households	$13	$6
Total Annual Program Errors	$681 million	$306 million
Total Annual Errors—95% Confidence Interval	$574–$789 million	$247–$366 million

[1] The actual average monthly value is $5.84. $5.84 * 12 = $70.

Exhibit ES-3 provides estimates of program administrator error by program type.

Exhibit ES-3
Estimates of Error in Program Administrator Income and Rent Determinations (in $1,000's)

Administration Type	Subsidy Overpayments	Subsidy Underpayments	Net Erroneous Payments	Gross Erroneous Payments
Public Housing	$173,172	$68,904	$104,268	$242,076
PHA-Administered Section 8	$366,492	$154,728	$211,764	$521,220
Total PHA Administered	$539,664	$223,632	$316,032	$763,296
Owner-Administered	$141,708	$82,740	$58,968	$224,448
Total	$681,372 (+/-$107,203)	$306,372 (+/-$59,293)	$375,000 (+/-$113,149)	$987,744 (+/-$131,201)

Comparison with Prior Studies. Two prior studies, the 2000 baseline and the FY 2003 study, estimated erroneous payments attributed to program administrator rent calculation and processing errors, using the same methodology, sampling procedures, and sample sizes as this FY 2004 study. The 2000 "Quality Control for Rental Assistance Subsidies Determinations" study was published as a final report in June 2001. The FY 2003 final report—"Quality Control for Rental Assistance Subsidies Determinations"—was completed in August 2004. The 2004 findings continued to demonstrate significant reductions in erroneous payments attributed to program administrator income and rent determinations. Exhibit ES-4 presents a comparison of the gross erroneous payments from the three studies.

Exhibit ES-4
Comparative 2000, FY 2003, and FY 2004 Gross* Program Administrator Errors

Administration Type	2004 Gross Erroneous Payments (in $1,000's)	2003 Gross Erroneous Payments (in $1,000's)	Percent Reduction in Gross Erroneous Payments from 2003 to 2004	2000 Gross Erroneous Payments (in $1,000's)	Percent Reduction in Gross Erroneous Payments from 2000 to 2004
Public Housing	$242,076	$316,116	23.40%	$602,556	59.80%
PHA-Administered Section 8	$521,220	$730,956	28.70%	$1,906,524	72.70%
Total PHA Administered	$763,292	$1,047,072	27.10%	$1,699,092	55.10%
Owner-Administered	$224,460	$368,796	39.10%	$539,160	58.40%
Total	$987,744 (+/-$131,201)	$1,415,844 (+/-$163,000)	30.20%	$2,238,252 (+/-$275,000)	55.90%

* Gross Rent Error is the sum of the absolute value of positive and negative rent error.

C. Additional Findings

Eligibility of Newly Certified Households. A separate analysis of newly certified households (12 percent of the sample) was conducted to determine if these households were eligible for HUD housing assistance. There were no newly certified households in the sample who were not income-eligible on the basis of the QC income determination. However, 7 percent of the newly certified households failed to document *Social Security numbers* (or certify nonassignment of a number) for one or more family members (at least 6 years of age), and 11 percent lacked the signed *consent forms* needed to authorize verification of income and assets (for each member of the household at least 18 years of age). Six percent also lacked the signed declaration forms or evidence accepted as proof of citizenship.

Overdue Recertifications. HUD requires that every household be recertified annually. Recertifications for 7 percent of the households were overdue. The majority of these households were overdue by 6 months or less.

Occupancy Standards. Ten percent of all households occupied a unit that had more bedrooms than permitted under normal occupancy standards. One percent had fewer than needed bedrooms. As found in the past studies, most of the errors involved one-person households in two-bedroom units. This could not be explained by program rules.

Rent Reasonableness. The Section 8 voucher program requires that program administrators determine that the contract rent for units subsidized in the program must be found to be reasonable relative to the rents charged for comparable program units. About 88 percent of the PHAs in the study used unit-to-unit rent comparison, unit-to-market rent comparisons, or a point system when determining if the rent was reasonable. About 2 percent relied on professional judgment for their rent reasonableness determination. For the remaining 10 percent, there was either no information available, the PHA used some other method of determining rent reasonableness, or the units were subject to rent control.

D. Errors Detected Using Information Obtained From Project Files

Rent errors are often a result of a mix of different types of errors. This study also examined administrative and component errors. For purposes of this study, **procedural errors** are analyzed separately from specific **component errors**. Procedural Errors are errors that result from administrative mistakes. They consist of—

- Consistency errors—errors in logical conformity between elements within the 50058 or 50059 Forms
- Calculation errors—arithmetic errors within subsections of the 50058 or 50059 Forms
- Transcription errors—errors in transferring information from documentation in the tenant file to the 50058 or 50059 Forms
- Failure to conduct a recertification in a timely manner
- Failure to verify information

Component errors are related to the income and expense components used to calculate rent. The income components are employment income, Social Security benefits and pensions, public assistance, other income, and asset income. The expense/allowance components are elderly/disabled allowance, dependent allowance, medical expenses, childcare expenses, and disability expenses. Component errors often occur when project staff do not conduct a thorough tenant interview or do not verify the information obtained during the interview. However, component error may also occur when the tenant supplies incorrect information, either intentionally or unintentionally.

Procedural Errors. The two most common procedural errors are calculation errors and failure to verify information including situations where the information was present and available but underused. The HUD MTCS/PIC and TRACS data systems check the rent calculations on Forms 50058 and 50059. For tenants for whom data are submitted (and corrected if required), these systems virtually eliminate rent determination calculation errors for the items included on the forms. However, not all cases are reported and some cases returned to program sponsors for correction are ignored or are changed in HUD systems but not actually implemented. PIC/TRACS data system matches were attempted for the 2,400 households included in the study. Initial analysis of these data was completed; however, the analysis has not been finalized. Therefore, the findings from the PIC/TRAC analysis have not been included in this report.

Verification Errors. Though there were significant improvements in tenant file documentation and verifications in FY 2003, the percentage of items verified in FY 2004 remained about the same. Income items were verified at least 83 percent of the time. However, the percentage of written third-party verification of income and expenses increased from 2003. Income items were verified with third-party written verification at least 63 percent of the time in 2004 compared with 56 percent of the time in 2003. But failure to use verified income and expense amounts continues to be a problem. Thirty percent of the verified amounts of earned income did not match the amount of earned income reported on the 50058 and 50059 Forms. Failure to use verified income and expense amounts also continues to be highly correlated with other sources of rent determination error such as transcription errors.

Obtaining income verification is often difficult. Even when repeated requests are made, employers sometimes do not respond to requests for verification. Some program sponsors do a much better job than others in achieving third-party compliance with written verification. The QC study shows that it is reasonable to expect all program sponsors to have as high a success rate as the current high performers. The study also shows that there is significant room for improvement in using the verification data obtained, which are often collected consistent with procedures but then filed and never used.

Component Errors. Incorrect income and deduction amounts were by far the most significant sources of error in determining rents. All but 1 percent of households with rent errors had an income or expense component error. Earned income (25 percent), pension income (20 percent), and medical allowances (20 percent) had the greatest error frequencies. The following exhibit shows the frequency of the most serious component errors and the average dollar amount for each type. Errors are ordered by their effect on program subsidy levels, which means that both the error cost per case as well as the frequency of that error type was considered.

Exhibit ES-5
Households in Error:
Rent Components Responsible for the Largest Dollar Error

Rent Component	Percentage of Households	Average Dollar Amount
Earned Income	25%	$4,302
Other Income	12%	$3,368
Pensions	20%	$3,592
Asset Income	3%	$1,181
Public Assistance	8%	$3,029
Child Care Allowance	5%	$1,813
Medical Allowance	20%	$1,077
Dependent Allowance	4%	$505
Disability Allowance	--	--
Elderly/Disabled Allowance	3%	$400
No Rent Component Error	1%	$0
Total	100%	$2,818*

* The sum of the dollars associated with the largest component in error divided by number of households with error.

One effective way of detecting most unreported sources of income and assets is through income matching with State or Federal data systems. HUD has established a system available to all program sponsors that provides information on Social Security benefits. It also matched 2003 QC study data with IRS and Social Security Administration data to determine if there were any significant discrepancies between reported and actual income. It used a $1,000 annual income threshold to screen out additional sources of income that might be a result of timing or definitional differences between how HUD and the IRS count income. (Screening out these cases had a small effect on the total related error estimate.) To minimize the possibility of incorrectly determining that intentional income misreporting occurred, new income sources were screened out unless income from that source was earned in the month before, the month during, and the month after the tenant's income and rent certification date.

The tenants surveyed in the 2003 QC study were asked detailed questions about all sources of income. Any additional, screened and verified sources of income were examined to determine if the additional income found would have affected the computation of the correct HUD rental assistance amount (e.g., rent ceilings might apply that would result in no increase in rent even with a large, unreported source of additional income, or the additional income could be subject to a program regulation exclusion). On the basis of the results of this review, HUD estimated that the amount of assistance overpayments attributed to tenant underreporting of income was between $136 and $145 million. However, assigning a confidence interval to the dollar estimate is difficult. It is unlikely that the true error is less than $20 million or greater than $290 million, but additional years of data or more cases in error are needed to provide a better indication of the

likely true range of estimation error. HUD plans to update its income matching estimates using the current study data.

E. 2000–2004 Progress

In response to the findings and recommendations of the 2000 Assisted Housing Quality Control Study, HUD initiated a series of aggressive actions to address the causes of erroneous assistance payments, including extensive onsite monitoring. While it was unsuccessful in obtaining the statutory changes recommended in the 2000 study's report to simplify the program, HUD took a number of actions—

- A Rental Housing Integrity Improvement Program committee headed by the Office of the Chief Financial Officer with representatives from the other affected Offices was formed to coordinate and monitor corrective actions. The committee meets weekly to review progress status and identify and resolve impediments to progress in reducing errors.

- The Offices of Housing and Public and Indian Housing developed and issued new handbooks and instructional material that detailed all current HUD program requirements and standardized them to the extent possible without regulatory or statutory change. These handbooks cover nearly all aspects of occupancy policy, from the point of tenant application for admission and rent calculations through ongoing occupancy to lease termination. For Public Housing, the issuance of a Public Housing Occupancy Guidebook represented the first such effort in more than 20 years, and provided a defined methodology for calculating a number of complex requirements (e.g., the Earned Income Disallowance).

- The Offices of Housing and Public and Indian Housing substantially increased training efforts, and have held a number of national and regional training sessions. This contrasts with a less activist role in the 1980's and 1990's.

- The Offices of Housing and Public and Indian Housing initiated comprehensive, large-scale, and onsite occupancy and management reviews, which also represented a major procedural change from the previous two decades for most HUD offices—

  - The Office of Housing primarily used new agreements with Contract Administrators, which are usually State agencies, to perform this function. Contract Administrators provide technical support in adhering to HUD program requirements and routinely perform detailed monitoring on agency compliance.

  - The Office of Public and Indian Housing initiated a system of Rental Integrity Monitoring reviews to detect and reduce errors in income and rent calculations at targeted PHAs, reduce rent under- and/or overpayments by residents, and ensure that HUD's limited housing resources were being used to serve eligible families in a fair and equitable manner as intended by Congress.

- HUD initiated a legislative change that gives it access to the Department of Health and Human Services' New Hires income and wage database for income matching purposes.

It will use these data to compare tenant-reported income with State wage data to better ensure that the right subsidy payments are made to the right households in accordance with program statutory and regulatory requirements. This legislation was passed in late 2003 and requires implementing agreements and data systems that should be in place in 2005. HUD also negotiated agreements with some States to obtain access to the same information. Some local agencies have already initiated income-matching systems, and it seems that this has made some contribution to error reductions.

The HUD's performance goals, which were developed in consultation with the Office of Management and Budget, call for reducing the 2000 benchmark assisted housing error levels by 50 percent by the end of 2005. The study of program administrator error for FY 2004 shows that HUD exceeded its interim 2004 goal of a 30 percent reduction in that component of error. It should be noted, however, that the reduction of errors and improper payments is unlikely to have an equivalent effect on budget outlays. HUD's experience indicates that its program integrity improvement efforts are likely to result in some higher income tenants leaving assisted housing and being replaced with lower income tenants requiring increased outlays. Nevertheless, HUD's goal remains to ensure that the right benefits go to the right people.

F. Recommendations

The progress made to date, even with the most conservative statistical assumptions, is impressive. The study findings for FY 2004 continue to show substantial improvement in the quality of documentation and a reduction in the number of rent calculation errors.

On the basis of the current study's results, the following approaches to further reducing program administrator income and rent determination error rates are recommended:

- HUD should continue its plans to implement use of the Department of Health and Human Service's New Hires income matching database as quickly as possible

- HUD should continue expanding support of the occupancy function and consider conducting an outreach campaign to PHAs and owners informing them of HUD's occupancy-related resources

- HUD should provide PHAs and owners with the forms, training, and other tools required to determine rent correctly

- HUD should continue to implement its onsite monitoring program, and PHAs and owners should be held accountable for implementing HUD regulations and calculating rent accurately

- Federal laws, regulations, and HUD requirements should be simplified to the extent possible.

Recommendations for Modifying the Quality Control Process. The current QC study methodology is developed on the basis of the successes and failures of previous studies, and is generally performed well. Some minor changes in the next study appear desirable. These

include continued expansion of computer systems and processes to further automate data collection, processing, and reporting functions; expanding contractor access to verification obtained through inter-agency agreements; and continued investigation of the use of TRACS/PIC data to streamline the sampling and data collection process.

I. Introduction

A. Purpose of the Quality Control for Rental Assistance Subsidies Determinations Study

The purpose of this study is to provide national estimates of rent subsidy errors for the U.S. Department of Housing and Urban Development's (HUD's) Public Housing Agencies (PHAs) and owner-administered housing programs. Rent subsidy errors occur during the tenant certification and annual recertification processes, and this study examines the extent, costs, and sources of these subsidy errors.[1] For the purpose of this study, "error" is defined as any rent calculation or eligibility determination that differs from what would have occurred if the PHA/owner had followed all of HUD's income certification and rent calculation requirements during the most recent (re)certification. This study focuses on (re)certifications conducted during FY 2004. HUD identified 14 study objectives related to types of errors and cost issues; this report addresses each of these objectives. The analysis also identifies errors in assigning appropriate size units to households and certain procedural errors in the eligibility and rent determination process. A special analysis was conducted of Utility Allowances and for Payment Standards used by the PHAs administering the voucher programs selected for this study.

B. Background of the Study

This study is the fourth in a series of studies designed to identify current HUD eligibility, income, and rent determination regulations, translate these regulations into survey instruments, develop an error detection system, and provide nationally representative estimates of rent subsidy errors. The results of previous studies were published as follows:

- The final report for the first study, conducted by Macro International Inc., an Opinion Research Corporation company (ORC Macro), and KRA Corporation (KRA) was published in April 1996 (data were collected in 1992).

- The final report for the second study, conducted by ORC Macro, was published in June 2001 (data were collected in 2000).

- The final report for the third study, also conducted by ORC Macro and which covered the first half of FY 2003, was published in April 2004. Following the collection of data for the second half of FY 2003 a follow-up report was written and published in August 2004.

Work on the current project began in October 2003. Tasks completed before data collection included designing the research and survey methodology, compiling HUD's regulations for the programs included in the study (public housing, Section 8 tenant-based, Section 8, Section 202 PRAC, Section 811 PRAC, and Section 202/162 PAC project-based), and automating the data collection process. Data were collected from a nationally representative sample of HUD-assisted

[1] PHAs and owners of HUD-assisted housing are required to make an initial determination of eligibility (a "certification") and thereafter an annual recertification of each household's rent (a "recertification"). In this report, the term (re)certification refers to certifications and annual recertifications. Interim recertifications were not included in this study.

housing projects and project residents whose (re)certifications were conducted from November 2003 through October 2004.

C. Organization of This Report

This report is organized as follows:

- Section I: Introduction
- Section II: Methodology
- Section III: Study Objectives and Analytic Methods
- Section IV: Findings
- Section V: Recommendations
- Appendices
  - A. Rent Calculations
  - B. Weighting Procedures
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  - D. Consistency and Calculation Errors
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Definitions of key terms used throughout this report are found at the end of Section V.

II. Methodology

A. HUD Requirements and Study Standards

Using the *Code of Federal Regulations* and official HUD handbooks and notices, all HUD rules relevant to the determination of rent was consolidated into a set of HUD requirements. These requirements were used to create a uniform set of rules that could identify errors in eligibility determination, rent calculation, and unit assignment for the housing programs in the study. In general this uniform set of rules, known as the standards, follows the official HUD requirements. However, for some complex requirements, standardized procedures had to be developed so the data could be collected in a uniform manner. A complete list of standards used in this study can be found in the *Data Collection Standards.*[1]

B. The Sample

The initial sampling design called for a nationally representative sample of 600 projects with four households randomly selected from each project, or 2,400 households. Projects were selected with probabilities proportional to size (PPS), but projects whose size exceeded the sampling interval were selected for eight, twelve, or more households in the project, and were counted as more than one project for purposes of determining the sample size. Public Housing and owner-administered projects were selected without replacement. Voucher/Rehabs were selected with minimal replacement (i.e., relatively large projects could be selected more than once). Because some large projects were selected multiple times, the study sample included 514 distinct projects in 58 geographic areas across the United States and Puerto Rico.

The sampling design required approximately equal allocations for the three assisted program types: Public Housing, PHA-administered Section 8 (Vouchers and Moderate Rehabilitation), and owner-administered Section 8, Section 202 PRAC/PAC, and Section 811 PRAC/PAC. PHAs that participated in the Move to Work block grant demonstration program through Public Housing or Section 8 Vouchers were removed from the project-level sample. For additional information on the sampling procedures, see the *Sampling Report, 2004 Quality Control for Rental Assistance Subsidies Study.*[2]

A random sample of four households was selected from most projects. An equal number of potential "replacement" households were identified as potential substitutes when selected households did not meet the study requirements or were unavailable to be interviewed. However, as noted above, some large projects had additional households. For example, the New York City Housing Authority Section 8 Voucher program had a household sample size of 40.

The tenant sample was selected from all households that were certified or recertified in FY 2004. The year of the effective date was not considered when selecting the sample to capture on-time as well as overdue annual recertifications.

The final data set includes responses from 2,400 households in the 514 projects.

[1] ORC Macro unpublished report to HUD dated January 16, 2003.

[2] ORC Macro unpublished report to HUD dated April 1, 2005.

C. Data Collection

This study used a multi-stage data collection process to obtain all required information. Mail surveys provided project-level information from PHA/project staff. Tenant-level information was obtained by field interviewers who abstracted data from the household file, interviewed the tenant, and requested verification for income, expense, and household composition items from third parties.[3] Tenant income, expense, allowance, and third-party verification information were collected using HUD-sanctioned data collection procedures. ORC Macro data collectors strictly adhered to these procedures to avoid misclassifying errors caused by PHAs/projects that did not follow HUD requirements.

The initial collection of project level data began in May 2004. Field data collection began in August 2004 and ended in January 2004. Because PHAs/projects have varying practices, data collection forms and guidelines for data collection were designed to be flexible enough to obtain data from circumstances as found in the PHA/project. The major tasks accomplished during data collection and the forms used to accomplish them are discussed below.

Creating the Data Collection Instruments. More than 30 data collection forms were used for this study to collect data on both the project and tenant levels. These forms were similar to those used for the 2000 and 2003 data collection efforts, though modifications were made to all forms to improve the data collection process. Project-level forms were developed to gather information to facilitate data collection, collect data elements necessary to calculate Quality Control (QC) rent, and gather information about certification and recertification practices. The tenant-level data collection forms were created to collect data and determine whether: 1) there were errors in the eligibility determination, 2) the household rent was calculated correctly, and 3) units were correctly assigned according to the study standards. Each form was created by a survey research specialist and reviewed by a HUD policy expert. The Office of Management and Budget approved all data collection forms.

Automating the Data Collection Process. This study used an enhanced version of the data collection system used in previous studies. While project-level data was collected on paper and the data entered upon receipt at ORC Macro, data from tenant files were entered directly into laptop computers, and a computer-assisted personal interviewing (CAPI) system was used to interview tenants. This system, referred to as the HUDQC Data Collection Software (HDCS) system, was developed by a special team of ORC Macro survey specialists and computer systems experts.[4] As sections of the instruments were collected by field interviewers, the HDCS system compared the data with a range of acceptable responses and data previously entered, allowing data entry errors to be corrected in the field. The system required that the data be collected in the correct order, and that all the appropriate skip patterns be followed. The automated system also alerted the field interviewer if key pieces of information used to calculate rent were missing and needed to be located and documented. This structured, automated process

[3] Verification is a process of obtaining information about income or expenses from a third party who can attest to the accuracy of the information provided by the household. HUD requires that most information provided by the household be verified by a third party or substantiated from documents (e.g., award letters).

[4] The base of HDCS is the CSPRO software system used to collect demographic and health information in many countries, in conjunction with the U.S. Agency for International Development.

greatly reduced the need to edit, code, and clean the data after data collection was completed. HDCS data were transferred to ORC Macro electronically on a daily basis.

Contacting the PHA/Project. PHA/project contact names were obtained from HUD headquarters staff. Letters were sent to PHA/project staff advising them of the study and requesting their participation. Prior to field interviewer training and data collection, each project in the study was sent a form requesting background information essential to the data collection process and specific data used in the calculation of QC rent. The rent calculation information requested varied by program but included such items as passbook rate, utility allowance schedules, payment standards, minimum rent, gross rent, contract rent, and flat rent. PHA/project staff verified the project type and size, and the location of project offices and files. Projects were also requested to indicate if the selected project had been designated a "special demonstration project" by HUD. If a project answered in the affirmative to this question, the status was confirmed and the project was replaced in the study. Public Housing projects were also requested to identify any income exclusions that had been adopted in addition to those specified by HUD. The data requested from the PHA/project were essential in preparation for interviewers to begin the process of collecting data and for the calculation of the QC rent. For these reasons, a 100 percent response rate to our request for information was necessary. Rigorous strategies were employed to ensure compliance and completeness of requested information prior to field data collection.

After data collection in the field had begun, a second mail survey was sent to a PHA/project staff person knowledgeable about certification and recertification procedures. This survey requested information about local policies and procedures that might help explain the rent error findings. Questions included staff training practices, verification procedures, workload of staff who conduct certifications and recertifications, and quality control practices used to review the work of this staff.

Hiring and Training Field Interviewers. More than 65 field interviewers were hired to complete the field data collection. Each field interviewer was assigned a group of projects. Field interviewers typically lived in the same general area as the projects selected for the study. Nine-day training sessions were held for 41 field interviewers who had not worked in the 2003 study, and one four-day training was conducted for 25 interviewers who had completed the most recent effort in the 2003 study. The nine-day training covered:

- Project background
- HUD programs and requirements
- Survey procedures
- Automated data collection
- Administrative procedures

The four-day training covered a review of the background and procedures and focused particularly on changes implemented for the 2004 study.

Abstracting from Tenant Files. **A**t certification and recertification, PHAs/projects must complete a HUD Form 50058 for each household in public housing, moderate rehabilitation, and voucher programs at certification and recertification. A HUD Form 50059 is required for all other programs in the study. Data from the HUD Forms 50058/50059 (50058/50059 Form) were entered directly into the HUD Data Collection Software (HDCS) on each field interviewer's laptop computer. HDCS was designed to collect data from the most current versions of these forms. However, for just under 10 percent of tenants in the study, a different version of the 50058/50059 Form was used by PHA staff, including all of the tenants in the largest PHA in the study. ORC Macro has developed a process for crosswalking data from nonconforming formats to the HDCS system format to ensure that all data elements are recorded consistently. As the data were entered, the system identified potential data entry errors, such as incorrect codes or numbers, on the basis of internal calculations and consistency checks. If key data used in the rent calculation formula were missing from the 50058/50059 Form, the system alerted the interviewer and the interviewer obtained the information from another document in the file or project office. These electronic checking procedures enabled field interviewers to make immediate corrections and updates.

In addition to the data collected from the 50058/50059 Form, field interviewers collected data from the tenant files to document the determination of tenant eligibility and the calculation of rent. A series of Documentation Forms (D Forms) were created for this purpose. The D Form data was entered directly into the HDCS system. The D Form module also collected information indicating whether the income, asset, household composition, or expense used by the PHA/owner was verified. HDCS compared data from the 50058/50059 Form with that entered into the D Form module and alerted the field interviewer to possible data entry errors so that data could be reviewed and any necessary corrections made immediately, while the file documents were easily accessible.

Interviewing Tenants. An adult household member (preferably the head of the household) was interviewed in person using CAPI for this study. Interview questions focused on family composition, sources and amounts of income, assets, and applicable expenses. Data were collected for the same point in time as when the (re)certification was conducted. HDCS compared data from the 50058/50059 Form with that entered during the interview to alert the interviewer to possible errors.

Requesting Verification from Third-Party Sources. When there was no evidence in the tenant file that the PHA/owner verified the information used for calculating rent, or the existing verification information did not meet requirements agreed to for this study,[5] ORC Macro requested verification from the appropriate third-party sources. Verification was also requested from third parties when household interviews resulted in the identification of sources of income that were not shown in the tenant files. Tenants signed release forms during the household interview to obtain third-party verification of income and expenses. Third-parties completed the forms and returned them to ORC Macro.

[5] For purposes of this study, verification was acceptable if it was in writing, received from the third party, and dated 60 days before or 30 days after the (re)certification was completed.

Matching Social Security Data. Sample household members were matched with Social Security Administration (SSA) files by HUD. Using the output from this match, the Social Security and SSI benefit, and Medicare premium data for all household members were identified. These data were considered third-party verification during the final QC rent determination.

D. Field Data Collection Time Periods

Data were collected in the field between August 2004 and January 2005 for the most recent certification or annual recertification that occurred during FY 2004 (November 2003 through October 2004). Field interviewers collected data related to actions that may have occurred up to 12 months prior to the file abstraction and household interview. One of the challenges of collecting data to document actions taken in the past is developing methodologies to ensure data is collected for the situation that existed at the selected point in time. For the respondent in the household interview, recalling details of life situations at a past point in time presents difficulties. This may be complicated by the fact that some respondents in this population may have unstable situations resulting from inconsistent income or changing numbers of household members. In light of this, strategies were developed to ensure consistent and accurate collection of data across program types, projects, and households in the study. Two of the strategies developed that were of primary importance to the data collection are described in this section.

Quality Control Month. The month for which data were collected is referred to as the Quality Control Month (QCM). This month represents the date the rent calculation for the most recent certifications or annual recertification was completed. For most households in the owner-administered program, the QCM is the month in which the project manager (or other authorized housing project staff member) signed the 50059 Form, certifying that the information contained on the form was correct. The rent calculation date on the 50058 Form was the "date modified" printed on the form. If these pieces of information were not available on the 50058/50059 Form, the data collector used other documentation in the tenant file to determine when the action was taken.

After the QCM was established, the data from the 50058/50059 Form corresponding to the QCM was entered into HDCS. The data from the documents used by the project staff to verify information on the 50058/50059 Form in the QCM were also entered in a separate HDCS module. The household interview was conducted with frequent reminders to the respondent that questions were being asked as of the QCM.

Note: The QCM is always within 12 months of the date that the interviewer is abstracting data. If the recertification was overdue by more than 12 months, the QCM was moved forward in 12-month intervals to a point in time within 12 months of the date on which the data were collected. In this situation, during the household interview, the respondent was questioned about circumstances for the month in which the recertification would have been completed had the housing project staff completed it on time. In rare situations, when the rent was calculated after the effective date of the action (because of retroactive adjustments) the QCM is the earlier of the two dates—the rent calculation or the effective date of the action.

Third-Party Verification Rules. Occasionally the verification found in the file for household composition, income, asset, and expense items were different than that required by HUD. In

addition, files were likely to contain verification documents other than those intended to support the (re)certification corresponding to the QCM. To ensure that the data from the right documents (those that had been gathered to verify the information on the 50058/50059 Form being reviewed) were entered in to HDCS, and to apply rules fairly and consistently across all households in the study, a set of rules defining acceptable verification were developed. For purposes of this study, verification was considered acceptable if it was *in writing, was received from a third party, and was dated 60 days before or 30 days after the date the (re)certification was completed*. Field interviewers were given detailed instructions on the various types of documents they were likely to find in the file and how to classify them. The date and type of verification for each household, income, and expense item was entered in to HDCS during file abstraction. The HDCS system informed the interviewer if any items did not meet the verification requirements or the study. For the items that did not meet the requirements, the field interviewer requested written verification from the appropriate third party.

E. Constructing the Analysis Files

The initial database consisted of five separate files that included abstracted 50058 and 50059 Forms, tenant file information from the D Form module, information from the household interview, and the third-party release forms. Data fields were at both the member and household levels, with income and expense items in hourly, weekly, monthly, or annual amounts. ORC Macro constructed an analysis file that annualized all income and expense data at the household level. For some items, such as stable income from Social Security, this calculation was relatively easy. For other items, such as seasonal employment or medical expenses, annualizing income or deductions was more complicated. A unique linking variable was created to compare information abstracted from the 50058/50059 Form and other file documentation with information obtained in the household interview and received from third-party verification. This variable specifically identified the income/asset/expense and household member to which it belonged.

For the calculation of rent error, the final analysis files contained income and expense/allowance data aggregated at the household level in annual amounts. Rent data were in monthly amounts. Separate files were created for the analysis of issues such as verification, internal 50058/50059 Form errors, and occupancy standards.

F. Rent Formulae

HUD uses specific formulae for determining tenant rents for each of its programs. The formula for determining the Total Tenant Payment (TTP) is the same for all programs except Sections 202 PRAC, 811 PRAC, and 202/162 PAC. The TTP is the greater of:

1) 30 percent of a household's adjusted monthly income, which is one-twelfth of the total of all household members' earned and unearned income (other than those amounts specifically excluded by HUD or PHA policy), less allowances for elderly/disabled households and for household dependents, and deductions for disability, medical, and child care expenses.

2) 10 percent of a household's gross monthly income with no allowances or expense deductions.

3) The welfare rent in as-paid states (New York was the only as-paid state in this study).

4) The minimum rent ($25 for owner-administered projects, or an amount established by the PHA, not to exceed $50).

The formula for determining the TTP for the Sections 202 PRAC, 811 PRAC, and 202/162 PAC programs includes steps (1) through (3) above, but there is no minimum rent requirement for these programs.

There are five different rent calculations used to calculate the actual amount of the household's rent (depending on the program type and the household-specific situation) for the programs included in this study. These five rent calculations include:

- Public Housing
- Section 8 Vouchers
- Section 8 Enhanced Vouchers (there were no Enhanced Voucher households in the study)
- Section 8 Project-Based (including Moderate Rehabilitation), Sections 202 PRAC, 811 PRAC, and Section 202/162 PAC
- Manufactured Home Space Rental for Section 8 Vouchers (there were two households in the study that met this criteria)

The household rent was calculated after data from all sources were collected. When calculating rent, a cap was placed on the maximum amount of rent the tenant was required to pay. For all Section 8 programs, this is the *Gross Rent*. In the Public Housing program, this is the *Flat Rent*. If the Flat Rent was not available, the *Fair Market Rent* for the appropriate county was used to cap the rent. The rent is not capped for the Section 202 PRAC or Section 811 PRAC programs.

Additional rent calculations were necessary for households with ineligible noncitizens. Determining the correct rent for these households is a multi-part process that first determines whether the household is entitled to continued assistance, temporary deferral of termination of assistance, and prorating the rent if appropriate. Two proration formulae were used—one for Public Housing and one for all Section 8 programs.

The algorithms for the rent calculation formulae can be found in Appendix A.

G. Calculation of Rent Error

The monthly rent algorithms used by ORC Macro to calculate the national estimates of error are the following:

- **Actual Rent:** The monthly rent indicated on the 50058/50059 Form. If this item was missing on the 50058/50059 Form, the Actual Rent was taken from another official document in the file.[6]

- **Quality Control Rent:** The monthly rent calculated by ORC Macro using all of the verified household information.[7]

Rent error was calculated by subtracting the QC Rent from the Actual Rent. A discrepancy of $5 or less between the monthly Actual and QC Rent was not considered to be an error. The $5 window was used to allow for minor calculation and rounding errors, and to focus the data analysis on major sources of error. For an exploratory analysis, a rent calculated solely on the information contained on the 50058/50059 Form was used to determine if errors could be identified using only information contained on the 50058/50059 Form.

H. Quality Control Rent

ORC Macro calculated QC Rents using the best available information. Every effort was made to use data that would have been available to the PHA/project when determining which data to use in the QC rent calculation. Each income and expense item was processed individually. For each item, ORC Macro first used available verification from the project files. If acceptable verification was not available from the tenant file, verification was requested from an appropriate third party (see Section II-D for a discussion of acceptable verification). If the verification was not returned by the third party and the tenant file did not include verification, information obtained during the household interview was used. The following special procedures were followed when calculating the QC Rent as appropriate:

- Income that started after the QCM was not counted when calculating the QC Rent.

- Income that ended after the QCM was counted for the full year unless it was clear that the PHA/owner knew that this income was going to end.

- Earned income bonuses were not counted.

- Temporary Assistance to Needy Families (TANF) and Other Welfare income were treated as the same source of income so that income listed as TANF on one form (e.g., the household questionnaire), and Other Welfare on another form (e.g., the D Forms) would not be counted twice.

- Welfare (TANF and Other Welfare) income, Child Support income, and Child Care expenses were treated at the household level instead of the member level so that the same source of income associated with one member (e.g., the head of household) on one form, but another member (e.g., a child) on another form would not be counted twice.

[6] Rent Roll data was not used as a substitute for Actual Rent because a previous study found that the Rent Roll sometimes included amounts to make up for previous unpaid rent, fines, or damages, etc.

[7] Attempts were made to verify items that were not verified by PHA/owner staff; however, verification was not always obtained.

- Passbook rates (for determining the imputed income from assets) for PHA-administered programs were taken from the project-level information provided by PHA/owner staff. The passbook rate for owner-administered programs is 2 percent.

- For new certifications, the low and very low-income limits were obtained from HUD's Web site.

- When determining the prorated rent for Public Housing households with ineligible noncitizens, if the Maximum Rent was not present on the 50058 Form, the Fair Market Rent (FMR) was used instead of the 95th percentile of Gross Rent because the 95th percentile of Gross Rent was not available.

- The values from the 50058 Form were used for Minimum Rent, Gross Rent, Payment Standard, and Flat Rent unless the value was missing, in which case the missing value was taken from the PHA/project-level information provided by PHA staff.

- The values from the 50059 Form were used for Gross Rent and Contract Rent unless the value was missing, in which case the missing value was taken from the project-level information provided by owner staff

- Welfare rent for the State of New York was taken from the Project-level information provided by PHA staff.

I. HUD Requirements Affecting the Analysis

Several HUD requirements affected the data collection methodology and subsequent analysis. As noted in Section II-A above, relevant HUD requirements were incorporated in the study standards used to determine error. All data collection procedures and analyses were developed on the basis of these study standards. Though most standards were easily implemented, several were more problematic and they complicated the data collection or analysis, as discussed below.

Anticipated Income. The amount of rent a household will pay is determined on the basis of *anticipated* household income and deductions for the 12 months following (re)certification. For households with a stable income source like Social Security or steady employment, annual income estimates for the next 12 months are relatively accurate. However, many assisted households have members with seasonal employment or members who move in and out of the household. Also, certain expenses such as medical expenses (for elderly/disabled households) and childcare costs may be very difficult to anticipate. Determining whether such income and expense amounts were figured correctly at the time of recertification is very difficult when data are collected after the changes occurred. Every effort was made to treat questionable income or expenses in the same manner as PHA/project staff treated them. Several of the special procedures described in Section II-H were created for this purpose.

Third-Party Verification. HUD regulations require that the information supplied by residents at (re)certification be verified by third parties (e.g., employers, the Social Security Administration, banks, medical personnel). Data collectors obtained release forms from the households when evidence of verification was not present in the tenant's file and they then

requested verification from the appropriate third parties. However, some third parties did not respond, others returned information for incorrect time periods, others required payment for the information requested, and other problems were encountered in obtaining the correct verification. Follow-up requests for missing verification were not made in all cases due to time constraints. In calculating the rents, codes were assigned to indicate which rents were based on verified information and those for which the income/expense information was only partially or not verified.

ORC Macro and HUD established a set of verification rules to determine whether an item was verified. Section II-D shows the rules used to determine if verification was acceptable and for each matched item used in the rent calculation. Verification rates for different rent components are in Tables 1a–1d (in Appendix C) and Exhibit IV-1 in Section IV-B.

Earned Income Disregard. The regulations governing the Public Housing and voucher programs require PHAs to exclude a portion of earned income for households meeting certain "self-sufficiency" eligibility criteria. Only participants in these programs—not applicants entering the programs—are eligible for this income exclusion.

To identify households eligible for the self-sufficiency exclusion, tenants were asked about training and self-sufficiency programs during the household interview. Twenty-six household members were identified as possibly being entitled to an earned income exclusion. Three of these household members were removed from this list because either their job start date did not meet the policy requirements, or their entitlement to the exclusion expired. This left 23 household members who appeared to qualify for the earned income exclusion.

For these household members, we examined the tenant file information on the 50058 and the D Forms. We compared the QC calculated earned income exclusion (using the household questionnaire information) with the earned income used by the PHA when calculating the total annual income. We did not verify that the wage earners, who appeared to qualify for the earned income exclusion, were actually eligible, nor did we verify the amount of income the wage earner received prior to obtaining employment or receiving pay increases.

Of the 23 household members who, according to the QC data, were entitled to a self-sufficiency exclusion, it appeared that the PHA gave an exclusion in 12 of the cases (50%). In the remaining 11 cases, it appeared that the PHA did not give an earned income exclusion.

After considering this information, we realized that we did not have enough information on all the cases involved to say with certainty that the PHA applied the earned income disregard correctly (or incorrectly). Therefore, *we did not apply the earned income disregard unless the PHA also applied the disregard.* If the PHA excluded earned income, we also excluded income using the amount of the exclusion as calculated by our policy expert. If the PHA did not exclude earned income, the QC rent calculation does not reflect an earned income exclusion.

It should be noted that the policy related to the earned income disregard is very complex. It requires the PHA staff to keep and verify a historical record of household member's employment and participation in self-sufficiency incentive programs. The policy is hard to follow and subject

to interpretation by the staff involved. This makes reviewing and determining whether the policy has been followed correctly extremely difficult.

Training Programs. The regulations governing all housing programs included in this study require PHA/owners to exclude all amounts received under training programs funded by HUD, and the incremental earnings and benefits resulting to any family member from participation in qualifying State or local employment training programs.

To identify households eligible for the training program exclusions, the field interviewers documented training program information found in the tenant file and provided during the tenant interview. Twenty-five individual household members from 23 families claimed to have been enrolled in training programs. Only one of the 25 household members who had claimed to be enrolled in a training program was clearly entitled to an income exclusion. Twelve household members did not meet the requirements for the training exclusion. For the remaining 12 household members we did not have enough information to determine if the household was entitled to an exclusion. Therefore, we duplicated the exclusions allowed by the PHA/project. Of the 12, 9 household members were not given a training income exclusion and three household members were given an exclusion of the same value allowed by the PHA/project.

Permissible Deductions. Public Housing programs may adopt deductions from annual income in addition to HUD's required deductions. To make sure that the appropriate additional permissible deductions were taken into consideration when determining the adjusted annual income, we looked at two sources. First, we looked at items 8b through 8e on the 50058 Form where the type and amount of permissible deductions were recorded. Second, we asked a question in the Project Staff Questionnaire to identify additional exclusions adopted by the Public Housing PHAs. We found that many PHAs use the Permissible Deduction section (items 8b through 8e) of the 50058 Form to record all kinds of information that have nothing to do with permissible deductions. Therefore, we had to rely on the Project Staff Questionnaire information to determine whether the items listed on the 50058 Form were in fact additional permissible deductions. On the basis of the information obtained through the Project Staff Questionnaires and the 50058 Forms, only four households representing two PHAs were entitled to permissible deductions—two for medical expenses for households with full-time employment, and two for 20 percent of earned income. The permissible deduction applied for QC purposes was exactly the same as the permissible deduction allowed by the PHA.

Flat Rent. Households that paid a flat rent rather than an income-based rent were included in the study. For these households there is no rent error. The QC rent is the same as the Flat Rent used by the PHA. There are 56 flat rent cases in the study sample. It should be noted that determining if a household is paying the flat rent is not always easy because of contradicting data within the 50058 Form. For most cases, items 2a-Flat Rent Annual Update, and 10u-Type of Rent Selected could be used to identify whether the household is paying the flat rent instead of income-based rent. However, if these two items contradicted one another, notations from other documents in the file were taken into consideration.

Ineligible Noncitizens. HUD regulations require that rent be prorated for households with ineligible noncitizens unless the household meets certain criteria that allow continuation of full assistance. ORC Macro reviewed all households with ineligible noncitizens to ensure that the

rent was calculated correctly. No households with ineligible noncitizens were entitled to continuation of full assistance. Less than one percent of the households in the study included an ineligible noncitizen. Note that one household was comprised of a single person who was an ineligible citizen (as declared by the tenant during the household interview). The entire rent subsidy for this household was considered in error.

Reduced or Terminated TANF Benefits. The regulations governing all programs included in the study require using the amount of the TANF benefit before reduction or termination for fraud or failure to cooperate with the welfare family self-sufficiency program. To identify households with reduced or terminated TANF benefits, tenants were asked during the household interview about previous receipt of TANF and whether their TANF benefits were reduced during the household interview. If the TANF benefits were reduced or terminated due to fraud or failure to comply with the welfare family self-sufficiency requirements, the value of the TANF benefit before the reduction or termination was used in the QC Rent calculation.[8] The TANF benefits in 9 households were reduced or terminated because of failure to comply with welfare family self-sufficiency requirements; no benefits were reduced or terminated due to fraud.

[8] The value of this reduced or terminated TANF is offset by the amount of additional income the family received that started after the time the sanction was imposed.

III. Study Objectives and Analytic Methods

This section presents the 14 study objectives and a brief description of the methodology used to meet them.[1]

Objective 1: Identify the various types of rent errors, rent error rates, and calculate their variance estimates.

The types of errors and error rates in the 2000 and 2003 studies are replicated in the 2004 analyses. These errors include percent of households paying correct and incorrect rent, dollar error amounts, and dollar error rates. Variance estimates (standard errors) are provided for selected error rates. Errors are determined by recalculating the tenant rent on the basis of verified QC information and subtracting this amount from the tenant rent indicated on the 50058/50059 Form (Actual Rent). The following three types of dollar rent error estimates were calculated:

Dollar Rent Error—The difference between the *monthly* Actual Rent and the *monthly* QC Rent (i.e., Actual Rent minus QC Rent). A household rent is found to be in error if the difference between the Actual Rent and QC Rent is greater than $5, while "proper" rent payments reflect differences of $5 or less. Rates of exactly matching Actual and QC rents (within $1) are also presented. Simple percentages of the number of households paying the proper and exact rents are reported, as well as the percentage of households in error per program, the average gross dollars in error, and the percentage of rent dollars in error. For households who were ineligible when initially certified, the QC Rent is the flat rent for Public Housing households, or the Housing Assistance Payment (HAP) for Section 8 programs. The dollar error is this amount minus the Actual Rent.

Total Component Dollars in Error—The absolute sum (i.e., the sum of the positive and negative amounts, ignoring the plus or minus signs) of all individual income and expense component errors. These errors are combined to provide an overall Total Dollars in Error and are presented as *annual* amounts. A dollar amount of rent overpayment and underpayment was calculated for each component with identified error; however, some of these errors were overlapping or offsetting. For example, earned income may have been underreported while—perhaps because of a calculation error—Supplemental Security Income may have been overstated. The net difference could be zero, or a positive or negative amount.

Largest Component Dollar Error—The *annual* dollar amount of error for the income or expense components with the largest error. Income and expense components include the five sources of income (earned, pension, public assistance, other income, and assets) and the five types of deductions (medical, child care, and disability assistance expenses, dependent allowance, and elderly/disabled allowance). If the component with the largest error is earned

[1] See *Quality Control for Rental Assistance Subsidy Determinations: 2004 Analysis Plan*, an unpublished ORC Macro report to HUD, dated November 30, 2003, for a more detailed description of the methodology.

income, the largest dollar error would reflect the difference between the earned income used by the PHA/project, and the earned income used in the QC rent calculation.

The dollar error rate is used for other error calculations, including the National Rent Error Rate and Net and Gross Error Rates. The latter error calculations link errors in the rent determination process to dollar error rates, sparking new oversight practices to better manage HUD subsidies.

Objective 2: Identify the dollar costs of the various types of errors.

Five types of procedural errors are linked to rent errors. Data obtained directly from the 50058/50059 Form as well as project and tenant information from the tenant file are used to identify and measure each of error type:

- Calculation errors
- Consistency errors
- Transcription errors
- Incorrect determination of allowances and income sources
- Overdue recertifications

Calculation errors are detected by recalculating section subtotals and the final rent based on the exact information in the 50058/50059 Form. The tenant rent is calculated using the detailed information on the 50058/50059 Form and compared to the actual tenant rent on the 50058/50059 Form. If the two rents differ, there is a calculation error.

Consistency errors are determined when there is a lack of logical conformity between elements within the 50058/50059 Form. For example, the Effective Date of Action must be on or after the Date of Admission. Elderly status information must be consistent with information about the age of the head of household or spouse.

Transcription errors are detected by comparing 50058/50059 Form data with information in the tenant file. If the 50058/50059 Form data for a specific income or expense item does not match the tenant file data, a transcription error exists.

Incorrect determination of allowances and income sources are identified by taking tenant file information and comparing it with the 50058/50059 Form data. Allowance errors are detected by calculating the allowances based on the tenant file information and comparing this QC allowance with the Actual Allowance on the 50058/50059 Form. Similarly, income is calculated based on the types and amounts of income reported in the tenant file. The improper application of allowances and incorrect calculation of income are a subset of transcription errors.

Overdue Recertifications produce rent errors because rents are based on out-of-date information. For households with overdue recertifications, the QC information is based on the month the recertification should have been completed rather than when it was completed.

Objective 3: Estimate the national-level costs for total error and major error types.

This analysis includes determining the National Rent Error Rate, the numbers and proportions of households found to be in error, and the dollar amount of rent error and the proportion of total dollars found to be in error. Sample data are weighted to provide national estimates.

Objective 4: Determine the relationship between errors detectable using the HUD 50058 and HUD 50059 Forms and total errors found in the study.

As discussed under Objective 2, calculation and consistency errors identify mistakes made by the housing project staff. Under Objective 4, households with calculation and consistence errors are compared to households with QC errors to determine if error found within the 50058/50059 Form can be used to predict QC error.

Objective 5: Determine whether error rates and error costs have statistically significant differences from program to program.

This analysis presents differences in error rates by program type. Data are provided for three program groups: Public Housing, PHA-Administered Section 8 (vouchers and moderate rehabilitation), and owner-administered housing (Section 8, Section 202 PRAC, Section 811 PRAC, and Section 202/162 PAC). The gross and net error rates are provided for each of these program types. The gross error rate is the sum dollar amount of gross error divided by the sum dollar amount of QC Rent, and the net error rate is the sum dollar amount of net error divided again by the sum dollar amount of QC Rent.

Objective 6: Determine the apparent cause of significant rent errors, either on a sample or a comprehensive basis, to provide HUD with information on whether the error was caused primarily by the tenant or by program sponsor staff.

As was done in the previous studies, we provide descriptive information on the sources of discrepancies between housing file information and verified information, and describe the incidence of administrative errors and their impacts. We also examine whether failure to verify sources of income and expenses contributes to QC error. Multivariate analyses using administrative errors and income components as independent variables are performed to identify how these errors affect the QC Dollar Rent Error.

Objective 7: Determine the extent to which households are overhoused relative to HUD's occupancy standards.

This objective addresses whether households reside in units with the correct number of bedrooms. Generally acceptable HUD guidelines specifying the appropriate size unit for assisted households are shown in Exhibit III-1.[2]

[2] Local projects have discretion in determining unit size, and may determine unit size differently than shown.

For most programs, the rules are not based solely on household size and allow discretion on the part of the project staff. All programs allow exceptions to these rules. This study replicates the analyses in the previous studies that identified bedroom size and program, and the proportion of households in compliance with and in violation of occupancy standards according to the guidelines in the table below.

Exhibit III-1
PHA Section 8 Unit Size Standards

Number of Bedrooms	Number of Persons in Household	
	Minimum	Maximum
0	1	1
1	1	2
2	2	4
3	3	6
4	5	8
5	7	10

Objective 8: Provide information on the extent to which errors are concentrated in projects and programs.

Further descriptive analyses are conducted to examine whether errors are concentrated within or are randomly distributed across PHAs/projects. Multivariate analyses are conducted with the tenant as the unit of analysis. Tenant and PHA/project characteristics were analyzed as independent variables predicting error rates. This analysis identified how each of these variables contributes to rent error. The results will help guide HUD's management of error rates and elaborate relationships between management practices and project/tenant characteristics that affect error rates.

Objective 9: Identify the percentage of newly certified tenants who were incorrectly determined eligible for program admission.

Incorrect initial eligibility determinations create long-term problems for assisted-housing programs. Newly certified households are reviewed to determine whether they met the eligibility requirements for assisted housing. Five eligibility requirements reviewed at initial certification are not a part of the recertification process (and thus not confirmed on an ongoing basis): definition of family, citizenship, verification of Social Security numbers, signing consent forms, and low and very low income limits. This study did not investigate definition of family because it is determined by the PHA or owner. Therefore, findings are provided on four of the five initial certification criteria. This study also did not include suitability factors that PHA/owners may use in selecting tenants—factors such as tenant histories, histories of drug use or criminal activity.

Objective 10: Determine the extent to which Section 8 voucher rent comparability determinations are found in the tenant file, and indicate the method used to support the determination. Determine whether voucher payment standards are within 90-110 percent of fair market rents, and determine whether the correct utility allowances are being used.

To comply with the rent reasonableness requirement, housing authorities must determine that Section 8 voucher rents are reasonable in comparison with rents for similar housing in the private, unassisted market. Using information collected from tenant files, we estimated the proportion of Section 8 voucher recipients with comparable documentation. For those with documentation, we classified the type of evidence cited in the tenant file documentation (e.g., no evidence, cited market estimates for comparable units, or the rents of one or more units considered to be comparable). We present weighted proportions of voucher recipients with rent comparability data.

Additionally, payment standard data from the 50058 Form are compared with FMR data to identify the households whose payment standards fall outside the 90–110 percent FMR band. Utility allowance schedules are likewise matched to tenant files to evaluate the issues associated with independently evaluating utility allowances as a potential component of rent error.

Objective 11: Estimate the total positive and negative errors in terms of HUD subsidies.

Proper payments are those in which the Actual Rent equals the QC Rent. Errors can be either overpayments (Actual Rent greater than QC Rent) or tenant underpayments (Actual Rent less than QC Rent). Overpayment error rates were calculated by dividing the total amount of overpayment by the total QC Rent; underpayment error rates were calculated similarly by dividing the total amount of underpayments by the total QC Rent.

Objective 12: Determine the extent to which error rates in projects that use an automated rent calculation system differ from errors in those that do not.

We investigate whether rent calculation using an automated system eliminates calculation errors and facilitates accurate collection and storage of tenant information. We used a multinomial logit model to test the association of computer automation with underpayments and overpayments. In addition, variables representing usage of automated rent calculation systems were used as explanatory variables in error-prone models.

Objective 13: Determine whether other tenant or project characteristics on which data are available are correlated with higher or low error rates.

To respond to this objective, we use multivariate analysis to conduct more detailed analyses of differences among PHA/projects and provide HUD with more information for identifying projects and tenants likely to exhibit high error rates.

Objective 14: Determine whether cases for which 50058/50059 Form data had been submitted to HUD were more or less likely to have errors than those for which data had not been submitted.

The QC sample was matched to the TRACS/PIC data. Analysis is conducted to compare the average dollars in error for households included in TRACS/PIC with those that are not.

IV. Findings

A. Overview

Analyses were conducted using weighted sample data for the 2,400 households.[1] Data are presented by the three program types that were the basis for the sampling design—Public Housing, PHA-administered Section 8 (Vouchers, and Moderate Rehabilitation), and owner-administered (Section 8, Section 202 PRAC, Section 811 PRAC, and Section 202/162 PAC). Each of the major study findings, the reasons for the errors, and other background information concerning these errors are discussed below. In many of the exhibits throughout the report, the data collected during the current study (referred to as the 2004 data) are compared with the data collected in a previous study. The data for this earlier study was collected in 2003; the analysis was completed in 2004.

This discussion is divided into eight parts: the errors in the rent amount based on the QC data (rent error), the errors in sources of income and expenses (component errors), the errors found using only project file data (procedural error), occupancy standards, comparisons with PIC/TRACS data, project-level analysis, multivariate analysis, and findings related to rent reasonableness determinations. The first three parts present different types of error.

Rent error is error that results in an actual dollar error. A dollar error means the household paid too much rent (an overpayment) or the household paid less rent than it should have paid (an underpayment).

Component errors are the income and expense components used to calculate rent. The income components are employment income, Social Security and pensions, public assistance, other income, and asset income. The expense/allowance components are elderly/disabled allowance, dependent allowance, medical expenses, childcare expenses, and disability expenses.

Procedural Errors are errors that result from administrative mistakes. They consist of the following:

- Consistency errors—errors in logical conformity between elements within the 50058 or 50059 Form
- Calculation errors—arithmetic errors within subsections of the 50058 or 50059 Form
- Transcription errors—errors in transferring information from documentation in the tenant file to the 50058 or 50059 Form
- Failure to conduct a recertification in a timely manner
- Failure to verify information.

[1] Appendix B presents the procedure used in weighting the data.

Component and administrative errors may or may not result in rent errors. Procedural errors tell us at what point during the rent determination process that an error occurred, while the component errors tell us which income or expense caused the error. Data supporting the discussion are presented in Appendix C tables.

B. Rent Error

Overview. Rent errors were identified by subtracting the QC Rent from the Actual Rent.[2] The QC Rent was calculated using third-party verification whenever possible. If third-party verification was not available, information from the D Forms or Household Questionnaire was used. The Actual Rent is the Tenant Rent from the 50058/50059 Form. As noted above, a household was considered to be correct (proper payment) if the QC Rent and the Actual Rent matched within $5. All exhibits included in this report (except IV-2) and all tables in Appendix C define households whose Actual and QC Rents matched within $5 as proper payments, except for the supplemental tables (designated by the letter "S"), which are based on exact matches between these two rents.

Definitions of Rent Errors. Dollar error can be determined by comparing the rent the household should have paid with what it was paying, or by identifying the percentage of the Federal subsidy that was paid in error. In this study, error was determined by the first method. The rent errors presented throughout this report were calculated in the following manner:

- **Dollar Rent Error** was calculated at the household level by subtracting the household's QC Rent from the Actual Rent. Note that these are *monthly* rents. A negative number indicates an underpayment, meaning the household paid less than it should have paid, and that HUD's contribution was higher than it should have been. A positive number indicates a household overpayment, meaning HUD's contribution was less than it should have been.

- **Gross Rent Error** is the absolute value (i.e., the sum of the absolute value of positive and negative Rent Error) of the Dollar Rent Error for the sample as a whole or a specified group of households. The Gross Rent Error functions simply as a measure of the magnitude of the errors. The dollar amounts presented in the tables are Gross Rent Error values, unless otherwise indicated.

- **Net Rent Error** is the arithmetic value (i.e., the sum of the negative and positive values of over- and underpayments) of the rent error.

- **Error Rate** is calculated by dividing the sum of the Gross Rent Error by the sum of the QC Rent, for the entire sample or a specified group of households.

[2] Rent error is determined on the basis of Tenant Rent, not TTP. Tenant Rent is calculated using the formulas listed in Section II-F and presented in detail in Appendix A.

Verification Used in Determining the QC Rent. As indicated above, a set of rules was established for third-party verification (see Section II-D). If an income or expense component was used for a rent calculation and was not verified by the PHA/owner, ORC Macro staff sought third-party verification. However, ORC Macro verification could not be obtained for all PHA/owner unverified items despite considerable effort and expense.

Exhibit IV-1 shows the percentage of each rent component that was verified by either the PHA/owner or ORC Macro. The first two columns present the percentage of rent components that were verified with third-party in writing, third-party verbal, or documentation.[3] The remaining two columns present the percentage of rent components that were verified with the more stringent verification requirements for this study (i.e., third-party in writing). As the table indicates, in general, there has been an increase in the percentage of rent components that were verified with either third-party in writing or other types of verification. Disability expense is the one exception. However, because the sample size is so small (there are only seven cases) the findings are not reliable national estimates. We suspect that third-party in writing verification of assets is slightly lower in FY 2004 because of HUD guidance that allows other types of verification for most assets.

Exhibit IV-1
Percentage of Households Fully Verified by Either the PHA/Owner or ORC Macro

	Third-Party Verbal or In Writing, or Documentation		Third-Party In Writing	
Rent Component	**2003**	**2004**	**2003**	**2004**
Earned Income	89%	90%	78%	76%
Pensions, etc.	98%	99%	95%	95%
Public Assistance	84%	93%	68%	74%
Other Income	76%	88%	59%	69%
Asset Income	86%	90%	72%	68%
Child Care Expense	72%	76%	64%	68%
Disability Expense	68%	23%	67%	23%
Medical Expense	76%	79%	52%	61%

Source: Tables 1a and 1b, Appendix C

Tables 1c–1d in Appendix C provide additional verification information by rent component. They present the number of households for which the income or expense component was not verified (i.e., no component items verified), partially verified (i.e., some component items verified), or fully verified (i.e., all component items verified). Table 1b includes items that were verified by third parties in writing. Table 1c includes items that were verified verbally by a third party. Table 1d provides data for items verified by file documentation.

[3] Documentation means documents submitted by the family such as pay stubs or bank statements, or a statement in the file indicating the project staff viewed an acceptable verification (but there was no copy in the file).

Proper Payments. Exhibit IV-2 shows the percentage of households with proper payments by program, for households where the Actual and QC Rents matched within $5 and where the Actual and QC Rents matched exactly. At (re)certification, the rent was calculated correctly (within $5) in 66 percent of the households, 6 percent higher than 2003's total of 60 percent. More than a half matched exactly for 2004 (53%), up 9 percent from 44 percent in 2003.

Exhibit IV-2
Percent of Households with Proper Payments

Administration Type	Percent of Households Within $5			Percent of Households Matched Exactly		
	2000	2003	2004	2000	2003	2004
Public Housing	47%	64%	70%	33%	49%	55%
PHA-Administered Section 8	37%	54%	64%	29%	40%	51%
Total PHA-Administered	42%	58%	66%	31%	43%	53%
Owner-Administered	48%	63%	67%	32%	46%	53%
Total	44%	60%	66%	31%	44%	53%

Source: Table 3, Appendix C

Households with QC Rent Error. Exhibit IV-3 shows the percentage of households in error, the average dollar amount in error, and error rate by program. Thirty-four percent of the households have a rent error greater than $5, down from 40 percent in 2003. The average gross dollars in error, calculated by dividing the sum of the dollar amount of gross error (i.e., the sum of the absolute values of under- and overpayments) by the total number of households is $19 in 2004, and is lower than the 2003 estimate of $28. The gross dollar error rate, calculated by dividing the sum of the dollar amount of Gross Rent Error by the sum of the dollar amount of the QC Rent, was reduced by a third from 15 percent in 2003 to 10 percent in 2004.

Exhibit IV-3
Percent of Households with Error, Average Dollars in Error, and Dollar Error Rate for Households with Error Greater Than or Less Than $5

Administration Type	Percent of Households with Error		Average Gross Dollars in Error		Gross Dollar Error Rate	
	2003	2004	2003	2004	2003	2004
Public Housing	36%	31%	$23	$19	12%	10%
PHA-Administered Section 8	46%	36%	$35	$22	18%	12%
Total PHA-Administered	42%	34%	$31	$21	16%	11%
Owner-Administered	37%	33%	$22	$14	12%	8%
Total	40%	34%	$28	$19	15%	10%

Source: Table 3, Appendix C

The rent errors are sensitive to a number of assumptions made in this study. Changes in the error threshold (i.e., $5), for example, would affect the overall dollar error estimates. Perhaps more importantly, it is likely that tenants with large rent increases resulting from corrected calculations would leave the program, reducing potential subsidy reductions. Those with decreases in their rents would be more likely to remain, increasing subsidy requirements. These corrections are desirable outcomes, but it is unclear what their net impact would be on subsidy costs. The most appropriate use of this study is as a tool for strengthening HUD's procedures for ensuring administrative compliance with regulations. The recommendations presented in this report will require greater rather than fewer resources in the short-term. Significant error reductions can only be attained through rule simplifications, additional instructions, and better forms, training, and monitoring, as discussed in the report. We believe that the recommended changes will take 2 to 4 years before measurable results can be achieved.

Underpayment and Overpayment Households. Exhibits IV-4a and IV-4b show the percentage of households and average dollar amount of error for all households when errors of $5 or less are excluded from calculations. Exhibit IV-4a and IV-4b present the error for underpayment and overpayment households, respectively. Eighteen percent of all households paid more than $5 less than they should have in 2004, compared with 23 percent in 2003 and 34 percent in 2000. For the 2004 households, the average monthly payment was $72, lower than the mean of $78 in 2003 and much lower than the mean of $94 in 2000. While 22 percent of all households in 2000 paid more than $5 more than they should have, overpayments were slightly lower at 18 percent for 2003 and 16 percent for 2004. The average monthly overpayment for households with overpayment error was $37 in 2004, down substantially from $57 in 2003.

Exhibit IV-4a
Underpayment Households
Percent of Households and Average Monthly Dollar Amount of Error

Administration Type	Percent of Households In Error			Average Dollar Amount of Error: For Underpayment Households (with errors > $5)			Average Dollar Amount of Error: For All Underpayment Households		
	2000	2003	2004	2000	2003	2004	2000	2003	2004
Public Housing	33%	21%	17%	$85	$71	$81	$28	$15	$14
PHA-Administered Section 8	42%	25%	21%	$107	$86	$74	$45	$22	$15
Total PHA-Administered	38%	24%	19%	$99	$80	$76	$38	$19	$15
Owner-Administered	27%	21%	15%	$81	$73	$59	$22	$15	$ 9
Total	34%	23%	18%	$94	$78	$72	$32	$18	$13

Source: Table 3 and 4, Appendix C

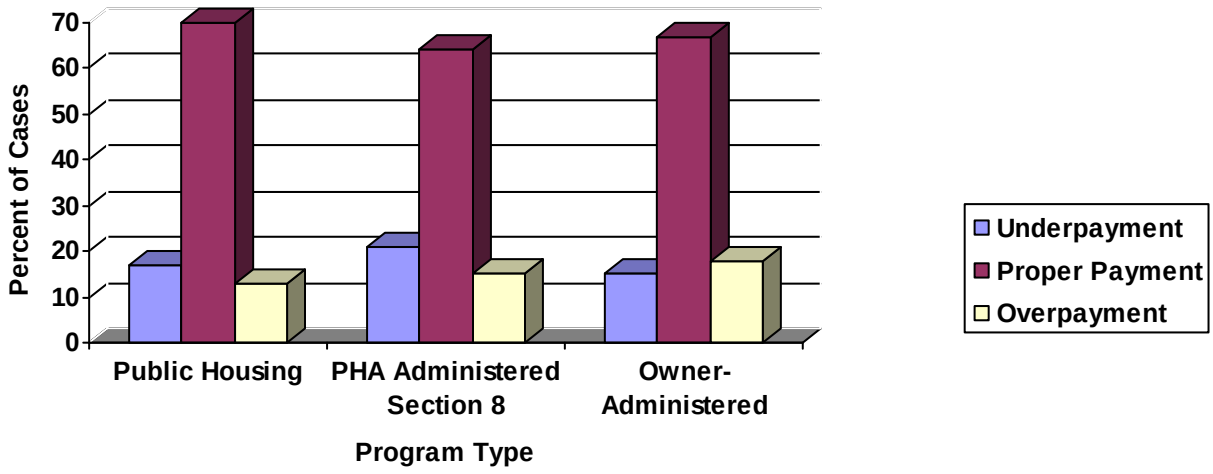
Exhibit IV-4b
Overpayment Households
Percent of Households and Average Monthly Dollar Amount of Error

Administration Type	Percent of Households In Error			Average Dollar Amount of Error: For Overpayment Households (with errors > $5)			Average Dollar Amount of Error: For All Overpayment Households		
	2000	2003	2004	2000	2003	2004	2000	2003	2004
Public Housing	20%	15%	14%	$64	$58	$40	$13	$7	$5
PHA-Administered Section 8	21%	21%	15%	$67	$65	$42	$14	$14	$6
Total PHA-Administered	20%	19%	15%	$65	$63	$41	$13	$12	$6
Owner-Administered	25%	17%	18%	$41	$44	$29	$11	$7	$5
Total	22%	18%	16%	$56	$57	$37	$12	$10	$6

Source: Table 3 and 4. Appendix C

Figure IV-1 shows the percentage of underpayments, proper payments, and overpayments by program type. Programs were grouped into three categories—Public Housing, PHA-administered Section 8, and owner-administered. Note that the majority of cases fall in the proper payment category for all program types. As indicated above, a household was considered to be correct (proper payment) if the Actual Rent and the QC Rent matched within $5.

Figure IV-1: Payment by Program Type



Gross and Net Dollars in Error. Exhibit IV-5 presents the gross and net average dollars in error and their associated standard error. To obtain the Gross and Net Rent Error, the dollar amount of overpayments is added to the dollar amount of underpayments, first using the absolute values for gross error, and then the arithmetic values for the net error. The net error measures the dollar cost of the errors and is -$7 (indicating a tenant underpayment) for 2004; the average gross dollar error is $19 for 2004 and represents the dollars associated with the errors (the magnitude of the errors).

Exhibit IV-5
Gross and Net Dollar Rent Error (Monthly) for All Households

Administration Type	Gross Rent Error			Net Rent Error		
	Average Dollars in Error		Standard Error	Average Dollars in Error		Standard Error
	2003	2004	2004	2003	2004	2004
Public Housing	$23	$19	$1.99	-$6	-$8	$2.03
PHA-Administered Section 8	$35	$22	$2.07	-$8	-$9	$1.87
Total PHA-Administered	$31	$21	$1.57	-$7	-$9	$1.42
Owner-Administered	$22	$14	$1.52	-$8	-$4	$1.57
Total	$28	$19	$1.22	-$7	-$7	$1.09

Source: Table 5, Appendix C

Error Rates by Program. Differences in error rates by programs were investigated and the results are summarized in Exhibit IV-6. Differences include Gross Error Rate, which is the sum dollar amount of gross error divided by the sum dollar amount of QC Rent, and the Net Error Rate, which is the sum dollar amount of net error divided again by the sum dollar amount of QC Rent. The Gross Error Rate is slightly higher for PHA-administered Section 8 programs than for either Public Housing or owner-administered programs. However, the Gross Rent Error Rate for PHA-administered Section 8 programs decreased by 6 percent from 2003. This is a larger reduction than in either the Public Housing or owner-administered programs.

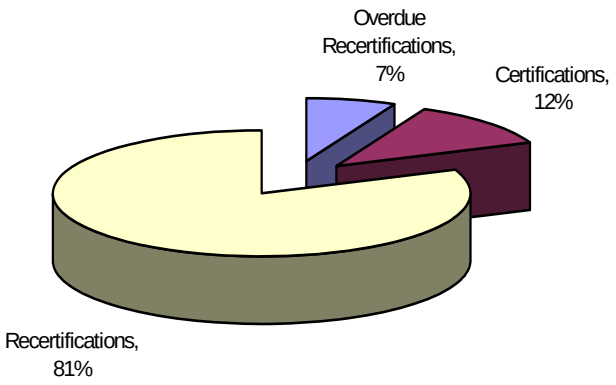
Exhibit IV-6
Gross and Net Dollar Error Rates (Monthly) for All Households

Administration Type	Error Rates	
	Gross Error Rate	Net Error Rate
Public Housing	10%	-4%
PHA-Administered Section 8	12%	-5%
Total PHA-Administered	11%	-5%
Owner-Administered	8%	-2%
Total	10%	-4%

Source: Table 5, Appendix C

Certifications/Recertifications. The sample households included both certifications (i.e., newly admitted households) and recertifications. Certifications were analyzed to determine if these households were eligible for HUD housing assistance and recertifications were analyzed to determine if they were overdue. Figure IV-2 presents the breakdown of cases by case type—certifications, recertifications, and overdue recertifications.

Figure IV-2: Case Type



Source: Table 6, Appendix C

Exhibit IV-7 shows the breakdown of the percentage of certifications, recertifications not overdue, and recertifications overdue, by program type. The exhibit indicates that in 2004 12 percent of the households were certifications and 7 percent of the households were overdue recertifications. The findings indicate a decrease in the percentage of certifications from 2003 (from 14 to 12%) and an increase in the percentage of overdue certifications (from 3 to 7%). The increase in overdue recertifications reflected by this study may be related to the manner in which the data were collected for the 2003 studies. Because data were collected for half the fiscal year at a time, it is possible that some overdue annual recertifications were incorrectly excluded from the tenant sample. The percentage of overdue annual recertifications for 2004 (7%) is much closer to the percentage of overdue annual recertifications identified in the 2000 study (6%) than the percentage of overdue annual recertifications identified in the 2003 studies (3%).

Exhibit IV-7
Certifications and Recertifications by Administration Type

	Certifications		Timely Recertifications		Overdue Recertifications		Row Total By Year*
Administration Type	**2003**	**2004**	**2003**	**2004**	**2003**	**2004**	
Public Housing	10%	12%	86%	79%	4%	9%	100%
PHA-Administered Section 8	14%	10%	84%	82%	3%	7%	100%
Total PHA-Administered	12%	11%	85%	81%	3%	8%	100%
Owner-Administered	19%	16%	80%	79%	2%	6%	100%
Total	14%	12%	83%	81%	3%	7%	100%

Source: Table 6, Appendix C
*Rounding error may result in totals not equal to 100%.

Certifications. Exhibit IV-8a presents a summary of the findings related to eligibility criteria and Exhibit IV-8b shows the percentage of newly certified households meeting the certification criteria by program type. The results indicate improvement since the 2003 estimate. The reviewed criteria included citizenship, Social Security number, signing the appropriate consent form, and qualifying as low income or very low-income households. However, only those households that did not meet the appropriate low or very low-income limit were ineligible for assistance. One hundred percent of the households (according to the QC Rent calculation) fell within the low-income limit for total gross income. There were four voucher cases where the households' total annual income fell between the very low and the low-income limits. In these cases we could not confirm whether the households met any of the exceptions that would have warranted the low-income criterion. For this reason we are giving the PHA the benefit of the doubt by using the low income limit when making the determination of whether the households met the income low-limit criteria instead of the very low income limit.

A household met the citizenship or Social Security number criteria if there was evidence in the tenant file that the citizenship or Social Security number was verified. The data indicate that a citizenship code (indicating whether each household member was a citizen, eligible noncitizen, or ineligible noncitizen) and a Social Security number was available (from either the tenant file or the household interview) for each household member. All of the criteria in Exhibit 8a were higher in 2004, compared to 2003. However, 6 percent of the households had at least one household member for whom there was no verification of citizenship. To meet the citizenship verification requirement, the file must have contained (for each household member) a signed declaration of U.S. citizenship or eligible immigration status; proof of age documentation; an INS card; or INS system verification of citizenship status, or documentation that the member was in process for verification or an INS hearing.

Seven percent of the households had at least one member age six or over for whom there was no verification of their Social Security number. To meet the Social Security number verification requirements the file must have contained (for each household member six years of age or older) a copy of the Social Security card, or statement from the Social Security Administration

verifying the Social Security number or a certification indicating the member does not have a Social Security number.

In 89 percent of the households, there was a signed consent form, dated within 15 months of the QCM (the date for which data was collected), for all members age 18 or over. Note that not meeting the Social Security number, citizenship, and consent form criteria may not mean the household was not eligible for assistance; rather, the project did not follow the HUD requirements in documenting the information.

Exhibit IV-8a
Percent of Newly Certified Households
Meeting Certification Criteria

Certification Criteria	Met Criterion	
	2003	2004
Citizenship	91%	94%
Social Security Number	92%	93%
Consent Form	87%	89%
Low and Very Low Income	99%	100%
Meets All Eligibility Criteria	75%	81%

Source: Table 7, Appendix C

Exhibit IV-8b
Percent of Newly Certified Households
Meeting Certification Criteria by Program Type

	Percent of Households Meeting the Criteria		
Certification Criteria	Public Housing	PHA-Administered Section 8	Owner-Administered Section 8
Citizenship	95%	96%	91%
Social Security Number	93%	92%	94%
Consent Form	85%	89%	92%
Low and Very Low Income	100%	100%	100%
Meets All Eligibility Criteria	78%	82%	82%

Source: Table 7b, Appendix C

Underpayments and Overpayments for Certifications, Recertifications, and Overdue Recertifications. Exhibit IV-9 presents a summary of the households with overpayments and underpayments by the type of case—certification, timely recertification, and overdue certification. The Average Dollar Amounts are based on the sum of the dollar amounts for payment errors (either underpayment or overpayment) for the type of household (certification, overdue recertification, or timely recertification) divided by the number of households with that payment type (for whom a QC Rent could be calculated). For example, the sum of the dollar

amounts for new certifications with monthly underpayments ($5.3M) was divided by the total number of certifications for whom QC Rent could be calculated (.54M). The result is an underpayment average dollar amount of $10.

The data indicate that the amount of underpayment dollar error in new certifications in 2004 is less than the amount for recertifications. However, there is a very large difference in the underpayment error for overdue and timely recertifications. The 2004 calculated overpayment error (total) is four dollars less than the error calculated using 2003 data.

Exhibit IV-9
Average Monthly Underpayment and Overpayment Dollar Amount
Averaged Across All Households

Household Type	Underpayment Average Dollar Amount		Overpayment Average Dollar Amount	
	2003	2004	2003	2004
Certifications	$16	$10	$10	$5
Timely Recertifications	$17	$12	$10	$6
Overdue Recertifications	$41	$24	$12	$10
Total	$18	$13	$10	$6

Source: Table 8, Appendix C

Subsidies. The actual cost of errors to HUD is expressed in terms of subsidy payments. For purposes of this study, HUD subsidies for the voucher program equal the lower of the Gross Rent or the applicable Payment Standard minus the Tenant Share. For Public Housing, the subsidy is the applicable Payment Standard minus the TTP, and for Housing programs, the subsidy is the Gross Rent minus the TTP. The subsidy is correct if the Actual Rent equals the QC Rent (within $5). A negative subsidy error occurs when the tenant pays too much rent (QC Rent < Actual Rent). A positive subsidy error occurs when the tenant pays too little rent (QC Rent > Actual Rent). These subsidy errors by program type are summarized in Exhibit IV-10a and 10b, below. The subsidy errors by certification status are summarized in Exhibit IV-11.

Exhibit IV-10a
Negative Subsidy Households (Tenant Overpayment)
Percent of Households and Average Monthly Dollar Amount of Error

Administration Type	Percent of Households in Error		Average Dollar Amount of Error: For Negative Subsidy Households (with errors > $5)		Average Dollar Amount of Error: For All Households	
	2003	2004	2003	2004	2003	2004
Public Housing	15%	14%	$58	$40	$7	$5
PHA-Administered Section 8	21%	15%	$65	$42	$14	$6
Total PHA-Administered	19%	15%	$63	$41	$12	$6
Owner-Administered	17%	18%	$44	$29	$7	$5
Total	18%	16%	$57	$37	$10	$6

Source: Table 3 and 4. Appendix C
Note: Table results replicate Exhibit IV-4b for the convenience of the reader.

Exhibit IV-10b
Positive Subsidy Households (Tenant Underpayment)
Percent of Households and Average Monthly Dollar Amount of Error

Administration Type	Percent of Households in Error		Average Dollar Amount of Error: For Positive Subsidy Households (with errors > $5)		Average Dollar Amount of Error: For All Households	
	2003	2004	2003	2004	2003	2004
Public Housing	21%	17%	$71	$81	$15	$14
PHA-Administered Section 8	25%	21%	$86	$74	$22	$15
Total PHA-Administered	24%	19%	$80	$76	$19	$15
Owner-Administered	21%	15%	$73	$59	$15	$9
Total	23%	18%	$78	$72	$18	$13

Source: Table 3 and 4, Appendix C
Note: Table results replicate Exhibit IV-4a for the convenience of the reader.

Exhibit IV-11
Average Monthly Dollar Amounts of Error for Negative (Tenant Overpayment) and Positive (Tenant Underpayment) Subsidies Averaged Across All Households

Household Type	Negative Subsidy Average Dollar Amount of Error		Positive Subsidy Average Dollar Amount of Error	
	2003	2004	2003	2004
Certifications	$10	$5	$16	$10
Timely Recertifications	$10	$6	$17	$13
Overdue Recertifications	$12	$10	$41	$24
Total	$10	$6	$18	$13

Source: Table 8, Appendix C
Note: Table results replicate Exhibit IV-9 for the convenience of the reader.

C. Sources of Error

Additional analyses examined which income and expense components contributed the most to rent error. It should be noted that the component dollar amounts are *annual* income and expense dollars, rather than the monthly figures used to present rent error data. In addition, the sum of the component errors is greater than net rent errors because of off-setting errors. For example, the household presented in the chart below has earned income and childcare costs with errors in both components. The total component error is $600 ($400 + $200); however, the adjusted net income error (the amount used to determine the household's rent) is only $200.

Example:

Component	File Data	QC Data	Dollar Error
Earned Income	$2,200	$2,600	$400
Child Care	$400	$600	$200
Adjusted Income	$1,800	$2,000	$200

Exhibit IV-12 presents each income and expense component included in the rent calculation and the percent of the households in error (not total households) where this component contributed the most to the gross error. The exhibit indicates that earned income caused the largest dollar error in the highest percentage of households (25%). Pension income and medical expenses were both in error 20 percent of the time and other income 12 percent of the time. The average dollar amount associated with earned income is $4,302, notably higher than the average dollar amount associated with pension income and medical expenses where the average dollar amount was $3,592 and $1,121, respectively. The average dollar amount associated with other income was $3,368. While total dollar amounts were down substantially for 2004, the rent components had mixed results in both 2003 and 2004.

Exhibit IV-12
Rent Components Responsible for the Largest Dollar Error for Households with Rent Error

Rent Component	Percent of Households in Error		Average Dollar Amount	
	2003	2004	2003	2004
Earned Income	25%	25%	$4,672	$4,302
Other Income	12%	12%	$3,330	$3,368
Pensions	21%	20%	$3,426	$3,592
Asset Income	4%	3%	$966	$1,181
Public Assistance	8%	8%	$3,192	$3,029
Child Care Allowance	5%	5%	$2,320	$1,813
Medical Allowance	17%	20%	$1,028	$1,077
Dependent Allowance	3%	4%	$589	$505
Elderly/Disabled Allowance	1%	3%	$499	$400
No Rent Component Error	5%	1%	$0	$0
Total	100%	100%	$3,470	$2,818

Source: Table 9, Appendix C

Note that for some households the rent error is not caused by one of the ten components listed. Rather, it is caused by other arithmetic errors or using the wrong rent calculation formula. The number of households in this category decreased from 7 percent in 2000, to 5 percent in 2003, to one percent in 2004, possibly because some of the rent calculations (for vouchers) have become less complicated. The percent of households in error stayed the same or changed slightly for most rent components, with the highest increase for medical expenses.

Total and Largest Component Dollar Error. Exhibit IV-13 shows the dollar amounts associated with the total dollars in error (the sum of the absolute value of errors in all rent components) and the largest dollars in error (the largest error attributable to a specific source for each household), by program type. There were slight increases from 2003 to 2004 for total households in PHA-administered Programs, while owner-administered households showed declines in average total dollars in error and average largest dollars in error.

Exhibit IV-13
Total and Largest Component Dollars in Error
for Households with Rent Error

Administration Type	Average Total Dollars in Error		Average Largest Dollars in Error	
	2003	2004	2003	2004
Public Housing	$4,221	$4,583	$3,429	$3,521
PHA-Administered Section 8	$3,339	$3,490	$2,801	$2,986
Total PHA-Administered	$3,634	$3,826	$3,012	$3,150
Owner-Administered	$3,013	$2,623	$2,514	$2,025
Total	$3,449	$3,471	$2,863	$2,818

Source: Table 10, Appendix C

QC Rent Components by Payment Type and Administration Type. Exhibit IV-14 shows the percentage of the total number of households with (and without) component error by component type and payment type. For example, six percent of all households with underpayment rent error had earned income errors; four percent of all households with proper rents had earned income errors; and four percent of all households with overpayment rent error had earned income errors. It also shows this information for PHA- and owner-administered households. This exhibit reflects component errors in proper payment households when the component dollar error is $5 or less. The exhibit indicates that pension income is the rent component that has the highest percentage of error (12 percent = 7 percent underpayment + 5 percent overpayment), followed by medical expenses (11%) and earned income (10%). While there has been a decline in the percentage of error, the components with the highest error remain the same.

Exhibit IV-14
Rent Component Error by Payment Type for All Households

Rent Component	Underpayment			Proper Payment			Overpayment		
	PHA	Owner	Total	PHA	Owner	Total	PHA	Owner	Total
Earned Income	8%	4%	6%	4%	3%	4%	4%	3%	4%
Pensions	8%	6%	7%	9%	16%	11%	4%	6%	5%
Public Assistance	2%	2%	2%	2%	1%	2%	2%	1%	2%
Other Income	4%	3%	4%	4%	4%	4%	2%	3%	3%
Asset Income	1%	3%	2%	4%	7%	5%	1%	3%	2%
Dependent Allowance	3%	1%	2%	2%	<1%	1%	2%	<1%	1%
Elderly Household Allowance	1%	1%	1%	2%	<1%	1%	1%	2%	1%
Child Care Allowance	1%	1%	1%	1%	<1%	1%	2%	2%	2%
Disability Allowance	--	--	--	--	--	--	--	--	--
Medical Allowance	3%	6%	4%	5%	12%	7%	5%	11%	7%
No Rent Component Error	<1%	<1%	<1%	43%	39%	42%	<1%	<1%	<1%

Source: Table 11, Appendix C

Allowances. Elderly/disabled and dependent allowances were examined to determine whether these allowances were being applied correctly.[4] The findings are summarized in Exhibit IV-15.

Exhibit IV-15
Elderly/Disabled Allowances and Dependent Allowances

	Elderly Allowance			Dependent Allowance		
Allowance	Non-Elderly/ Disabled Households	Elderly/ Disabled Households	All Households	Households Without Dependents	Households With Dependents	All Households
No Allowance	99%	<1%	49%	100%	<1%	51%
Incorrect Allowance	1%	5%	3%	<1%	13%	7%
Correct Allowance	-	95%	49%	-	86%	42%
Total	100%	100%	100%	100%	100%	100%

Source: Tables 12a and 12b, Appendix C

The exhibit shows the percentage of elderly/disabled and nonelderly/disabled households for which allowances were correctly or incorrectly applied. Elderly/disabled allowances were incorrectly used in three percent of the households in 2004. Five percent of the elderly/disabled households received an incorrect allowance, while one percent of non-elderly/disabled households received an allowance.

The exhibit also shows the percentage of households with and without dependents for which a dependent allowance was correctly or incorrectly applied. The dependent allowances were incorrect in seven percent of the households. In less than one percent of the households, a dependent allowance was given to a household that did not have dependents. For the remainder of the households in error (14%), either a dependent allowance was not given when it should have been or the wrong allowance amount was given.

D. Errors Detected Using Information Obtained From Project Files

To respond to HUD's interest in understanding the cause of errors, tenant rent was recalculated using only income and expense items documented in the tenant file. The source of information used for this analysis only included items that were clearly documented in the tenant file in a location other than the 50058/50059 form worksheet. If an item was recorded on the 50058/50059 form worksheet but not documented elsewhere in the tenant file, it was not included when the tenant file tenant rent was calculated for this analysis. Therefore, it is possible that some of the discrepancies identified between 50058/50059 rents and rents calculated solely based on file data were not, in fact, due to incorrect determinations but rather due to program sponsor failure to maintain information supporting income or expense items. The outcome is that relying solely on information in tenant files may result in misstating the basis for the program sponsor income and rent determination and could lead to a determination that an error existed when the determination was actually correct. The fact remains that, even if a program

[4] Households with an elderly or disabled head or spouse are entitled to one $400 allowance (i.e., deduction from gross annual income) in calculating rent. Households are entitled to a $480 allowance for each dependent (defined as children under 18, full-time students, and disabled members other than the head or spouse).

sponsor made the correct income determination, failure to document the determination is and should be treated as a serious administrative problem. Also, in practice, it appears that these types of discrepancies are often suggestive of subsidy determination errors even if they cannot be assumed to prove the existence of such errors.

The findings from this analysis were compared to the quality control findings where tenant rent was calculated based on *all* the information collected during the study (including household interview data, and verification obtained by ORC Macro through third party sources). Exhibit IV-16 shows the percent of households in error and the average dollar error with and without income and expense items identified during the household interview and verified by ORC Macro through third party sources.

The data indicate that the income and expense items documented in the tenant file identify only half of the cases with tenant underpayments (subsidy overpayments). The data regarding subsidy underpayments (tenant overpayments) is inconclusive because of the file documentation issues discussed above.

Exhibit IV-16
Findings With and Without Information Obtained from Sources Other Than the Tenant File

Error Source	Percent of Households in Error		Average Dollar Error	
	Subsidy Overpayment	Subsidy Underpayment	Subsidy Overpayment	Subsidy Underpayment
Error Based on *All* Income and Expense Items Identified During the Study	18%	16%	$71.78	$37.21
Error *Without* Income and Expense Items Identified during the Household Interview	8%	12%	$47.18	$87.51

Source: QC Tables 2 and 4, and Tenant File Table 2 and 4, Appendix C

Analysis of the errors on the 50058/50059 Form examined whether the errors identified using the 50058/50059 Form as a sole source of information are representative of the total errors in the program. The analyses focused on calculation and consistency errors:

Calculation error was identified from income, expenses, and allowances used to calculate the rent amount and recorded on the 50058/50059 Form. This calculation did not take into account whether dollar amounts were verified or whether the recertification was conducted on time. This analysis identified errors due to arithmetic mistakes, the incorrect use of a formula, and items that were not completed but should have been. This analysis did not identify households where items were recorded in the wrong place on the 50058/50059 Form, although improper use of a field on the 50058/50059 Form can result in a calculation error. Table 13 in Appendix C presents the number of households with 50058/50059 Form that contained calculation errors by the rent component contributing to the error. The items considered when determining calculation error, are listed in Appendix D.

Consistency errors were based on the logical conformity of elements in the 50058/50059 Form. For example, the effective date of action must be on or after the date of admission, elderly status

information should be consistent with household head and spouse ages, and number of dependents should not exceed the number of household members. Table 14 in Appendix C shows the number of households with consistency errors on the 50058/50059 Form, summarized by form subsections. Appendix D lists the data items by subsection that were included in this analysis.

Exhibit IV-17 shows the percentage of households with calculation and consistency errors by 50058/50059 Form subsections. It is important to emphasize that the 50058 Form is formatted differently and has more line items of information than the 50059 Form. Consequently, the number and types of calculation and consistency errors on the forms differ, and findings from the two forms are not directly comparable. The large number of calculation errors (particularly on the 50058 Forms) may be a contributing factor to QC errors, though a calculation or consistency error does not necessarily lead to a rent error. The PHA/owner may make an error when completing one section of the form, and still calculate the rent correctly.

Exhibit IV-17[5]
Percentage of Households with Calculation and Consistency Errors

50058/50059 Item	Percentage of Households					
	Calculation Errors			Consistency Errors		
	50058	50059	Total	50058	50059	Total
General Information	n/a	n/a	n/a	2%	1%	2%
Household Composition	12%	6%	10%	15%	4%	12%
Net Family Assets and Income	8%	4%	6%	3%	9%	4%
Allowances and Adjusted Income	50%	6%	37%	11%	1%	8%
Family Rent and Subsidy Information	13%	6%	11%	8%	1%	6%

Source: Tables 13 and 14, Appendix C

Comparison of 50058/50059 Errors to QC Error. A comparison was made between the rent calculation errors on the 50058/50059 Form and errors identified through the QC Rent calculation process. The purpose of this comparison was to determine if errors identified using only the 50058/50059 Form data could predict the rent errors found in a QC review. When using only the 50058/50059 Form data to calculate the Actual Rent, errors were found in 9 percent of the households in 2004, a small improvement from 2003's figure of 11 percent. The QC error calculation found errors in 34 percent of the households in 2004 down from 2003's 40 percent. The results are quite different from the individual and joint comparison methods. Error was found in both the 50058/50059 Form calculation and QC rent calculation in only 3 percent of the households. In 36 percent of the households, rent calculation error was found in either the 50058/50059 Form or the QC rent calculation, but not in both. This emphasizes that data from the 50058/50059 Form alone cannot accurately identify rent error. Exhibit IV-18 summarizes these results for 2003 and 2004.

[5] When comparing the 2004 findings to the 2003 findings, note that there was an error in the 2003 report in the percentage of 50059 Household Composition errors (the correct value in 2003 was 7 percent), and the percentage of 50058 Family Rent and Subsidy Information (the correct value in 2003 was 16 percent).

Exhibit IV-18
50058/50059 Rent Calculation Error Compared with QC Rent Error

Rent Calculation	Percentage of Households Correct		Percentage of Households Incorrect	
	2003	2004	2003	2004
Using Information on the 50058/50059 Form	89%	91%	11%	9%
According to the QC Rent Calculation	60%	66%	40%	34%
Both 50058/50059 Form Calculation and QC Rent Calculation	54%	61%	5%	3%

Verification errors were identified by whether an item was verified by the project and, if it was, whether the correct information was transferred to the 50058/50059 Form. An error occurs when the verified amount obtained by the project is not recorded properly on the 50058/50059 Form (and, presumably, not used in the rent calculation). When determining whether a verified income or expense item matched the amount used on the 50058/50059 Form, we assumed a variance of $100 to accommodate potential rounding errors when annualizing data.

Table 15a in Appendix C shows the number of households where verification (of any type) was not obtained, where it was obtained but did not match the amount used on the 50058/50059 Form, and where the verified amount did match the 50058/50059 Form. Table15b provides the same information but only includes the number of households where verification was obtained from third parties in writing (as required by the study). Tables 15e and 15f(1) provide the same data by program type.

Exhibit IV-19 summarizes the findings in Table 15a. In general, with the exception of disability expenses[6], the percentage of items verified by the PHA/owner remained about the same as in 2003. However, the percentage of items where the verification matched within $100 increased for all items. The number of households where verification was obtained and used by the PHA/owner continues to vary greatly depending on the rent component. For example, earned income, one of the main sources of error, was verified 90 percent of the time in 2004, compared with 92 percent in 2003. However, the correct amount of earned income was only used 70 percent of the time. On the other hand, there was improvement in the percentage of time verified information was used by the PHA/owner. The most improvement was with Public Assistance (which increased from 60 to 72%) and Other income (which increased from 54 to 68%).

[6] There are so few cases with disability expenses that the percentage associated with those expenses changes dramatically with a change in one or two cases.

Exhibit IV-19
Verification of 50058/50059 Rent Components by PHA/Owners

Rent Component	No Project Verification		Item Verified by Project		Verification Matched 50058/50059 within $100	
	2003	2004	2003	2004	2003	2004
Earned Income	8%	11%	92%	90%	68%	70%
Pensions	7%	4%	93%	96%	78%	84%
Public Assistance	13%	12%	87%	88%	60%	72%
Other Income	21%	17%	79%	83%	54%	68%
Asset Income	9%	9%	91%	91%	78%	84%
Child Care Expense	19%	17%	81%	83%	66%	68%
Disability Expense	46%	100%	54%	0%	23%	--
Medical Expense	17%	12%	83%	88%	62%	72%

Source: Table 15a, Appendix C

Exhibit IV-20 shows verification results by program type, again showing the verification rate for each rent component and the proportion that matched within $100 of the 50058/50059 Form amounts. When comparing the 2004 results to the 2003 findings, the following changes are of note:

- In the Public Housing program, there was improvement in both the verification and use of verification for all rent components. While there was only little change in the percentage of *verification* for most components, there was a 26 percent increase in the percentage of childcare expenses verified. In addition, the percentage of verified Public Assistance, Other, and Asset income *used* in the rent calculation increased by at least 10 percent.

- In the PHA-administered Section 8 programs, there were small changes (mostly improvements) in the percentage of most component items *verified*; however, the percentage of childcare expenses verified decreased by 10 percent. Most importantly, the percentage of verified Public Assistance and Other income *used* in the rent calculation increased by 17 and 15 percent, respectively, and the use of verified medical expenses increased by 12 percent. The use of verification for the remaining components remained about the same.

- In the owner-administered programs, the findings were mixed. There was an increase in the percentage of Pension income and Child Care items *verified*, and a decrease in the percentage of Earned Income and Public Assistance income items verified, while verification for the remaining items stayed about the same. There was also a decrease in the percentage of verified Public Assistance items that were *used* in the rent calculation, but the use of verification for almost all other components increased.

Exhibit IV-20
Verification of 50058/50059 Rent Components by PHA/Owner Staff by Program*

	Public Housing		PHA-Administered Section 8		Owner-Administered	
Rent Component	**Verified**	**Matched****	**Verified**	**Matched****	**Verified**	**Matched****
Earned Income	88% (89%)	64% (62%)	91% (92%)	74% (71%)	88% (93%)	67% (69%)
Pensions	94% (94%)	77% (76%)	96% (96%)	86% (83%)	96% (89%)	85% (75%)
Public Assistance	91% (87%)	73% (62%)	90% (87%)	75% (58%)	75% (86%)	60% (67%)
Other Income	77% (76%)	59% (49%)	89% (82%)	75% (60%)	73% (75%)	59% (47%)
Asset Income	94% (89%)	89% (72%)	80% (85%)	76% (76%)	95% (95%)	85% (80%)
Child Care Expense	92% (66%)	60% (53%)	77% (87%)	64% (69%)	91% (83%)	83% (71%)
Disability Expense	--	--	--	--	--	--
Medical Expense	88% (83%)	70% (61%)	85% (76%)	73% (61%)	89% (86%)	73% (63%)

Source: Table 15e, Appendix C

* Findings from FY 2003 are in parentheses.
** Matched within $100

Tenant File Verification Compared with QC Error. Errors identified through the QC process were investigated to determine whether they were associated with sources of income and expenses. Exhibit IV-21 presents the percentage of households with QC error for which verification was missing in the tenant file. Each error is presented by rent component. The data indicate that missing verification does have a major impact on error. Verification for each rent component was missing for at least 65 percent of all households with QC error. There was very little change in these findings when compared with the 2003 findings. The one exception is an increase in the percentage of owner-administered households with QC error that are missing verification for Other income.

Exhibit IV-21
QC Error Households with Missing Verification in the Tenant File

Rent Component	50058				50059			
	Households with QC Error		Households with QC Errors and Missing Verification		Households with QC Error		Households with QC Errors and Missing Verification	
	2003	2004	2003	2004	2003	2004	2003	2004
Earned Income	14%	12%	69%	69%	10%	6%	67%	66%
Pensions	15%	12%	90%	89%	18%	13%	90%	90%
Public Assistance	5%	4%	69%	68%	3%	3%	73%	77%
Other Income	8%	6%	74%	75%	6%	5%	74%	93%
Asset Income	7%	2%	78%	72%	9%	6%	67%	64%
Child Care Expense	4%	3%	78%	79%	2%	2%	76%	77%
Disability Expense	<1%	<1%	81%	100%	<1%	<1%	91%	100%
Medical Expense	10%	8%	88%	90%	16%	16%	83%	90%
No Component Error	62%	68%	--	--	64%	68%	--	--

Source: Table 16a, Appendix C

Summary of 50058/50059 Form Errors. Exhibit IV-22 provides a summary of the errors identified from the 50058/50059 Form. These include consistency errors, calculation errors, and overdue recertifications. The exhibit shows the percentage of households in error, the average dollar error, and the standard errors for both households with recalculated 50058/50059 Form error (error determined using only the 50058/50059 Form), and households with QC Rent error. This information is provided for households with error for each error type. An unduplicated count of 50058/50059 Form error is also provided. The exhibit shows that individual types of 50058/50059 Form errors are not closely associated with QC Rent Error. However, 50058/50059 Forms with any type of error (consistency, calculation, or overdue recertifications) are associated with QC Rent Error in 43 percent of the households.

When the findings in this exhibit are compared with the 2003 findings, the major changes in percentage of households in error are a decrease in both Recalculated 50058/50059 Form and QC rent error associated with Other Calculation Error, and an increase in the percentage of overdue annual recertifications. The increase in overdue annual recertifications reflected by this study may be related to the manner in which the data were collected for the 2003 studies. Because data were collected for half the fiscal year at a time, it is possible that some overdue annual recertifications were incorrectly excluded from the tenant sample. The percentage of overdue annual recertifications for 2004 (7%) is much closer to the percentage of overdue annual recertifications identified in the 2000 study (6%) than the percentage of overdue annual recertifications identified in the 2003 studies (3%).

There is also a major change in the average dollar error for Allowance Calculation error and Income Calculation error for households with recalculated 50058/50059 Form error. To

understand the reason for the change in the average dollar error it is important to review how this number is calculated. It is the average dollar rent error for all cases (based on recalculated 50058/50059 Form rent error—not QC rent error) that have error in the category identified in the column header. So for example, the average rent error dollars for households with allowance calculation errors is $210 (it was $125 in 2003). Because many of these cases have a large rent error (which may have nothing to do with the allowances) and the number of cases with allowance calculation error is small (13%) the average dollar error is large. There are larger recalculated rent errors in 2004 because of the regulation change related to the ceiling rent. For purposes of this study, Public Housing rents are no longer capped by Ceiling Rent; they are capped by Flat Rent. The Flat Rent is generally not on the 50058 Form; therefore no cap is applied when the 50058/50059 Form rent is recalculated.

Exhibit IV-22
50058/50059 Procedural Error: Percent of Households, Average Dollars in Error

	Households with Recalculated 50058/9 Error				Households with QC Rent Error			
Error Type Based on 50058/59 Recalculation	**Percent of Households in Error**	**Standard Error of Percent**	**Average Dollar Error**	**Standard Error of Mean**	**Percent of Households in Error**	**Standard Error of Percent**	**Average Dollar Error**	**Standard Error of Mean**
Households with Consistency Error	42%	4.8%	$119	$37.57	30%	3.2%	$59	$4.36
Households with Allowance Calculation Error	12%	2.6%	$210	$112.45	8%	1.0%	$56	$10.09
Households with Income Calculation Error	7%	2.7%	$129	$71.39	4%	0.9%	$40	$7.63
Households with Other Calculation Error	17%	3.0%	$74	$36.57	15%	1.8%	$77	$11.06
Overdue Recertifications	13%	2.7%	$48	$17.73	10%	1.5%	$72	$10.64
Unduplicated Count, Any Type of 50058/50059 Form Error	53%	4.4%	$101	$30.92	43%	2.6%	$61	$4.69
Total Households	100%		$59	$17.51	100%		$56	$2.34

Source: Table 17, Appendix C

Summary of Procedural Errors. As outlined in the study objectives, calculation errors, transcription errors, failure to recertify on time, and failure to apply allowances appropriately produce procedural errors. Exhibit IV-23 shows the Gross and Net Rent Errors for households with each type of procedural error.

When the findings in this exhibit are compared with the 2003 findings, the major change is an increase in the Average Dollars in Net Rent Error. This change is related to the issues addressed above when discussing Exhibit IV-22. There are larger recalculated rent errors in 2004 because of the regulation change related to the ceiling rent.

Exhibit IV-23
Procedural Error: Percent of Households, Average Dollars in Error
For All Households with 50058/50059 Form Recalculated Rent

Error Type	Percent of Households in Error	Gross Rent Error		Net Rent Error	
		Average Dollars in Error	Standard Error of Mean	Average Dollars in Error	Standard Error of Mean
Transcription Errors	37%	$10	$4.21	-$8	$4.15
Calculation Errors—Allowances	5%	$47	$27.74	-$36	$28.57
Calculation Errors—Income	4%	$22	$14.67	-$18	$13.07
Calculation Errors—Other	10%	$11	$5.63	-$8	$5.22
Overdue Recertifications	7%	$8	$3.20	-$4	$3.05
Any Administrative Errors	44%	$10	$3.53	-$7	$3.49
Total	100%	$5	$1.70	-$4	$1.63

Source: Table 18, Appendix C

E. Occupancy Standards

Exhibit IV-24 presents a summary of the analysis that determined whether households are assigned units with the correct number of bedrooms. It shows the percentage of households by actual number of bedrooms and correct number of bedrooms according to the guidelines used in the study. Note that the guidelines used in this study are generally acceptable HUD guidelines. All programs allow exceptions to HUD's rules. The Section 8 Voucher program sometimes allows households to rent units with fewer or more bedrooms than specified by the guidelines.

Exhibit IV-24
Percentage of Households in Units with the Correct Number of Bedrooms According to Study Guidelines

Number of Bedrooms	PHA-Administered				Owner-Administered		Total	
	Public Housing		HCVP					
	2003	2004	2003	2004	2003	2004	2003	2004
0	91%	100%	95%	90%	98%	98%	94%	98%
1	99%	100%	97%	98%	100%	99%	99%	99%
2	78%	83%	89%	78%	78%	78%	83%	79%
3	78%	86%	94%	85%	74%	94%	86%	87%
4	59%	62%	79%	55%	61%	60%	69%	57%
5	35%	20%	86%	78%	--	--	62%	61%
All Units	86%	89%	92%	84%	90%	93%	90%	88%

Source: Table 19, Appendix C

Twelve percent of all households occupied a unit with too many or too few bedrooms in 2004, according to the guidelines used for this study. This number is up slightly from 2003, where ten percent of all households occupied a unit with an incorrect number of bedrooms. Eleven percent of Public Housing households and seven percent of owner-administered households were over- or under-housed in 2004. Sixteen percent of Housing Choice voucher program households were over- or under-housed in 2004, a change from eight percent found in 2003.

Exhibits IV-24a and IV-24b show the percentage of households that met these guidelines for each bedroom size for 2003 and 2004, respectively. The shaded cells indicate the percentage of households that fall within study guidelines.

Exhibit IV-24a
Percentage of All Households by Number of Bedrooms and Number of Household Members

Number of Bedrooms	2003 Number of Household Members							
	1	2	3	4	5	6	7	8+
0	96%	3%	1%	--	--	--	--	--
1	89%	10%	<1%	<1%	--	--	--	--
2	15%	48%	27%	8%	2%	<1%	<1%	--
3	5%	8%	35%	34%	13%	3%	1%	<1%
4	4%	5%	6%	14%	25%	22%	16%	8%
5	--	--	7%	6%	14%	4%	38%	31%

Exhibit IV-24b
Percentage of All Households by
Number of Bedrooms and Number of Household Members

Number of Bedrooms	2004 Number of Household Members							
	1	2	3	4	5	6	7	8+
0	98%	3%	--	--	--	--	--	--
1	90%	9%	1%	<1%	<1%	--	--	--
2	19%	46%	26%	7%	1%	<1%	1%	--
3	2%	10%	32%	33%	16%	5%	<1%	<1%
4	--	7%	8%	26%	29%	16%	11%	5%
5	--	--	12%	17%	--	10%	--	61%

Source: Table 19a, Appendix C

F. PIC/TRACS Analysis

The households included in this study were matched against the PIC/TRACS data files. Initial analysis of these data was completed; however, additional information needed from HUD to complete the analysis was not available by the time this report was written. Therefore, the analysis has not been finalized, and the findings from the PIC/TRAC analysis have not been included in this report.

G. Project Staff Questionnaire Analysis

Five-hundred-thirteen executive directors or managers of PHA/projects completed self-administered, paper questionnaires that examined in details such topics as the number and type of staff, training received by staff on how to conduct (re)certifications, transfer of information about changes in HUD policies to the staff, procedures for monitoring quality control of (re)certifications, the use of interview guides, scripts, and worksheets, the use of computer software, difficulties in administering tenant interviews, and verification procedures employed in the process of (re)certifications. The results were analyzed separately for three program types: Section 8, Public Housing, and owner-administered PHA/projects.

A brief summary of the key findings from this analysis are presented below. A more detailed summary of the Project Staff Questionnaire information and the source tables reflecting the responses to all the questions in the questionnaire are found in Appendix E.

- Number and Type of Staff. Overall, PHA/projects indicated an average of 18 staff members working in the PHA/project with about 5 full-time equivalent staff working on (re)certifications and supporting more than 830 units. However, there was a wide diversity of responses with respect to the number of staff and the number of units, which also varied greatly between different types of PHA/projects. Across PHA/projects, on average, each staff member is supporting 163 units. Owner-administered projects reported the smallest ratio of units per staff (118), followed by Public Housing (180) and PHA-administered Section 8 (212).

- Number of New (Re)Certification Staff. Twenty-eight percent of PHA/projects had new staff. These PHA/projects reported an average of three new staff members assigned to conduct (re)certifications. The distribution of responses for the number of new staff assigned to conduct (re)certifications did not vary much—responses ranged from 1 to 36 staff members for all PHA/projects; however, about 50 percent reported only one new (re)certification staff.

- Training of New (Re)Certification Staff. Overall, the results suggest that the bulk of the training of the new (re)certification staff is provided by the PHA/project staff at the office. Other major providers of training for PHA-administered programs included HUD and Nan McKay and Associates. For owner-administered projects, major outside training providers included NCHM, and AHMA/SAHMA/NAHMA. Owner-administered projects reported having the least amount of training for the smallest number of staff when compared with the PHA-administered programs. The results also indicate a clear linear trend with smaller PHA/projects (less than 150 units) being less likely to report conducting training and acknowledging less training hours than medium-sized (150 to 500 units) or large PHA/projects (more than 500 units).

- Training of Experienced (Re)Certification Staff. The findings related to the providers and types of training for the experienced (re)certification staff are similar to the results for the training of the new staff. Almost all PHA/projects that conducted training of experienced (re)certification staff did so to inform these employees about changes in HUD or PHA/project rules or policies, as well as to refresh staff's skills and knowledge. When providing training for the experienced (re)certification staff, PHA/projects were equally likely to use in-house and outside sources of training.

- Transfer of Information about Changes in HUD Policies. Most PHA/projects reported communicating information to staff about changes in HUD policies by copying and distributing HUD announcements, using memos, or by informal oral communication. Most PHA/projects also reported being able to answer staff's questions about HUD policies—with less than a quarter of PHA/projects reported not being able to answer staff's questions. Furthermore, the percentage of PHA/projects reporting not being able to answer staff's questions increased with an increase in the size of the PHA/projects.

- Quality Control via Work Monitoring. Virtually all PHA/projects are using some form of quality control, either via internal processes or by involving HUD. The percentage of PHA/projects using internal processes to conduct work monitoring increased with an increase in the size of PHA/projects. The majority of PHA/projects rely on their supervisors to conduct work monitoring and use paper or computer-generated forms to assist in quality control efforts. PHA/projects employed a variety of methods for monitoring work, such as checking all cases, a random sample of about 20 percent of cases, or specific questionable cases.

- The Use of Interview Scripts, Guides, and Worksheets. Almost all PHA/projects are using interview scripts, guides, or worksheets for calculating income, allowances, or rent amounts. Overall, the initial certification interview took, on average, approximately one hour to complete, while recertification interviews lasted slightly more than half an hour.

The most frequently cited reasons why some interviews take longer than others include cases with numerous sources of income/assets/expenses, new or conflicting information arising during recertification, and the large size of a tenant's family. The majority of PHA/projects also reported having difficulty getting tenants to indicate their sporadic income, medical expenses, or income from self-employment. Interestingly, owner-administered projects were consistently less likely to report any types of problems with questions on the scripts, guides, or worksheets, than PHA-administered projects.

- The Use of Computers and Software Programs. Almost all of the PHA/projects are using computers in the process of conducting (re)certifications for all of their tenants. However, there is no consensus on the type of the software used or the company providing computer support. In spite of this wide diversity of computer companies being used for computer support, PHA/projects are likely to be using computer software for the same tasks, such as printing 50058/50059 Forms, calculating rent, submitting tenant information to HUD, inputting verified (re)certification information, and printing letters to tenants.

- Use of PIC/TRACS. About all PHA/projects (more than 95%) reported using PIC/TRACS System to transfer 50058/50059 Form data to HUD and the vast majority did so directly. However, owner-administered projects were less likely to directly transfer 50058/50059 Form data to HUD using PIC/TRACS System and were more likely to use an outside agency for the transfer of the data. The results also indicated that larger PHA/projects were more likely to transfer 50058/50059 Form data to HUD using PIC/TRACS System, while smaller PHA/projects were more likely to use an outside agency.

- Verification Procedures. Almost all of the PHA/projects always verified all sources of (re)certification information, including age, Social Security numbers, U.S. citizenship, non-U.S. citizenship, full-time student status, income from employment, assets, medical expenses, and child care or disability expenses. The information most difficult to verify included sporadic/infrequent/seasonal employment, assets, unspecified income, and medical expenses. As the size of the PHA/projects increased so did their reporting of difficulty in verifying many of the (re)certification information sources, although the linear trend was not very prominent for some of the sources. Although only 60 percent of PHA/projects reported accepting other than the desired verification information, the percentage of PHA/projects reporting it increased with the increased size of PHA/projects.

H. The Impact of Procedural Errors and Project and Tenant Characteristics

Four separate analyses were conducted to identify the impact of procedural errors, project characteristics, and tenant characteristics on dollar rent error. These analyses include the following:

- The impact of project characteristics and practices on administrative error (see Appendix F)

- The impact of project practices on dollar rent error (see Appendix G)

- The impact of procedural error and component error on dollar rent error (see Appendix H)

- The impact of tenant characteristics on dollar rent error (see Appendix I)

A brief summary of each of these analyses is provided below. A more detailed description of each of the analyses is found in the appendices referenced above.

The Impact of Project Characteristics and Practices on Administrative Error. Five characteristics and practices were found to have an impact on administrative error—

- *Project size.* Projects with more units make more administrative errors, even after controlling for project practices such as using computers for verification tasks. Further, project size had the largest effect of all measures on verification and calculation errors.

- *Third-party verification.* The more items for which a project's households provided third-party verification, the lower the proportion of households with verification and transcription errors. In addition, projects that used computers to calculate rents also verified a higher proportion of items per household.

- *Use of computers.* Using computers to interview tenants reduces the level of verification errors. Using computers to calculate rent lowered transcription errors, but only indirectly through increasing the proportion of items with third-party verifications, which in turn lowered transcription errors.

- *Multiple sources of income and expenses.* Having to document more sources of income and expenses obviously increases the potential for making transcription errors and verification errors. This relationship held true even when controlling for the proportion of items for which third-party verifications were obtained. The number of income/expense sources also mediated the impact of two project characteristics—public housing projects on average had more income/expense sources, while elderly/disabled projects on average had fewer sources.

- *Project type.* Public Housing projects had a higher proportion of households with rent calculation errors compared with other program types. PHA-administered Section 8 projects had a lower proportion of households with transcription errors compared with other program types.

The Impact of Project Practices on Dollar Rent Error. An assessment of the extent of variation in rent error between PHA/projects *and* the degree to which their administrative practices contribute to rent error concluded that—

- Rent error does not appear to be concentrated within certain projects. Instead, it appears that rent error is homogeneously spread between them.

- This homogeneity of error does not mean that the practices of PHA/projects do not contribute to error, only that "best practices" (in terms of a reduction in error) are difficult to identify.

Regressions indicate that program type is an important contributor to error. PHA-administered Section 8 units are significantly more likely to be associated with rent error than are Public Housing or owner-administered rental units. Other practices having a **positive impact** on rent error include the following:

- Acquiring information about HUD policies from the Internet or "other" sources of information

- Recognizing questions concerning income from self-employment and child support can be difficult for tenants

- Recognizing "computer problems" is a reason some interviews were longer than others

- Always verifying Social Security numbers or income from employment

- Recognizing disability expenses are difficult to verify

Practices having a **negative impact** on rent error include the following:

- Recognizing questions concerning income received from absent family members can be problematic

- Recognizing tenants with needs for special accommodations could extend the length of the interview

- Tracking receipt of verification using a computer tracking system

- Acknowledging child care expenses are difficult to verify

- Accepting other, less preferred evidence when verification is not provided as requested.

Some of the practices having a negative impact on error are counterintuitive. Their presence as negative impacts may be related to the fact that the PHA/projects recognizing or using the specified practice provide assistance to more difficult to serve populations, rather than the practice itself leading to more error.

It should also be noted that the number of family members in a household is a strong determinant of the propensity for error. It may be associated with other, project-level characteristics (e.g., the number of units, the number of items that need to be verified, length of interview, etc.) and thus, may obscure the significance of the practices of individual PHA/project characteristics.

The Impact of Procedural Error and Component Error on Dollar Rent. Three models were developed—one for gross error, one for underpayment of rent, and one for overpayment of rent—to determine if the behaviors driving overpayment and underpayment are different.

The **overpayment model** suggests that both transcription and verification errors contribute to tenants paying more than the required by HUD regulation. The childcare allowance initially seemed to account for the largest error for both verification and transcription, but the transcription coefficient lost its significance in the weighted survey.

The **underpayment model** presented a different picture. With the exception of pensions, it is verification errors that are most closely associated with underpayment. This means that for overpayments, some times proper documentation exists and transcribing it to the 50058/50059 Form leads to rent error, while other times it is unacceptable documentation or income discovered during the interview that is related to the error. For underpayments, the bulk of the error is due to verification error.

The gross error model indicates that earned income verification error presents the largest coefficients, all of it verification error. Childcare allowance error has the largest combination of transcription and verification error.

The Impact of Tenant Characteristics on Dollar Rent Error. An analytical approach known as Chi Square Automatic Interaction Detector (CHAID) was used to predict rent error using 50058/50059 Form variables. Three models were derived, each using a different dependent variable—Gross Rent Error, Underpayment of Rent, and Overpayment of Rent. The Gross Rent Error model indicates that larger households are more likely to have large errors. In particular, there are three groups of households that have the largest errors—

- Households with more than three bedrooms
- Households with two or three bedrooms and more than four household members
- Households with two or three bedrooms, 2, 3, or 4 household members, and no dependents

Because the majority of Gross Errors are underpayments, it is not surprising that the findings from the Underpayment model resemble the Gross Error model. The Overpayment model is the simplest and probably the least informative of the three models. It indicates that households whose tenant rent is greatest (above $289 to be specific) are most likely to make overpayments.

I. Rent Reasonableness

The Housing Choice Voucher Program (HCVP) assists low-income families in obtaining housing in the private market. Public housing authorities are responsible for administering the program and ensuring that the rents paid for dwellings leased by participants in the HCVP are reasonable in comparison with rental units in the private, unassisted local market. High rents can waste government funds and inadvertently raise private market rents.

HUD regulations require PHAs to conduct a rent reasonableness determination before units are leased, before rent increases are granted to owners, and when Fair Market Rents decrease by at least 5 percent. This analysis examines whether PHAs fulfilled the requirement for documenting rent reasonableness determinations, but does not investigate whether rents were in fact reasonable.

Methodology. Field interviewers were instructed to review case files for a rent reasonableness certification. For new certifications, field interviewers searched the file for the initial rent reasonableness certification and recorded its date. For annual recertifications, field interviewers examined case files for evidence of when the current rent to owner became effective. If the rent became effective within the past two years, the case file was searched for a rent reasonableness certification and the date of certification. The owner's rent certification on the Request for Tenancy Approval (RTA) form was considered a rent reasonableness certificate in the FY 2004 Study, but was not considered a rent reasonableness certificate in the FY 2003 Study as it had just been newly adopted at the onset of data collection.

Findings. The most common method of determining rent reasonableness is the unit-to-unit comparison (see Exhibit IV-25). Fifty-six percent of the housing authorities reported using this method. The unit-to-unit method is similar to the standard real estate appraisal technique of comparing a unit to similar private, unassisted units. Rent amounts are sometimes modified for differences in unit characteristics, such as size, age, amenities, housing services, maintenance, and utilities.

The unit-to-market comparison approach estimates the average and/or range of "market" rents for units with similar characteristics in the private, unassisted market. Valuation adjustments are based on typical units in the private market. Six percent of housing authorities reported using this method.

Twenty-eight housing authorities (26%) indicated that their rent reasonableness determinations were calculated on the basis of a point system. Using this system, units are assigned points based on their condition and attributes and comparisons are made to unassisted units.

Exhibit IV-25
PHAs by Rent Reasonableness Method (unweighted)

Method	in	%
Unit-to-Unit Comparison	61	56%
Unit-to-Market Comparison	7	6%
Point System	28	26%
Professional Judgment	2	2%
Other or Rent Control	5	5%
No Information Provided	6	5%
Total	109	100%

Nearly 83 percent of **new admission** files contained rent reasonableness documents (see Exhibit IV-26). However, the absence of documentation does not necessarily indicate a determination was not completed, only that it was not properly documented. Of those files that had documentation, over half (51%) contained a statement signed by the PHA staff certifying that the rent is reasonable.

Exhibit IV-26
Rent Reasonableness Documents for New Admissions

Status	Units in 1000s	%
Determination documented	215	83%
A signed statement certifying that the rent is reasonable	131	51%
Comparable units documented by the property owner in section 12a of HUD 52517	30	12%
Comparable units documented on other documents	37	14%
Any other reference to rent reasonableness	13	5%
Missing reference	4	1%
No determination documented	44	17%
Total	259	100%

HUD requires that rent reasonableness determinations be conducted before signing the contract and lease. The timeliness of the rent reasonableness determination was evaluated by comparing the lease date with the rent reasonable certification date in the case file. Exhibit IV-27 provides a summary of the most recent rent reasonableness determination by initial lease date for those households where the current rent to owner was established within two years prior to the data collection period. In both 2003 and 2004, about 9 percent of rent reasonable determinations were made after the rent had been established as part of the initial lease agreement.

Exhibit IV-27
Timing of Most Recent Rent Reasonableness Determination—New Admissions

	2003		2004	
Determination-Certification Chronology	Units in 1000s	%	Units in 1000s	%
More than 4 months before lease date	15	7%	7	4%
Up to 4 months before lease date	162	79%	180	84%
After lease date—up to 2 months	13	6%	11	5%
After lease date—greater than 2 months	68	3%	8	4%
Date missing	8	4%	9	4%
Total	205	100%	215	100%

Annual recertifications require rent reasonableness documents only when owners increased rental rates. We examined case files to determine when the current rent to owner first became effective. The case file was searched for the rent reasonableness determination when rent reasonableness determinations were performed in the previous two years. About 69 percent of these case files had certified rent reasonableness documents (see Exhibit IV-28).

Exhibit IV-28
Rent Reasonableness Documents for Annual Recertifications

Status	Units in 1000s	%
Determination documented	1,136	69%
A signed statement certifying that the rent is reasonable	558	34%
Comparable units documented by the property owner in section 12a of HUD 52517	97	6%
Comparable units documented on other documents	243	15%
Any other reference to rent reasonableness	69	4%
Missing reference	169	10%
No determination documented	516	31%
Total	1,653	100%

The current rents to owner in the lease agreements were compared with the dates of the rent reasonable documents. If the lease effective date occurred after the determination, the rent reasonableness determination had no impact on the rent charged. In 2004, about 14 percent of the rent reasonable determinations were made after rents had been established, compared with 22 percent in 2003 (see Exhibit IV-29).

Exhibit IV-29
Timing of Most Recent Rent Reasonableness Determination—Annual Recertifications

	2003		2004	
Determination-Certification Chronology	Units in 1000s	%	Units in 1000s	%
More than 4 months before lease date	44	7%	148	13%
Up to 4 months before lease date	444	69%	600	53%
After lease date—up to 2 months	34	5%	46	4%
After lease date—greater than 2 months	110	17%	118	10%
Date missing	12	2%	224	20%
Total	644	100%	1,136	100%

Conclusion. PHAs are not fully documenting rent reasonableness determinations as required by HUD regulations, and a large percentage of existing rent determinations have been made on the basis of less formal means of evaluating rents. These findings may be partially attributable to the PIH notice issued May 16, 2003 (notice PIH 2003-12) that supports a more streamlined rent

reasonable process. For example, a PHA need not consider all nine criteria cited in 24 CFR 982.507(b) to fully comply with the regulation. PIH 2003-12 also asserts that "each PHA should use appropriate and practical procedures for determining rental values in the local market." This statement may also be intended to justify less formal methods of rent determination.

J. Utility Allowance Analysis

Background. ORC Macro began the analysis of utility allowance information by attempting to determine if the correct utility allowance value was used by PHA staff when determining the tenant rent to owner. Our goal was to provide quantitative results on the frequencies of incorrect utility allowance determinations and assess the dollar value of error associated with the use of incorrect utility allowances. As the review process proceeded, it became clear that a quantitative analysis would not be feasible. Instead we revised our procedure to conduct a qualitative analysis to help refine our collection of utility allowance information for future studies. This change in plan broadens our knowledge of how PHAs calculate utility allowances and the type of data that will be needed to conduct a quantitative study in the future. For more details on the methodology, see Appendix J.

Findings. As part of gathering Project Specific Information (PSI) to prepare for data collection, utility allowance schedules were gathered from PHAs. Field interviewers were instructed to gather utility allowance worksheets, lease documents or lease addendums, and HUD Form 52517—Request for Tenancy Approvals (RTA) for each Housing Choice Voucher tenant selected to participate in the study. These documents were reviewed to determine if a Quality Control Utility Allowance (QC UA) could be calculated. If not, they were analyzed to identify issues related to the documentation and calculation of utility allowances that will be needed for future data collection and analysis efforts related to the accuracy of the allowances. Of the 780 voucher households reviewed, we were able to calculate the QC UA for 178 cases (23%). The results of that analysis are presented in Exhibit IV-30.

Exhibit IV-30
QC Utility Allowance Calculation Findings

Number	Percent	Outcome
188	66%	QC UA matched amount on 50058
3	2%	Discrepancy in number of bedrooms
4	2%	Discrepancy in unit type
27	15%	Discrepancy in utilities
26	15%	Other discrepancy*

*Other reasons included using an outdated Utility Schedule, calculation errors, fuel source discrepancies, and transcription errors.

The qualitative analysis of the utility allowance information provided the following information:

- Most PHAs use a worksheet to determine the utility allowance. The majority (51%) of PHAs used HUD Form 52667 to calculate tenant utility allowances. However, the remaining 49 percent had a great variance in the type of worksheet they used and the type of information provided. Key information needed from the worksheets included the

effective date of the utility allowances, unit type, number of bedrooms, type and fuel of utility paid by the tenant, and unit address.

- There is no standard document that contains all the information needed to calculate the QC utility allowance. Several documents are needed from the tenant file to collect the necessary data to determine the utilities paid by the tenant and the appropriate amounts.
  - *Leases* generally included the tenant's name, address, and effective date. However, they did not always indicate the type of unit and some did not clearly stipulate who was responsible for paying the utilities.
  - *Inspection Forms* generally contain only the tenant name, the unit type, address, and number of actual bedrooms, and do not usually include the utility allowance.
  - *HUD form 52517—Request for Tenancy Approval* included the tenant's name, address, requested beginning date of lease (we considered this to be the effective date) number of bedrooms, type of unit, and utilities paid by the tenant. However, it is not clear how often and under what circumstances this document is updated.
  - *HUD Form 52641—Housing Assistance Payment (HAP) Contract* is a HUD required form. It clearly indicates the type of utilities paid by the tenant. However, it does not contain the type of unit or in some cases the number of bedrooms.
- There will be discrepancies when collecting several documents to gather all the key items needed to determine the QC UA. These discrepancies include—
  - Unclear or conflicting data about whether the tenant or owner was responsible for paying specific utilities. For example, certain utilities (air conditioning in particular) are sometimes difficult to compare when reviewing the Allowance Schedule with other contractual documents.
  - Additional PHA-specific fees or flat rates paid to a tenant but not noted on the HAP, lease, or RTA.
  - Differences in the address, unit type, or number of bedrooms.
- PHAs have differing definitions of unit type.
- It is unclear when the PHA staff is instructed to begin using the PHA's updated utility allowance schedule.

Recommendations

To accurately determine whether utility allowance values are calculated correctly, more detailed information is needed at both the project and tenant level. Required project-level information (from PHA staff) includes PHA specific policies and instructions on how the utility allowance is calculated, definitions of unit types, the official documents that provide specific information

needed to calculate the utility allowance (e.g., number of bedrooms, and type of unit), and dates utility allowances are updated and implemented.

The necessary information from the tenant file will vary depending on the PHA-specific procedures. However, information provided by the HAP agreement or addendum, the worksheet used to calculate the utility allowance, and other official PHA documents that specify the unit type and number of bedrooms will be needed for each voucher tenant.

For a more detailed discussion of the utility allowance analysis, see Appendix J.

K. Payment Standard Analysis

Background. Payment Standards are used in the Housing Choice Voucher Program when determining the tenant's portion of the rent to owner. They must be kept current and set between 90 and 110 percent of the Fair Market Rent (FMR). If a PHA does not ensure that their payment standards are within this range, or they misunderstand how new FMRs affect exception payment standards, errors in tenant rent determinations will result.

PHAs may apply payment standards incorrectly resulting in errors in tenant rents. A PHA may have several Payment Standard areas with complex borders, sometimes making it difficult to select the correct Payment Standard for any given address within the jurisdiction. PHAs may also err by applying the family-size Payment Standard (the size authorized for the family as shown on the voucher) in lieu of the lesser of the family-size Payment Standard or the Payment Standard for the unit size (number of bedrooms in the unit). Other potential areas for error include whether a PHA has been authorized to use FMRs based on the 50th percentile of rents in the area; whether the PHA has been authorized to use success rate payment standards based on the 50^{th} percentile of rents; and whether the PHA continues to be eligible for these higher subsidy standards. Another complication allows PHAs to change the Payment Standard only at the time of the annual recertification or before moving to a new address. Thus, even if a change in family composition requires an interim recertification with several family members moving in or out, the Payment Standard used in determining the rent should not be changed at the interim recertification. The complexity of the Payment Standard guidelines increases errors, but most of the errors found were not due to complex circumstances.

Findings. As part of the FY 2004 HUDQC study, a special analysis was conducted to determine if PHAs are using correct Payment Standards. This analysis consisted of comparing the Payment Standard on the 50058 Form to the Fair Market Rents for the appropriate area. Households outside the 90–110 percent FMR band were flagged, and a list of such households was sent to HUD for resolution. The Payment Standard for 87 percent of the households fell within the 90 to 110 percent FMR band; four percent of the Payment Standards were lower than 90 percent of the FMR, and nine percent were higher than the FMR.

Exhibit IV-31 below summarizes the number and percent of households by the relationship of the payment standard to the acceptable by FMR rental rate.

Exhibit IV-31
Percent of Households by Fair Market Rent Category
After Comparing Payment Standard to Fair Market Rent

Fair Market Rent Category	Fair Market Rent		
	Under 90%	90–110 %	Over 110%
Less than $500	7%	19%	15%
$500–$599	17%	17%	12%
$600–$799	15%	21%	23%
$800–$999	3%	16%	28%
$1,000–$1,199	19%	15%	14%
$1,200–or Higher	39%	12%	7%
All Voucher Households	4%	87%	9%

The analysis of the cases that fell outside the 90 to 110 percent Fair Market Rent band (see Exhibit IV-32) indicated that 3.1 percent of the households were granted an exemption by HUD. Of the households that did not fall within the 90 to 110 percent Fair Market Rent band and were not granted an exemption, 4.2 percent included an elderly or disabled household member. Therefore, 3.3 percent of the population with a Payment Standard exceeding 110 percent of the Fair Market Rent did not meet a HUD exemption criteria, and 2.1 percent of the population with a Payment Standard less than 90 percent of the Fair Market Rent did not meet a HUD exemption criteria.

Exhibit IV-32
Percentage of Households Meeting Payment Standard Requirements

	Fair Market Rent			Cases Outside the 90–110% Band
	Under 90%	90–110 %	Over 110%	
Payment Standard Compared with Fair Market Rent	3.6%	87.2%	9.2%	12.8%
Households Granted an Exemption	.2%		2.9%	3.1%
Households (without exemptions) with Elderly or Disabled Members	1.3%		2.9%	4.2%
Households Not Meeting Requirements	2.1%		3.3%	5.4%

V. Recommendations

This section discusses recommended changes to the study that will improve the data collection process or the quality of the data used in the analysis. Section A discusses changes to the quality control process itself. Section B addresses policy actions that could be taken to reduce error.

A. Modifying the Quality Control Process

The current methodology used by ORC Macro to conduct its quality control study is based on the successes and failures of previous studies, and is generally performed well. However, there are some recommendations that would be helpful for expanding the utility of data products as well as improving the overall efficiency of ongoing quality control studies. These include the following:

1) *Continue the HUD quality control studies as a regular, ongoing effort to monitor and manage HUD rent determination processes.* A wise strategy of managing rent errors is administering an ongoing evaluation program that measures rent errors, tests alternatives to reduce rent errors, and better manages current and changing conditions at PHAs/projects. Such an evaluation program would have scheduled annual or biannual rent error data collection efforts for assessing current rent error issues. An ongoing evaluation program would also facilitate more accurate cross-year comparisons of rent errors. It also allows for data collection and analysis staff to develop specific expertise with HUD policy areas, and develop tailored solutions for improving data quality. Further, other HUD-related topics could be investigated (e.g., the changing demographics of HUD tenants) and piggybacked on to the rent error data collection processes. Finally, with highly trained staff and automated data systems, HUD could achieve greater cost efficiencies at this and other field tasks.

2) *Expand contractor access to verification obtained through inter-agency agreements.* Despite increasing rates of third-party verification, a large proportion of tenant income and expenses are not being verified. This is especially important given that the study results indicate a significant relationship between third-party verification of certain types of income and rent errors.

   During the current study, household-level information was used to match sample household members with Social Security data files through the tenant assessment system (TASS). Through this electronic match, verification was obtained for most sample household members' Social Security and Supplemental Security Income (SSA/SSI) benefits. However, there were many household members where a match between the study electronic files and the SSA/SSI electronic files was not found when expected and other situations where irresolvable discrepancies were identified. If ORC Macro as the contractor for the HUDQC study could have access to the SSA/SSI database, these mismatches and discrepancies could be resolved.

   There are now many PHAs that have access to the Department of Health and Human Services' (HHS') "New Hire" income matching database. This allows PHAs to have access to income verification documented in this database. Again, giving ORC Macro, as the

contractor for the study, access to these databases would considerably increase our ability to obtain verification for reported income and identify sources of unreported income.

3) *Collect more information regarding PHA/project policies and practices.* The utility allowance analysis (a new task for the 2004 study) emphasized the fact that each PHA establishes its own policies, procedures, and forms for collecting the information that is ultimately used to calculate tenant rent. The differentiation in these practices should have some (possibly major) impact on the rent error, yet the analysis of the project practices and characteristics collected in the Project Staff Questionnaire designed for this study does not demonstrate the expected impact. Therefore, we recommend that the Project Staff Questionnaire be revised to include questions focused on the specific practices that we expect, on the basis of our recent analysis of project-level data, to influence errors. We should also consider the method in which the questionnaire is administered and how the responses are recorded. As the rent error decreases, it will become increasingly difficult to continue to make changes that will reduce the error. Analysis of more detailed project-level data will assist in this process.

4) *Continue to investigate PIC/TRACS data for sampling and other purposes*. A match of the study sample households with PIC/TRACS data in 2003 indicates that 97 percent of the sample households are included in the PIC/TRACS databases. Given this information, consideration should be given to using these data for selecting the household sample. If it is determined that PIC/TRACS data could be used for selecting the sample, consideration should also be given to using PIC/TRACS data in place of abstracting 50058/50059 Form data from the tenant file. Using the PIC/TRACS data for selecting the household sample may not be appropriate because the data are not current, or because of delay between when the sample is drawn and when the actual data collection occurs.

5) *Continue to expand existing computer systems and processes that further automate data collection, processing, and reporting functions*. Most of the data for the current study were collected using an automated data collection system. This system simplified the data collection process, reduced the number of data collection errors, and eliminated the need to code the data after data collection. While the existing systems work well, there are many improvements that can be made to the data collection software, the field monitoring software, and the processing and tracking of third-party verifications. Consideration should be given to developing systems that would allow for calculating rent as the data is collected and comparing the QC calculated rent to the rent identified on the 50058/50059 Form. Expanding and investing in better automated systems will yield large dividends in terms of costs, time required to collect and process data, as well as the breadth, depth, and quality of data.

B. Policy Actions

This study was not designed to provide recommendations regarding basic program objectives and policies. However, the findings from this study suggest that some major procedural changes should be considered when establishing and revising policy. We continue to recommend the same five major changes to existing policies identified in the 2003 report and have added a 6th recommendation related to the frequency of reexaminations for elderly and disabled households.

1) *HUD should continue its plans to implement use of the Department of Health and Human Services' "New Hires" income matching database as quickly as possible.* The Congressional authorization giving HUD access to HHS' "New Hires" income matching database provides the opportunity to correct most errors associated with reported and unreported income for the Public Housing and Section 8 voucher programs. The majority of subsidy overpayment errors are associated with earned income determination errors, and the large majority of tenant income underreporting also relates to earned income. Full implementation of an income matching system will quickly eliminate over half of current errors in the Public Housing and Section 8 voucher programs. It would have the further significant advantage of doing so by providing a tool that reduces and simplifies the program administrator workload associated with verifying income sources and amounts.

   Full implementation of the New Hires database will require HUD to implement procedures to ensure that program sponsors obtain valid Social Security numbers from all tenants of employment age. It will also need to mandate use of income matching using the new system. The large majority of PHAs that already seek to comply with income verification rules should find the new system less burdensome than current practices. For at least the next 1 to 2 years, programs managed by the Office of Housing that provide project-based assistance without the involvement of a public agency will be unable to access the New Hires database. Some of these projects have management ties with PHAs and may be able to access the New Hires database through such links. The balance of projects without management ties to PHAs will need to wait until HUD has fully implemented income matching for Public Housing programs and is in a position to request extension of its current authority.

2) *HUD should consider expanding support of the occupancy function and conducting an outreach campaign to PHAs and owners informing them of the Department's occupancy-related resources.* Provision of detailed, current occupancy handbooks, such as those recently issued, goes a long way toward providing needed guidance but will never be able to answer all possible questions that surface. Specifically, HUD should develop a nationwide, consistent, reliable approach to providing guidance and support to PHAs and owners. HUD Housing and PIH occupancy question and answer Web sites have recently started to become a valuable tool. They provide a fast way of providing an official, uniform response to questions that surface on a widely and increasingly used medium. Other opportunities exist. For example, the Department could offer a monthly televised program highlighting a specific occupancy topic, leaving at least half of the program time for call-in questions on any occupancy topic. HUD could then make the taped program available for Internet access to reach a larger audience (as the Department does now with many video programs.). PHA managers and staff often are unaware of the resources that HUD has to offer—especially those originating from headquarters. Even when HUD's customers are aware of some of the Department's direct assistance options, owners and PHA staff are still reluctant to use them. A PHA may hesitate to call HUD staff for fear that their questions will bring closer scrutiny of their operations. Some PHAs may have had past experiences with getting different answers to the same question from different HUD staff, or may be aware that their HUD contact person has a different perspective than that expressed by another HUD staff to a neighboring PHA. For these and other reasons, it is important that the PHA/owner community know that there are HUD-approved resources that they can trust to provide consistent guidance and quick, reliable answers to questions.

It is also critical that there be a close link between the team that responds to field concerns and the staff responsible for writing HUD notices and guidance documents. The team responding to field questions and concerns knows what the problems are that face the field. These problems should be the subject of the guidance that comes from HUD.

3) *HUD should provide the PHA/owners with the forms, training, and other tools needed to determine rent correctly.* Rent calculation error could be reduced if HUD would provide structured forms for interviewing tenants, obtaining verifications, and calculating rent. Ideally, these tools would be provided in the form of computer-assisted interview software that minimizes the number of questions that need to be asked. Such systems would ensure that tenants are asked about all income sources and expenses that affect their rent. Manuals and training materials explaining how to implement requirements correctly and calculate rent accurately should be provided. To the extent that HUD program rules can be simplified, provision of automated and manual tools would be easier.

   HUD experts and local housing staff should be given an opportunity to work together to develop these tools and systems needed to reduce rent error. Many local PHA/owners have already developed forms, training materials, manuals, automated systems, and monitoring processes that have enabled them to provide accurate efficient service to the tenants they serve. HUD should learn from these PHA/owners and develop materials that will help those PHA/owners who for one reason or another have not been as successful.

4) *HUD should continue to implement its on-site monitoring program, and PHA/owners should be held accountable for implementing HUD regulations and calculating rent accurately.* An on-site monitoring system that includes reviews at both the local and Federal level is essential to improving accountability. PHA/owners with excessive errors should be required to develop corrective action plans and show improvement within specified time periods. HUD has initiated extensive on-site monitoring efforts since the 2000 QC study, in contrast with its policies of most of the previous two decades. The most obvious explanation for the magnitude of error reductions in subsidy determinations between 2000 and 2004 is improved HUD monitoring and the expectation of such monitoring.

   Monitoring can be conducted at a variety of different levels. We recommend that HUD require PHA/owners to perform their own quality control reviews on a percentage of income determinations and rent calculations. Agencies that have aggressively sought to improve performance of their programs have had some significant successes, and one of the most frequently used error reduction strategies includes the establishment of internal quality control review procedures. In addition to agency monitoring, HUD Field Offices and/or other national-level well-trained staff should conduct a re-review of a percentage of the cases reviewed at the local level to ensure that the quality control reviews are being conducted correctly, or select their own random sample of files for review. This type of oversight not only identifies errors, but also prevents them. In addition, it demonstrates HUD's concern and focuses PHA/owner attention on tenant income and rent.

5) *Federal laws, regulations, and HUD requirements should be simplified to the extent possible.* The current statutory environment poses substantial obstacles to efficient, accurate income and rent calculations. It contains dozens of requirements that may all be well-intentioned and have potentially desirable impacts but which, taken as a whole, make the income and rent determination process extremely complex. HUD has sought to issue guidance on virtually all aspects of current income and rent determination requirements, but some of the legislative provisions were written without any thought as to implications for their administrative complexity. While determining which income to count, which expenses to allow, and annualizing that information in a program with multiple objectives may always be complicated, the various specialized provisions that relate to small subparts of the population could be eliminated or simplified. Two examples of such policies follow:

- *Disallowance of Earned Income from Public Housing Rent Determinations.* Legislation passed in 1998 related to employment incentives provides an example of the complexities associated with rent determinations. The legislation provides special rent treatment for families:

  - Whose income increases as a result of employment of a member of the family who was previously unemployed for 1 or more years;
  - Whose earned income increases during the participation of a family member in a family self-sufficiency or other job training program; or,
  - Who is or was, within 6 months of being hired or receiving a pay increase, assisted under any State program for TANF funded under part A of title IV of the Social Security Act, and whose earned income increases.

  Families that qualify under these provisions are not subject to rent increases related to increased earned income for a 12-month period. After that period, the rent will be increased but only by 50 percent of the amount of the total rent increase that would be otherwise applicable.

  In practice, low-income tenants often have jobs with little security and move in and out of employment and training programs. Regulations needed to define the range of circumstances that occur and adequately document eligibility for this provision are necessarily long and somewhat complex. Keeping track of rent increase constraints imposes a significant added burden on PHAs and adds to rent determination errors. As with many provisions associated with rent and income determinations, there apparently was little thought given to striking a balance between a policy objective and administrative feasibility. A flat dollar or percentage income deduction for any earned income, for instance, would have provided a more direct and understandable incentive, and would have been easier for program sponsors to implement and for HUD to monitor.

- *Medical Expenses.* Elderly and disabled families are eligible for a medical expense deduction that is intended to cover prospective medical costs. Determining the amount that a family **anticipates** spending on medical needs is a difficult thing to do. Elderly tenants often keep poor records, and there is limited reason to believe that the medical expenses claimed have a close relationship with actual expenses, which HHS data

suggest are, on average, higher. Verifying medical expenses is a burdensome process for program sponsors. Calculating the medical expense allowance would be far less complicated if HUD would substitute a flat medical allowance for the inexact science of estimating future expenses. If some provision for exceptionally high expenses was considered essential, then the requirement could be that actual expenses could be claimed if in excess of some relatively high percentage of a family's income (e.g., 20 percent). This approach would be welcomed by the many elderly people and people with disabilities who resent the intrusion of housing staff into their very personal medical affairs (many verifications by their very nature reveal the type of clinics being visited, the practice of doctors being seen, and the names and dosages of prescriptions drugs being taken).

Expecting what are often relatively low-paid, minimally trained, high turnover project staff to correctly implement unnecessarily complex rules is unrealistic. Some program sponsors do a remarkably good job, but expecting a generally high level of accuracy in rent and subsidy determinations may be unrealistic within the context of the current system. The legislative changes affecting tenant rent determinations made every 1 or 2 years usually affect a relatively small percentage of tenants, but are sufficient to substantially reduce incentives to design and implement comprehensive forms, procedures, and data systems that cover all aspects of income and rent determinations.

6) *HUD should consider requiring some reexaminations to be completed less often than annually.* Many years ago, the reexaminations for elderly and disabled families were conducted biannually rather than annually. HUD should consider implementing this policy again or possibly conducting reexaminations for selected populations every 3 years. To remove the issues related to incorrect subsidies because of the annual increase in Social Security benefits, the policy *could* require adding the annual SSA COLA to the total annual income for the households included in this group. With the time-savings made available by this change in policy, PHA/project staff could spend more time conducting required reexaminations, following up on suspected cases of fraud, and conducting more internal monitoring of tenant files.

Definitions

Actual Rent—the tenant rent from the 50058 or 50059 Form.

Administration Type—PHA or owner.

Abstract Month—the month in which the data collection process for any given household was initiated.

Calculation errors—arithmetic errors within subsections of the 50058 or 50059 Form.

Case Type—certification, recertification, and overdue recertification.

Component errors—the income and expense components used to calculate rent. The income components are employment income, Social Security and pensions, public assistance, other income, and asset income. The expense/allowance components are elderly/disabled allowance, dependent allowance, medical expenses, child care expenses, and disability expenses.

Consistency errors—errors in logical conformity between elements within the 50058 or 50059 Form.

Dollar Rent Error—is calculated at the household level by subtracting the household's QC Rent from the Actual Rent.

Error Rate—the sum of the dollar amount of Gross Rent Error divided by the sum of the dollar amount of the QC Rent.

Gross Rent Error—the sum of the absolute values of under- and overpayments.

Largest Component Dollar Error—the annual dollar amount of error in the component with the largest error.

Net Rent Error—the arithmetic sum of over- and underpayments.

Overpayment—results when the household paid more than it should have paid; HUD's contribution was less than it should have been.

Payment Type—underpayment, proper payment, and overpayment.

Program Type—Public Housing, Section 8 Housing Choice Voucher, Section 8 Moderate Rehabilitation, Section 8 project-based, Section 202 PRAC, Section 811 PRAC, and Section 202/162 PAC.

Quality Control Month—the month in which the PHA/owner completed the rent calculation.

Quality Control (QC) Rent—calculated by ORC Macro using the tenant file, household interview and verification data.

Rent Component—the five sources of income (earned, pensions, public assistance, other income, and assets) and the five types of deductions (medical, child care, and disability assistance expenses, dependent allowance, and elderly/disabled allowance).

Rent Error—the difference between the monthly Actual Rent and the monthly QC Rent.

Total Component Dollars in Error—the absolute sum (i.e., the sum of the positive and negative amounts, ignoring the plus or minus signs) of all individual income and expense component errors. These errors are combined to provide an overall Total Dollars in Error and are presented as annual amount.

Transcription errors—errors in transferring information from documentation in the tenant file to the 50058 or 50059 Form.

Underpayment—results when the household paid less than it should have paid; HUD's contribution was higher than it should have been.

Appendix A—Rent Calculations

Appendix A—Rent Calculations

A. Rent Calculations by Program

1. Public Housing

a. Obtain the Total Tenant Payment (TTP).

b. Determine if the family includes any ineligible noncitizens. IF YES, **continue**. If NO, **go to d.**

c. Determine if the family includes any citizens or eligible noncitizens. IF YES, **go to #3 (continuation).** IF NO, **go to #4 (temporary deferral).**

MARKER (marks the return point after determining continuation of assistance status)

d. Obtain the Utility Allowance.

e. Determine if the tenant selected the Flat Rent. IF NO, **go to** f. IF YES, the QC RENT equals the Flat Rent. **Go to g.**

f. The amount of the tenant's rent (QC RENT) is the lower of: a. (TTP), minus b. (Utility Allowance), or the Flat Rent.

g. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error.**

Note: If there is no Flat Rent, the QC rent will be capped with the Fair Market Rent (FMR) to determine the dollar amount of error.

2. Section 8 Vouchers

a. Obtain TTP.

b. Obtain the Gross Rent.

c. Obtain Utility Allowance.

d. If TTP is greater than Gross Rent, then set TTP to Gross Rent.

e. Obtain Payment Standard (the Payment Standard is based on the lower of the Unit (actual) Bedroom Size, and Family (eligible) Bedroom Size).

f. Obtain the household's Adjusted Monthly Income.

g. Subtract e. (Payment Standard) from b. (Gross Rent). If the Payment Standard is higher than the Gross Rent, use 0.

h. Add a. (TTP) to g. (Gross Rent minus Payment Standard).

i. Determine if this is the initial occupancy for this dwelling unit. (Item 12b on the 50058 is yes). IF YES, **continue.** IF NO, **the Family Share = h. Go to l.**

j. Calculate 40 percent of the household's Adjusted Monthly Income (f.).

k. Determine if j. (40 percent of Adjusted Monthly Income) is equal to or greater than h. (TTP plus Gross Rent minus Payment Standard). IF YES, **the Family Share = h. Go to l.** IF NO, **procedural error. Family Share = h. Go to l.**

l. Determine if the family includes any ineligible noncitizens. IF YES, **continue.** If NO, **go to n.**

m. Determine if the family includes any citizens or eligible noncitizens. IF YES**, go to #3 (continuation).** IF NO, **go to #4 (temporary deferral).**

MARKER (marks the return point after determining continuation of assistance status)

n. Subtract c. (Utility Allowance) from the Family Share (h.). This is the QC RENT.

o. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error.**

3. Section 8 Enhanced Voucher

a. Determine if household is receiving an Enhanced Voucher. If YES, **continue**. If NO, **use regular Voucher formula.**

b. Obtain the TTP.

c. Obtain the Gross Rent.

d. Determine the lesser of b. (TTP) or c. (Gross Rent).

e. Determine if the family includes any ineligible noncitizens. IF YES, **continue.** If NO, **go to g.**

f. Determine if the family includes any citizens or eligible noncitizens. IF YES, **go to #3 (continuation).** IF NO, **go to #4 (temporary deferral).**

MARKER (marks the return point after determining continuation of assistance status)

g. Obtain the Utility Allowance.

h. Subtract g. (Utility Allowance) from d. (the lesser of TTP or Gross Rent). This is the Family Rent to Owner (QC RENT).

i. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error.**

4. Section 8 Project-Based, Section 202, Section 811, Section 8 Moderate Rehabilitation

a. Obtain the Gross Rent (Gross Rent equals the Contract Rent plus the Utility Allowance).

b. Obtain the TTP.

c. Determine if the family includes any ineligible noncitizens. IF YES, **continue.** If NO, **go to f.**

d. Determine if the family includes any citizens or eligible noncitizens. IF YES, **go to #3 (continuation).** IF NO, **go to #4 (temporary deferral).**

MARKER (marks the return point after determining continuation of assistance status)

e. Obtain the Utility Allowance.

f. If Subsidy Type on 50059 = 7 or 8 (PRAC), **go to h.**

g. Subtract e. (Utility Allowance) from b. (TTP) or a. (Gross Rent) whichever is lower. This is the QC RENT. **Go to i.**

h. Subtract e. (Utility Allowance) from b. (TTP). This is the QC RENT.

i. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error.**

5. Manufactured Home Space Rental for Section 8 Vouchers

a. Obtain the Rent to Owner.

b. Obtain the owner maintenance and management charges for the space.

c. Obtain the Utility Allowance

d. Add together a. (Rent to Owner), b. (owner maintenance and management charges), and c. (utility allowance). This is the Space Rent.

e. Obtain the TTP.

f. Obtain the Payment Standard.

g. Subtract f. (Payment Standard) from d. (Space Rent).

h. Add e. (TTP) to g. (the amount by which the Space Rent exceeds the Payment Standard). This is the Family Share.

i. Determine if this is the initial occupancy for this dwelling unit. (Item 12b on the 50058 is yes). IF YES, **continue**. IF NO, **the Family Share = h. Go to m.**

j. Obtain the household's Adjusted Monthly Income.

k. Calculate 40 percent of the household's Adjusted Monthly Income.

l. Determine if k. (40 percent of Adjusted Monthly Income) is equal to or greater than h. (TTP plus Gross Rent minus Payment Standard). If YES, **the Family Share = h.; go to m**. If NO, **Procedural Error. The family is not entitled to assistance in this unit.**

m. Determine if the family includes any ineligible noncitizens. IF YES, **continue.** If NO, **go to o.**

n. Determine if the family includes any citizens or eligible noncitizens. IF YES, **go to #3 (continuation).** IF NO, **go to #4 (temporary deferral).**

MARKER

o. Subtract c. (Utility Allowance) from h. (Family Share) to determine QC Rent (Family Rent to Owner).

p. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error.**

B. Special Calculations for Household with Ineligible Noncitizens

1. Continuation of Assistance

a. Determine if the family was receiving assistance on June 19, 1995. IF YES, **continue**. IF NO, the FAMILY is eligible for prorated assistance; **go to #5 (proration formula).**

b. Determine if the FAMILY head or spouse is a citizen or eligible noncitizen. IF YES, **continue**. IF NO, the FAMILY is eligible for prorated assistance; **go to #5 (proration formula).**

c. Determine if the FAMILY includes any ineligible members other than the head, spouse, and child or parent of the head or spouse. IF NO, **continue.** IF YES, the FAMILY is eligible for prorated assistance; **go to #5 (proration formula).**

d. Determine if the FAMILY was granted continuation of assistance before November 29, 1996. IF YES, the FAMILY is eligible for full continuation of assistance. **Return to MARKER.** IF NO, the FAMILY is eligible for prorated assistance; **go to #5 (proration formula).**

2. Temporary Deferral of Termination of Assistance

a. Determine if Temporary Deferral of Termination of Assistance has been granted. If YES, **continue.** If NO, **go to d.**

b. Determine the date Temporary Deferral of Assistance was granted.

c. Determine if more than 18 months have passed since Temporary Deferral of Termination of Assistance was granted. IF YES, **go to d.** IF No, the FAMILY is entitled to Temporary Deferral of Termination of Assistance; **go to MARKER.**

d. Determine if the FAMILY includes a refugee under Section 207 of the Immigration and Naturalization Act or an individual seeking asylum under Section 208 of that Act. IF YES, **the Family is entitled to ongoing Deferral of Termination of Assistance; go to MARKER**. IF NO, **continue.**

e. Determine if the FAMILY was receiving assistance on June 19, 1995. If YES, **the Family is eligible for Temporary Deferral of Termination of Assistance; go to MARKER.**

f. Determine if the FAMILY is exercising its hearing rights (waiting for a decision from an INS or PHA/owner appeal). If **YES, go to MARKER.** IF NO, **continue.**

g. Determine if the PHA is making reasonable efforts to evict. IF YES, **go to MARKER.** IF NO, **Procedural Error,** HOUSEHOLD IS INELIGIBLE**.**

3. Proration Formula for Public Housing

a. Determine if this is a Public Housing case? IF YES, **continue.** IF NO, **go to #6.**

b. Determine the number of FAMILY members.

c. Determine the number of eligible FAMILY members.

d. Obtain the TTP.

e. Obtain the 95^{th} percentile of Gross Rents for similarly sized public housing units in order to determine the public housing maximum rent.

f. Determine if the Family pays a Flat Rent. IF NO, **go to i.** IF YES, **continue.**

g. Obtain the Flat Rent.

h. If g. (Flat Rent) is greater than or equal to e. (Maximum Rent), there is no prorated rent. Use the Flat Rent; **go to n.** If g. (Flat Rent) is less than the e. (Maximum Rent), subtract the Flat Rent from the Maximum Rent. This is the Family's Maximum Subsidy. **Go to j.**

i. Subtract d. (TTP) from e. (Maximum Rent) to determine Maximum Subsidy.

j. Divide h. or i. (Maximum Subsidy) by b. (number of FAMILY members) and multiply by c. (number of eligible members) to determine the Eligible Subsidy for the FAMILY.

k. Subtract j. (Eligible Subsidy) from e. (Maximum Rent) to obtain the prorated TTP.

l. Obtain the Utility Allowance.

m. The amount of the tenant's rent (QC RENT) is k. (prorated TTP) minus l. (Utility Allowance).

n. Did the Family accept the prorated rent? Y/N. IF NO, **go to #4.**

o. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error**

4. Proration Formula for All Section 8 Programs

a. Obtain the Rent to Owner (voucher).

b. Obtain the Utility Allowance

c. Obtain the Gross Rent.

Voucher Gross Rent = Rent to Owner plus the Utility Allowance.

d. Obtain the TTP.

e. Obtain the Payment Standard (Voucher).

f. Obtain the HAP.
Owner Administered: HAP = Gross Rent minus TTP.
Voucher: HAP = Gross Rent or Payment Standard (whichever is less) minus the TTP.
Enhanced Voucher: HAP = Gross Rent minus the Payment Standard.

g. Record the number of FAMILY members.

h. Record the number of eligible FAMILY members.

i. Divide f. (HAP) by g. (total number of FAMILY members), and then multiply the result by h. (number of eligible FAMILY members) to obtain the prorated HAP.

j. If Manufactured Home Space Rental, return to MARKER.

k. Subtract i.(prorated HAP) from c.(Gross Rent) to obtain the prorated Family Share.

l. Subtract b. (Utility Allowance) from k. (Prorated Family Share) to determine the prorated QC RENT.

m. Determine if the QC RENT equals the ACTUAL RENT. IF YES, **no error.** IF NO, **dollar error.**

Appendix B—Weighting Procedures

Appendix B—Weighting Procedures

This appendix describes the procedures followed in weighting the sample data.

Study Population. The universe under study includes all projects and tenants located in the continental United States, Alaska, Hawaii, and Puerto Rico.

The following programs are included in the sample:

- PIH-administered Public Housing projects (i.e., Public Housing)
- PIH-administered Section 8 projects
  - Moderate Rehabilitation
  - Vouchers

- Office of Housing-administered projects (i.e., owner-administered)
  - Section 8 New Construction/Substantial Rehabilitation
  - Section 8 Loan Management
  - Section 8 Property Disposition
  - Section 202 Project Rental Assistance Contracts (PRAC)
  - Section 202/162 Project Assistance Contracts (PAC)
  - Section 811 PRAC

The frames used to draw the sample include many out-of-scope projects such as projects in the Move-to-Work program and projects that have been demolished or that are no longer assisted housing. Many of these projects were identified before the sample was drawn, but others were not and had to be replaced. In addition, at times projects resulting from a merger of two or more projects or that were split into two or more were identified, resulting in difficult sampling decisions.

Weighting Strategy. The weighting procedure usually begins with the determination of the probability of selection of every unit in the sample. The use of purposive replacement for out-of-scope projects for any of several reasons makes the sample weight calculations complicated. The determination of an actual probability of selection for a replacement is impossible to make. A sampling weight proportional to what the probability would have been if the project had been selected originally is a reasonable estimate. For one replacement Primary Sampling Unit (PSU), it was decided that the probability of the original PSU should be used.

The probability of selection of a tenant was thus the product of the following combinations:

1) The probability of selection of the PSU
2) The probability of selection of the project from the PSU
3) The probability of selection of the tenant from the project.

The three probabilities were multiplied together and formed the preliminary weights. The weights were then adjusted to be added to estimates of the national total of tenants in each program. The weights summed to 1,320,000 for the owner-administered programs, 1,050,000 for Public Housing, and 2,000,000 for the PIH-administered Section 8 programs.

Primary Sampling Unit Probabilities. Each PSU was sampled with probabilities proportional to size. The size measure used was the number of tenants adjusted to obtain equal expectation for the three major types of programs in the study. The number of tenants of each kind in a PSU was multiplied by an inflation factor to make all three numbers equal. The size measures were then added; the PSU probability of selection was its size measure divided by the sum of the size measures nationwide, multiplied by the number of PSUs to be selected (60). PSUs with probabilities greater than 1 could be selected more than once (Sampling with Minimal Replacement). For weighting purposes, probabilities greater than 1 were set to 1.0.

Project Probabilities. This was defined as the minimum of kt/T and one, where k is the number of projects in the program selected from the PSU, t is the number of tenants in the project and T is the number of tenants in the program. This is not the exact probability of selection, but given that some of the initially sampled projects were found to be out of scope and had to be replaced, it was a reasonable approximation.

Tenant Probabilities. This is the total number of tenants sampled from the project divided by the estimated number of tenants whose annual recertifications were conducted during the study period. The estimate was obtained by multiplying the total number of tenants by the proportion of tenants selected who were in scope for the study (i.e., who were subsidized by one of the programs). For example, if six tenants were reviewed to find four tenants who were both in scope and available for interviewing, one who was out of town, and one who was not subsidized, from a list of 120 tenants, then the estimate would be 120 x (5/6) = 100 tenants.

Post-Stratification. The sample was designed to obtain similar numbers of tenants in each of the following three categories of projects:

- PIH-administered Public Housing projects
- PIH-administered Section 8 projects
- Office of Housing-administered projects

HUD provided approximate totals for each of the three categories. The sampling frame totals did not correspond to these numbers and required extensive adjustments. Consequently, the weights were adjusted so that they add up to the totals provided by the external source.

Trimming the Weights. The final step was the trimming of the weights. A procedure used in the National Assessment of Educational Progress (Potter, 1990) reduces the extreme weights and readjusts them so that they add up to the same national totals. This procedure was applied using the criterion used in the NAEP survey, but no weights met the criterion; therefore, no weights were modified.

Effective Sample Size. The weights led to an effective sample size because of the weighting of 772 (down from an actual size of 800) for the Office of Housing-administered projects, 750 for the PIH-administered Public Housing projects, and 569 for the PIH-administered Section 8 projects.

Variance Estimation. Standard errors were obtained for a number of estimates using the SURVEYMEANS procedure in SAS. This procedure uses Taylor Series to estimate standard errors, confidence intervals, and coefficients of variation.

Taylor Series estimation of variances requires identification of PSUs. However, for variance estimation, PSUs sampled with certainty must be treated as strata, and secondary sampling units become PSUs. Thus, the four PSUs selected with certainty became strata, and the projects selected from each stratum were treated as if they were PSUs.

Implicit stratification was used to control for region, but this presents a problem for Taylor Series analysis (because there is no integer allocation by region). The regional strata were thus ignored, as was a finite population correction. Both of these factors mean that the variance estimates presented in this report are conservative. If it were possible to measure the standard errors directly, they would in all likelihood be slightly smaller than the ones presented in this report.