

**NATIONAL ENERGY ASSISTANCE
DIRECTORS' ASSOCIATION**

NATIONAL ENERGY ASSISTANCE SURVEY REPORT

FINAL REPORT
April 2004

Revised: August 2004

The National Energy Assistance Directors' Association

The National Energy Assistance Directors' Association (NEADA) represents the state directors of the Low Income Home Energy Assistance Program (LIHEAP). NEADA is a nonprofit educational and policy organization based in Washington, DC. Its mission is to support the delivery of LIHEAP services by state agencies and programs.

This report has been prepared under contract by APPRISE for NEADA through funding provided by the Administration for Children and Families (ACF), U.S. Department of Health and Human Services (Cooperative Agreement No. 90XP0040). The statements, findings, conclusions, and recommendations do not necessarily reflect the views of ACF.

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Acknowledgements

NEADA would like to thank the many individuals and organizations that provided assistance and time in developing this study and its findings. In particular, we would like to first thank the members of the NEADA Research Committee for helping to develop the goals and objectives of the study: Glen Cooper, State of Colorado; Leslie Lee, State of Delaware; Richard Kirby, District of Columbia; Joyce Hull, State of Georgia; Jerry McKim, State of Iowa; Jo-Ann Choate, State of Maine; Matt Gugliemetti, State of Rhode Island; and Steven Tryon, State of Wisconsin.

We would like to thank Jackie Berger, David Carroll and Donnell Butler of APPRISE for conducting the research and preparing the study report. Also, we would like to acknowledge the technical assistance that was provided by Leon Litow, Office of Community Services' Project Officer, Administration for Children and Families.

The study would not have been possible without the participation of the directors and staff at the state LIHEAP offices in:

California	Massachusetts	Ohio
Colorado	Minnesota	Pennsylvania
Georgia	Montana	Rhode Island
Delaware	New Mexico	Virginia
Iowa	New York	Washington
Louisiana	North Carolina	Wisconsin
Maine	North Dakota	

These states provided data necessary to select the sample of LIHEAP recipients for the study.

Last, we would like to thank Victor Miller, Senior Fellow for Intergovernmental Finance, Federal Funds Information for States, in for helping to design questions relating to health and energy, Roger Colton for helping to incorporate the energy insecurity scale into the survey, and the many people who took time to review and comment on the draft report.

Mark Wolfe
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ABSTRACT

NATIONAL ENERGY ASSISTANCE SURVEY REPORT

In FY 2004 LIHEAP will provide close to \$2 billion in heating and cooling assistance to more than 4.9 million low-income households throughout the United States. The National Energy Assistance Directors' Association (NEADA), representing the state directors of the Low Income Home Energy Assistance Program (LIHEAP), contracted with APPRISE Incorporated to conduct a national survey of 2,161 LIHEAP recipients to collect information on the choices made by households in FY 2003 when faced with high energy bills. Among the findings of the study:

Who Receives LIHEAP? The majority of households have at least one member who is disabled (43%), elderly (41%), and/or have a child under the age of 5 years old (18%). Most households are very low-income: 74% have incomes below \$15,000 and 50% have incomes below \$10,000. Almost 43% are homeowners, 36% are working or self-employed and 36% are retired. In addition, 31% were unemployed at least sometime during the year. LIHEAP recipients pay on average 14% of their household income for total residential energy costs, as compared to 3% for all other recipients.

Does LIHEAP Make a Difference? The survey found that LIHEAP is essential in helping a large number of low-income Americans meet their home energy needs. Furthermore, LIHEAP assistance reduces the percentage of household income spent on total residential energy costs from 14% to 11%. Before LIHEAP, only 9% of the recipient households had energy burdens of less than 5%, and after LIHEAP the proportion increased to 27%. Of even greater significance, the percentage of recipients with energy burdens above 25% of income declined from 12% to 4% with LIHEAP benefits. This reduction was achieved through a relatively small average grant of \$313 in FY 2003.

Despite the small grant, the findings point to very large benefits:

88% of recipients said that LIHEAP has been very important in helping meet their needs; another 8% said it was somewhat important.

- 62% of those who lost their heat due to an inability to pay their energy bills said that LIHEAP helped to restore their heat.
- 54% of recipients said that they would have kept their home at an unsafe or unhealthy temperature if LIHEAP had not been available.
- 48% of recipients said that they would have had their electricity or home heating fuel discontinued if LIHEAP had not been available.

Unaffordable energy bills have serious, long-term impacts on families. In the past five years:

Impact on Health: 22% went without food for at least one day, 38% of LIHEAP recipients went without medical or dental care, 30% went without filling a prescription or taking the full dose of a prescribed medicine, 21% became sick because their home was too cold, 7% became sick because their home was too hot, and 5% reported that an illness resulted in a doctor or hospital visit. Of growing concern, 20% of recipients said that they were not able to pay their energy bills due to medical expenses.

Impact on Shelter: 28% did not make a rent or mortgage payment, 9% reported that they moved in with family or friends, 4% were evicted, and 4% were homeless.

Some LIHEAP recipients faced life-threatening challenges. In FY 2003, 17% were unable to use their main source of heat due to

discontinued utility service or an inability to pay for fuel, and 8% had their electricity shut off due to nonpayment.

Even with LIHEAP families have to take drastic actions to pay their energy bill:

- 78% reduced basic expenses for household necessities to afford their energy bill
- 30% used their kitchen stove for heat
- 51% paid less than their entire home energy bill

Almost all LIHEAP recipients took constructive actions to lower their energy bills:

- 44% put plastic on their windows
- 76% turned down the heat when they went to bed
- 83% kept shades and curtains closed during the daytime in the summer
- 78% used fans and opened windows
- 65% washed clothes in cold water
- 44% used compact fluorescent light bulbs

The study found significant differences among LIHEAP recipients based on fuel type and homeownership. In FY 2003:

- 31% of bulk fuel respondents said that they experienced a loss of energy service due to discontinued utility service or an inability to pay for fuel, compared to 15% of respondents that use natural gas or electricity as the primary fuel for heating their home.
- 72% of bulk fuel respondents who were without heat due to inability to pay their energy bill said that LIHEAP helped restore their heat, compared to 49% of respondents

that use natural gas or electricity as the primary fuel for heating their home.

- 53% of renters said that they needed to borrow from a friend or relative to pay their residential energy bill, compared to 38% of homeowners.
- 56% of renters said that they skipped paying or paid less than the whole residential energy bill, compared to 46% of homeowners.

How Long Do LIHEAP Recipients Receive LIHEAP? Only 21% of LIHEAP recipients reported that they received LIHEAP five times in the past five years. Approximately 25% of households with at least one elderly family member and 27% of households with at least one disabled family member have received LIHEAP five times in five years, compared to 9% of households with a child under the age of five, and 12% of households without vulnerable members.

The need for LIHEAP far exceeds the availability of current appropriations. Approximately 4.6 million households received LIHEAP in 2003, only 13% of the over 34.6 million households that were income-eligible to receive LIHEAP.

Summary

The study clearly documents that low-income households spend an inordinate amount of their household income on energy; households that receive LIHEAP face significant hardship in attempting to pay their energy bills; and yet LIHEAP makes a significant difference for recipient households.

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List of Acronyms and Abbreviations

ACF	Administration for Children and Families
AHS	American Housing Survey
CPS	Current Population Survey
DOE	Department of Energy
EIA	Energy Information Administration
FY	Fiscal Year
HHS	U.S. Department of Health and Human Services
LIHEAP	Low Income Home Energy Assistance Program
NEA	National Energy Assistance
NEADA	National Energy Assistance Directors' Association
OBRA	Omnibus Budget Reconciliation Act of 1981
RECS	Residential Energy Consumption Survey

Executive Summary

The Low-Income Home Energy Assistance Program (LIHEAP) helps low-income households meet their immediate home heating and cooling needs. In FY 2004 LIHEAP will provide close to \$2 billion in heating and cooling assistance to more than 4.9 million low-income households throughout the United States. In October 2003, NEADA commissioned Apprise, Inc. to conduct a national survey of choices made by LIHEAP-recipient households when they cannot afford their energy bills. By examining how low-income families manage energy unaffordability, the 2003 NEA survey serves as a complement to other important national surveys such as the Residential Energy Consumption Survey and the Current Population Survey.

Low-income households have energy burdens that far exceed those of higher-income households. LIHEAP-recipient households spent an average of 14 percent of their income on total residential energy bills.¹ This compares to 3 percent for households with income above 150 percent of the poverty level.² Despite these significant residential energy expenses, most low-income households pay their energy bills regularly. But at what cost?

The 2003 NEA survey found that LIHEAP recipients faced life-threatening challenges. In FY 2003:

- 17 percent were unable to use their main source of heat due to discontinued utility service or an inability to pay for fuel; and,
- 8 percent had their electricity shut off due to nonpayment both due in part to unaffordable energy bills.
- 53 percent of renters said that they needed to borrow from a friend or relative to pay their residential energy bill, compared to 38 percent of homeowners.
- 56 percent of renters said that they skipped paying or paid less than the whole residential energy bill, compared to 46 percent of homeowners.

The 2003 NEA survey found that LIHEAP-recipient households across the country face serious hardships in attempting to pay their energy bills. In the past five years:

- 38 percent went without medical or dental care;
- 30 percent went without filling a prescription or taking the full dose of a prescribed medicine;

The 2003 NEA survey found significant differences among LIHEAP recipients based on fuel type and homeownership. In FY 2003: 31 percent of bulk fuel respondents said that they experienced a loss of energy service due to discontinued utility service or an inability to pay for

¹ 2003 National Energy Assistance (NEA) Survey.

² 2001 Residential Energy Consumption Survey (RECS). Database available from the Energy Information Administration (EIA), a statistical agency of the U.S. Department of Energy (DOE).

fuel, compared to 15 percent of respondents that use natural gas or electricity as the primary fuel for heating their home.³

- 72 percent of bulk fuel respondents who were without heat due to inability to pay their energy bill said that LIHEAP helped restore their heat, compared to 49 percent of respondents that use natural gas or electricity as the primary fuel for heating their home.
- 28 percent did not make a rent or mortgage payment;
- 22 percent went without food for at least one day;
- 21 percent believe they became sick because their home was too cold; and,
- 7 percent believe they became sick because their home was too hot

due in part to unaffordable energy bills.

The NEA study presented in this report finds that LIHEAP is essential in helping a large number of low-income Americans meet their energy needs. LIHEAP assistance reduces the percentage of household income spent on total residential energy costs from 14 to 11 percent.⁴ This reduction is achieved through a relatively small average grant of \$313 in FY 2003. Despite the small grant, the findings point to very large benefits:

- 88 percent of recipients said that LIHEAP has been very important in helping meet their needs; another 8 percent said it was somewhat important.
- 62 percent of those who lost their heat due to an inability to pay their energy bills said that LIHEAP helped to restore their heat.
- 54 percent of recipients said that they would have kept their home at an unsafe or unhealthy temperature if LIHEAP had not been available.
- 48 percent of recipients said that they would have had their electricity or home heating fuel discontinued if LIHEAP had not been available.

The need for LIHEAP far exceeds the availability of current appropriations. Over 4.6 million households received LIHEAP in 2003, only 13 percent of the over 34.6 million households that had income below the federal maximum LIHEAP standard.⁵

Key findings from the 2003 NEA study can be summarized as follows:

- Low-income households spend an inordinate amount of their household income on residential energy.
- Households that receive LIHEAP face significant hardship in attempting to pay their energy bills.
- LIHEAP makes a significant difference for most recipient households.

³ Bulk fuel respondents are defined as LIHEAP-recipient households who reported bottled or tank gas (e.g., LPG or propane), fuel oil, kerosene, etc. as the fuel most used for heating their home. Utility service respondents are defined as LIHEAP-recipient households who reported natural gas or electricity as the fuel most used for heating their home.

⁴ The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. However, information on total residential energy costs is more accessible and more apparent to LIHEAP-recipient respondents. Moreover, any reduction in home heating and cooling costs leads to a direct reduction in total residential energy costs. Therefore, this report will address total residential energy costs.

⁵ The Federal maximum LIHEAP standard is 150 percent of poverty or 60 percent of state median income. Many states target assistance to poorer households and set eligibility limits as low as 110 percent of poverty.

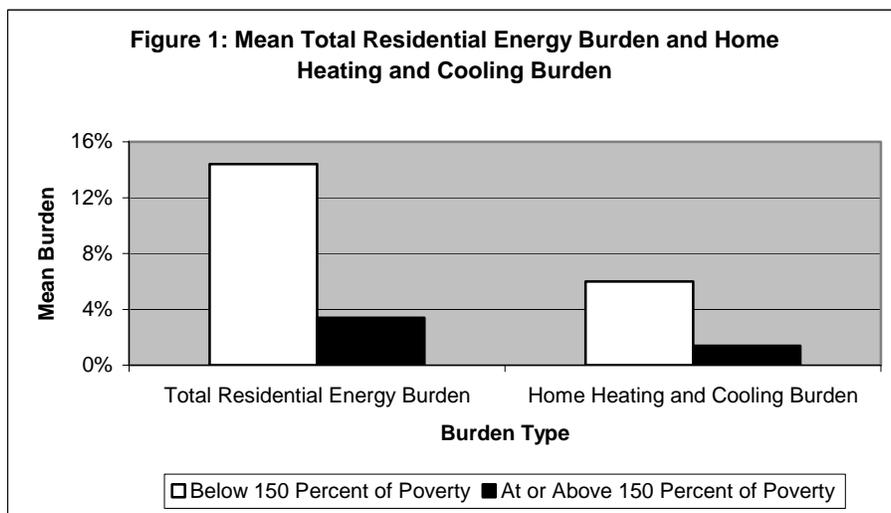
- However, LIHEAP still only serves a small fraction of eligible households.

Energy Burden

Energy burden is a statistic that is often used to assess the problems households have in meeting their energy needs. Energy burdens are high for low-income households, both because of their low income and higher relative energy costs. Low-income households have higher energy costs because of old or substandard housing with inefficient heating systems, low levels of insulation, or gaps in the exterior of the home.

According to the 2003 Current Population Survey, 24 million households have incomes below 150 percent of poverty, and the mean annual gross income for those households was \$11,897. This compares to a mean annual income of \$70,232 for the households at or above 150 percent of poverty.

Figure 1 shows that households with income below 150 percent of poverty spend 14 percent of their income on total residential energy, compared to 3 percent for households with income above 150 percent of poverty.⁶ The mean home heating and cooling burden is 6 percent for low-income households, compared to 1 percent for households that are not low-income.⁷



Source: 2001 Residential Energy Consumption Survey

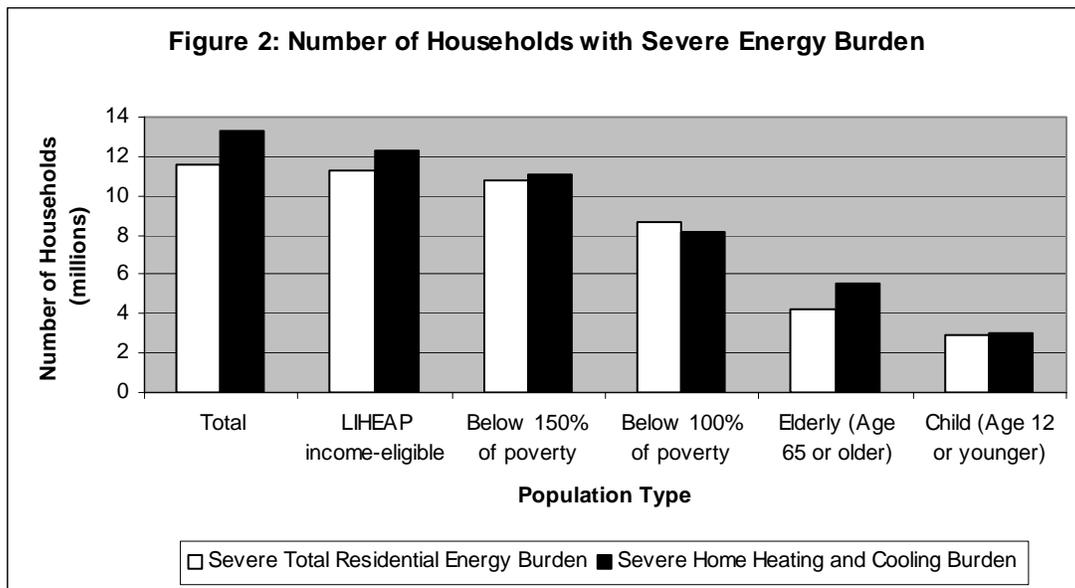
Total residential energy burden is the total cost of energy used in the home divided by total household income. Home heating and cooling burden is the total cost of home space heating and cooling divided by total household income. The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. As noted in footnote 4, this report focuses on total residential energy costs and not home heating and cooling costs.

⁶ 2001 Residential Energy Consumption Survey (RECS).

⁷ 2001 RECS.

Within this study, severe total residential energy burden is defined as energy costs exceeding 11 percent of income and severe home energy burden as heating and cooling costs exceeding 4 percent of income.⁸

Figure 2 illustrates that 12 million households with income below the federal maximum eligibility standard of 60 percent of state median income or 150 percent of the federal poverty level have severe home heating and cooling burdens.



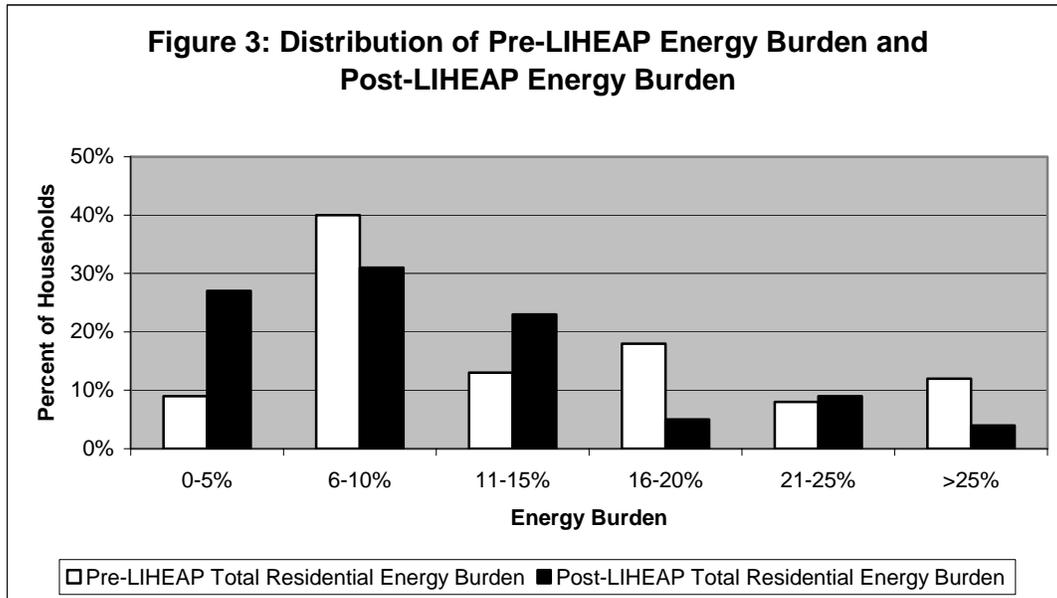
Source: 2001 Residential Energy Consumption Survey

Severe total residential energy burden is defined as total residential energy costs exceeding 11 percent of household income. Severe home heating and cooling burden is defined as home space heating and cooling costs exceeding 4 percent of household income.

Figure 3 displays the level of energy burden both prior to subtracting LIHEAP benefits from energy costs (pre-LIHEAP), and after subtracting LIHEAP benefits (post-LIHEAP). Figure 3 shows that 91 percent of LIHEAP recipients have pre-LIHEAP total residential energy burdens above 5 percent, and 20 percent above 20 percent. After accounting for LIHEAP benefits, the

⁸ Some researchers have defined severe shelter burden as shelter costs at or greater than 50 percent of income (See Cushing N. Dolbeare. 2001. "Housing Affordability: Challenge and Context." *Cityscape: A Journal of Policy Development and Research*, (5)2:111-130. A Publication of the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.) The severe shelter burden definition is used in this study as a guide to define severe total residential energy burden. The median total residential energy costs for households with income below 150 percent of poverty are 21.8 percent of shelter costs. If shelter costs are 50 percent of income, then these total residential energy costs represent 10.9 percent of income. Therefore severe total residential energy burden is defined as total residential energy costs that exceed 10.9 percent of income (Calculation: $.218 \times .50 = .109$). Severe home heating and cooling energy burden is defined as the percentage of income spent on home heating and cooling that would be excessive for low-income households. The 2001 RECS shows that heating and cooling energy expenses comprise 39.3 percent of total residential energy expenditures. Therefore, severe home heating and cooling energy burden is defined as heating and cooling costs that exceed 4.3 percent of income (Calculation: $.39 \times .218 \times .50 = .043$).

proportion of households that fall into the lowest energy burden interval (of 0-5%) increases from 9 percent to 27 percent. LIHEAP benefits reduce the proportion of households with total residential energy burden above 15 percent from 38 percent to 19 percent.

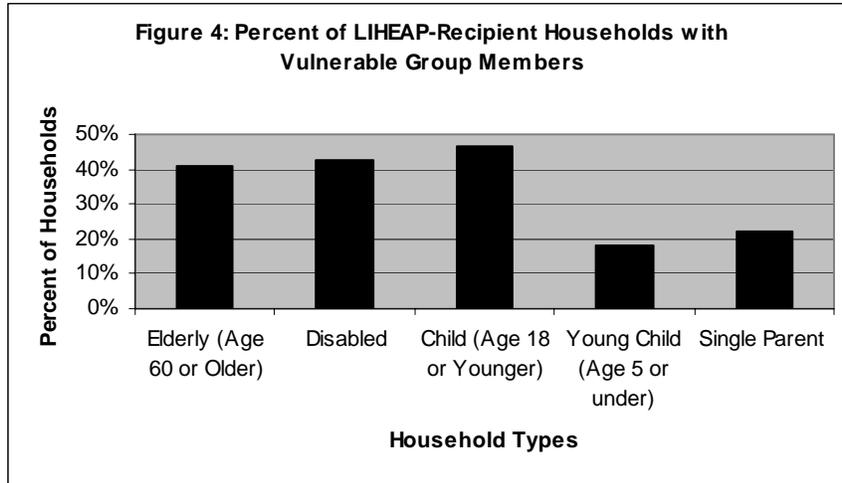


Source: 2003 National Energy Assistance Survey

Pre-LIHEAP total residential energy burden is the total cost of energy used in the home divided by total household income. Post-LIHEAP total residential energy burden is the total cost of energy used in the home minus LIHEAP benefits received divided by total household income.

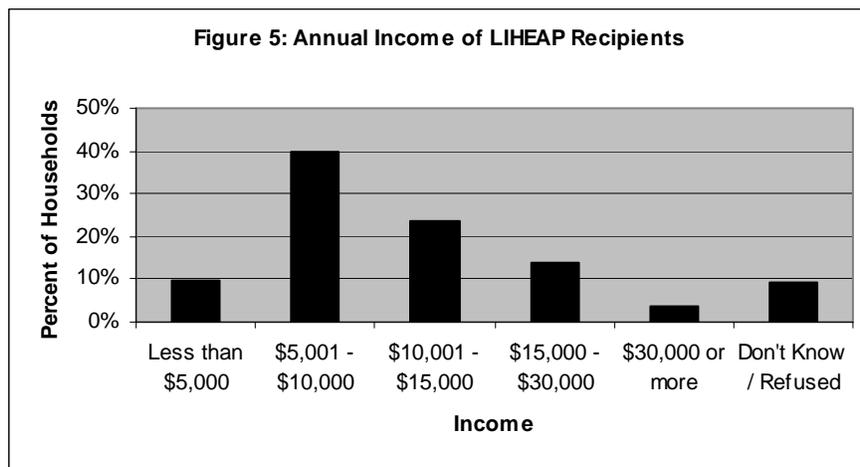
LIHEAP Recipients

Figure 4 presents the percentage of LIHEAP recipients with one or more household members particularly vulnerable to unaffordable energy bills. Forty-one percent reported that they have one or more household members age 60 or older, 43 percent have one or more disabled household members, 47 percent have one or more children age 18 or younger, 18 percent have one or more young children age 5 or younger, and 22 percent are single parent households.



Source: 2003 National Energy Assistance Survey

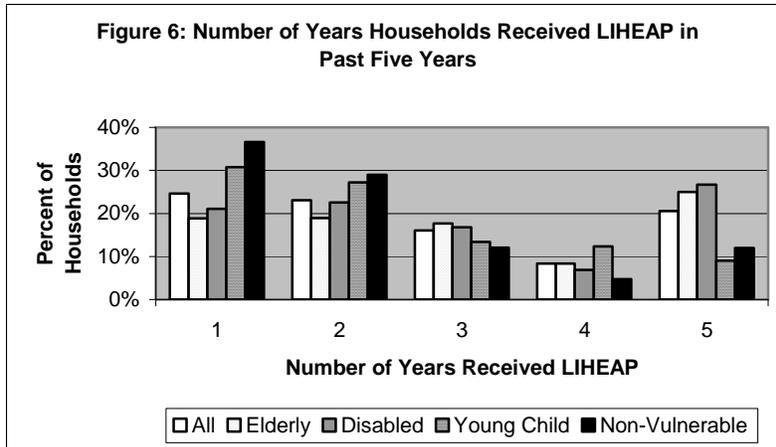
Respondents were asked for their annual household income. Figure 5 shows that 50 percent reported an annual income at or below \$10,000 per year and 74 percent reported an annual income at or below \$15,000.⁹



Source: 2003 National Energy Assistance Survey

Respondents were asked how many times in the past five years they received LIHEAP benefits. Figure 6 shows that 25 percent reported that they received LIHEAP only once, and 21 percent reported that they received LIHEAP five times in the past five years. Approximately 25 percent of households with an elderly person and 27 percent of households with a disabled person have received LIHEAP five times in five years, compared to 12 percent for non-vulnerable (i.e., households with no residents that are elderly, disabled, or children) households and 9 percent for LIHEAP-recipient households with children age 5 or younger.

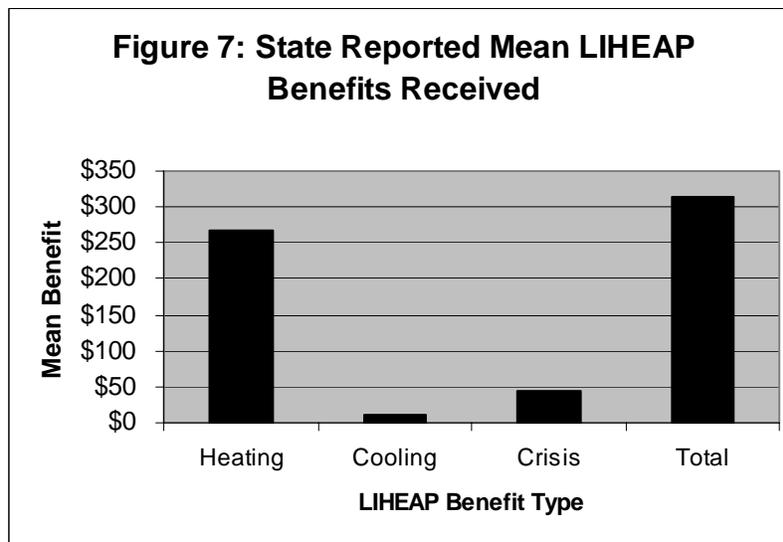
⁹ Table 14 shows that 70 percent of LIHEAP recipients have incomes below 100 percent of poverty.



Source: 2003 National Energy Assistance Survey

States were asked to provide data on the amount of heating, cooling, and crisis benefits received by each household. All twenty states included in the survey provided data for nearly all (2,132 of 2,161) of the respondents.

Figure 7 shows that the total average LIHEAP award was \$313 in FY 2003. The average LIHEAP grant was \$267 for heating, \$10 for cooling, and \$45 for crisis. Most LIHEAP recipients received heating assistance, but only a small minority received cooling assistance.¹⁰

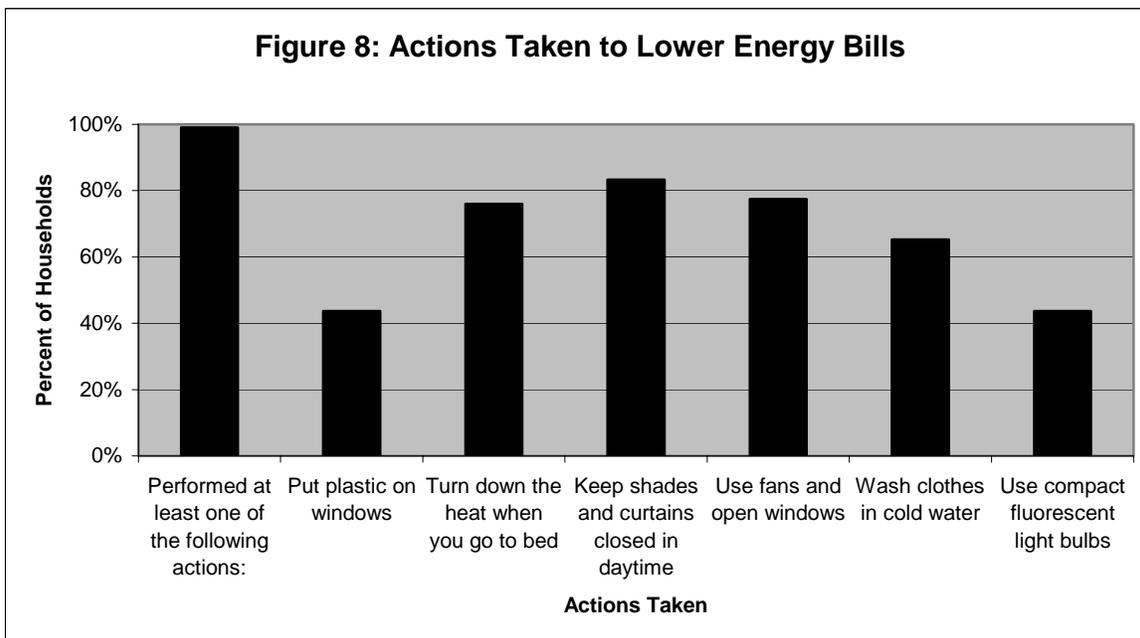


Source: 2003 State LIHEAP office data

¹⁰ Table 34 shows that 2.6 percent (56 of 2,132) of LIHEAP recipients received cooling benefits, 11.5 percent (245 of 2,132) received crisis benefits, and 95.8 percent (1,959 of 2,132) received heating benefits. The mean LIHEAP benefits received are averages over all recipients in the states where those benefits were offered. The average cooling benefit among only those who received a cooling benefit was \$147 and the average crisis benefit among only those who received a crisis benefit was \$264.

Constraints, Hardships, and Unsafe Practices

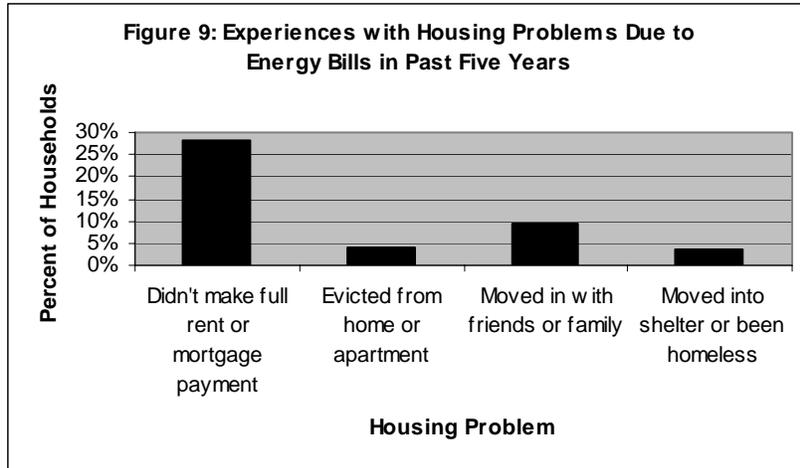
Respondents were asked whether they took specific actions in FY 2003 to bring down their total residential energy costs. Figure 8 illustrates that nearly all LIHEAP recipients took constructive actions to lower their energy bills. Forty-four percent of LIHEAP recipients said that they put plastic on their windows and 76 percent said they turned down the heat when they went to bed. Eighty-three percent said they kept shades and curtains closed during the daytime in the summer and 78 percent said they used fans and opened windows. Sixty-five percent said they washed clothes in cold water and 44 percent said they used compact fluorescent light bulbs.



Source: 2003 National Energy Assistance Survey

Note: These responses may be overestimated due to respondent compliance (i.e., desire to provide a socially desirable or positive response).

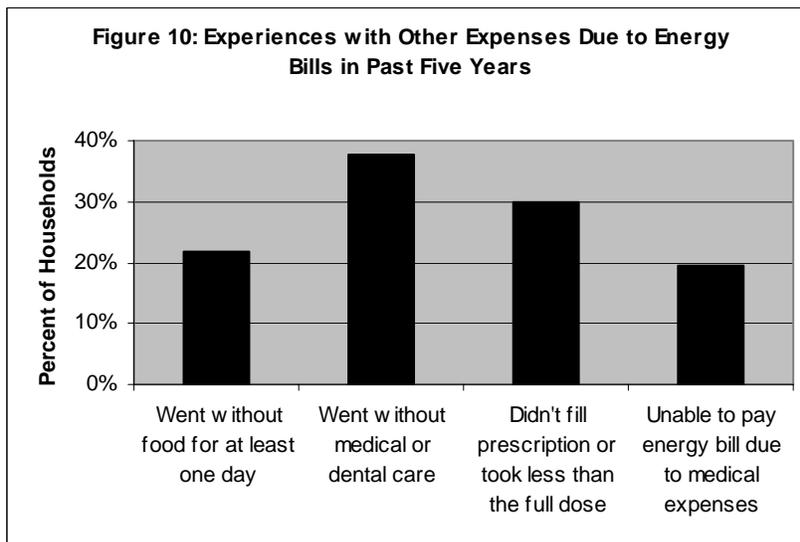
Respondents were asked whether they encountered specific housing problems over the past five years due in part to their total residential energy expenses. Figure 9 shows that 28 percent of respondents reported not making a full rent or mortgage payment, 9 percent reported that they moved in with friends or family, 4 percent said they were evicted from their home or apartment, and 4 percent were homeless at some point during the last five years.



Source: 2003 National Energy Assistance Survey

Health: Tough Choices and Health Problems

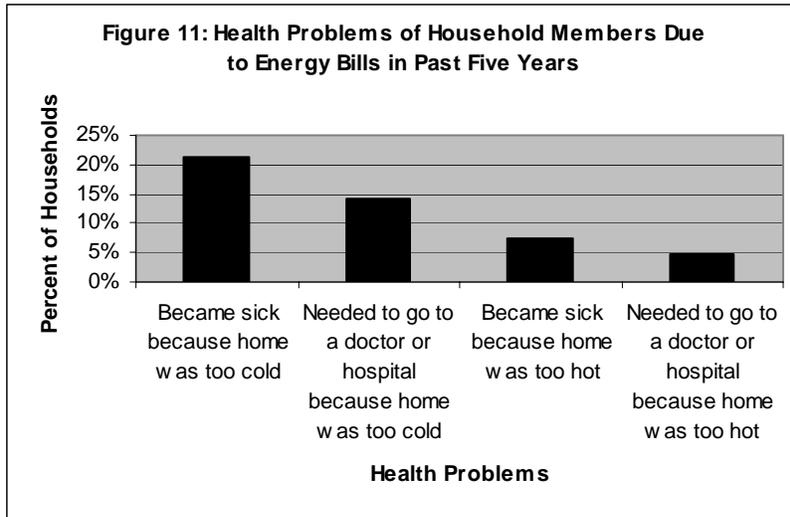
Respondents were asked whether they went without food, medical care, or medicine in the past five years due in part to their total residential energy expenses. Figure 10 shows that 22 percent of LIHEAP recipients reported that they went without food for at least one day, 38 percent said they went without medical care, 30 percent said they didn't fill a prescription or took less than the full dose of a prescribed medicine, and 20 percent said they were unable to pay their energy bill due to medical expenses.



Source: 2003 National Energy Assistance Survey

Respondents were asked whether they suffered illness in the past five years because their homes were too hot or too cold. Figure 11 shows that 21 percent of LIHEAP recipients reported that

someone in their household became sick because their home was too cold, and 14 percent reported that someone in the household needed to go to the doctor or hospital due to an illness. Seven percent of LIHEAP recipients reported that someone in their household became sick because their home was too hot, and 5 percent reported that an illness resulted in a doctor or hospital visit.

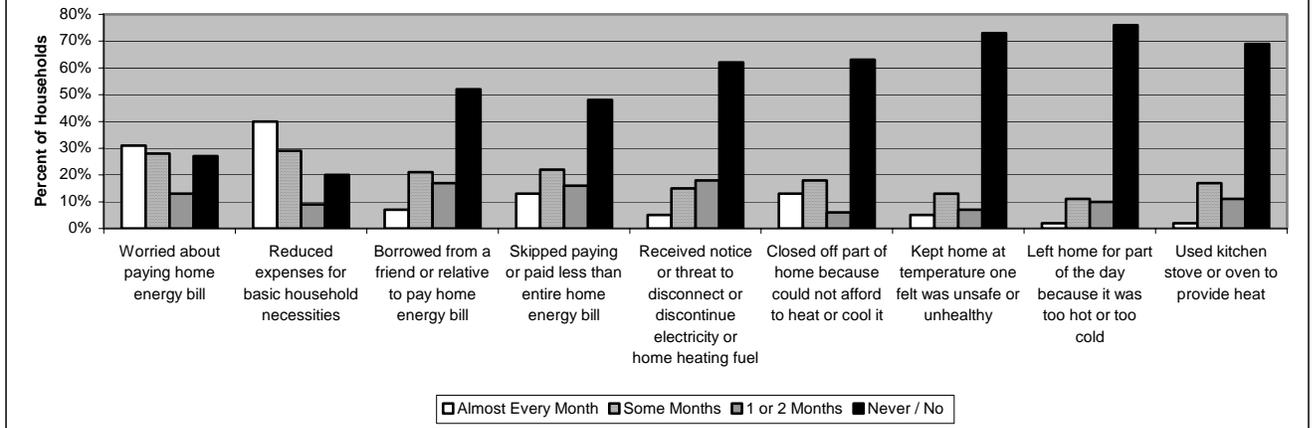


Source: 2003 National Energy Assistance Survey

Energy Insecurity

Respondents were asked to report the frequency of actions or experiences in FY 2003 that could be considered indicators of energy insecurity. As shown in Figure 12, 72 percent of LIHEAP recipients worried in FY 2003 about their ability to pay the home energy bill. Seventy-eight percent said that they reduced expenses on basic household necessities. Fifty-one percent skipped paying or paid less than their entire home energy bill. Thirty percent reported that they used their kitchen stove for heat.

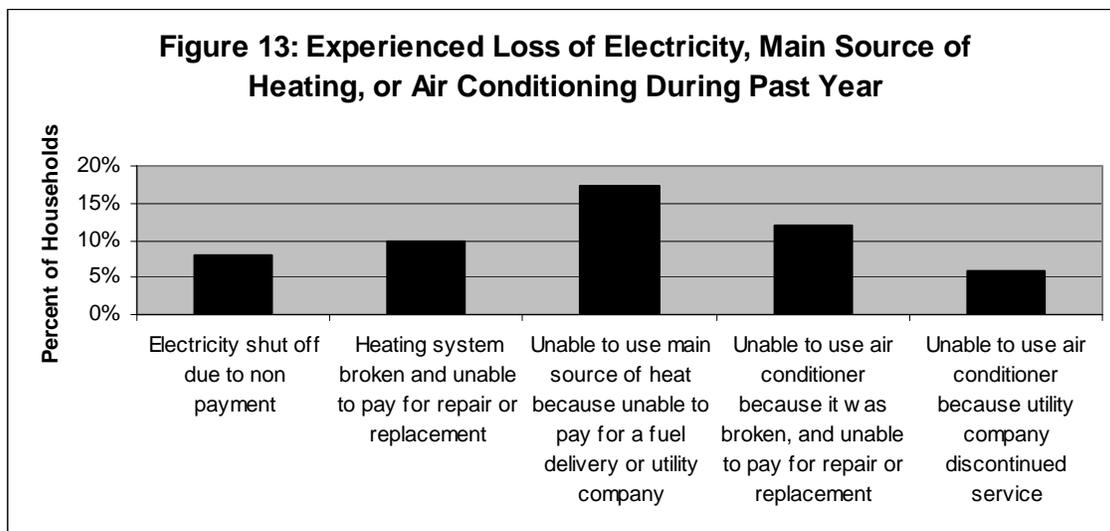
Figure 12: Experiences Due to Not Having Enough Money for the Energy Bill During Past Year



Source: 2003 National Energy Assistance Survey

Figure 13 displays whether the respondent reported a loss of electricity, heating, or air conditioning. Eight percent of LIHEAP recipients reported not being able to use their main source of heat in FY 2003 because their electricity was shut off due to nonpayment, 10 percent said their heating system broke and they were unable to pay for a repair or replacement, and 17 percent said they couldn't use their main source of heat because they were unable to pay for a bulk fuel delivery or the utility company discontinued their energy service. Twelve percent of LIHEAP recipients reported not being able to use their air conditioner because it was broken and they were unable to pay for a repair or replacement, and 6 percent reported not being able to use their air conditioner because the utility company discontinued their service.

Figure 13: Experienced Loss of Electricity, Main Source of Heating, or Air Conditioning During Past Year

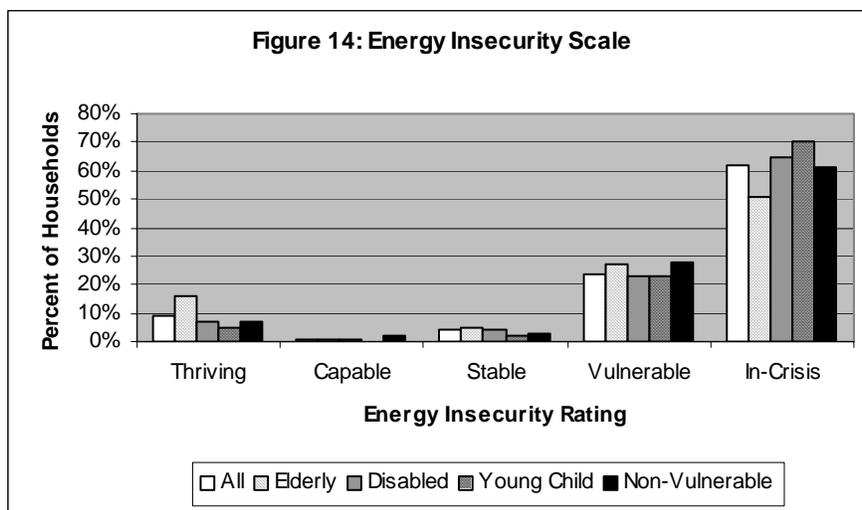


Source: 2003 National Energy Assistance Survey

Figure 14 presents a scale that classifies LIHEAP recipients based on their level of home energy insecurity. The scale, constructed from some of the previously described NEA survey questions, is a modified version of the home energy insecurity scale developed in Roger Colton’s paper, “Measuring the Outcomes of Low-Income Energy Assistance Programs Through A Home Energy Insecurity Scale.”¹¹

The scale classifies respondents as thriving, capable, stable, vulnerable or in-crisis, based on how they answered the questions previously described in Figures 12 and 13. Each threshold serves as a measured stage of a household’s energy insecurity status at a point in time. An in-crisis household suffers a loss in energy service, regularly foregoes basic household necessities to pay its energy bill, regularly constrains energy use to unsafe or unhealthy levels, or regularly practices unsafe or dangerous alternative heating techniques.

Figure 14 shows that 62 percent of LIHEAP recipients are classified as being in-crisis. Elderly households are least likely to be in-crisis and households with young children are most likely to be in-crisis. While research has shown that the elderly are more likely to pay their bills and less likely to be shut off, there is also evidence that they are less likely to admit they have problems meeting their needs.

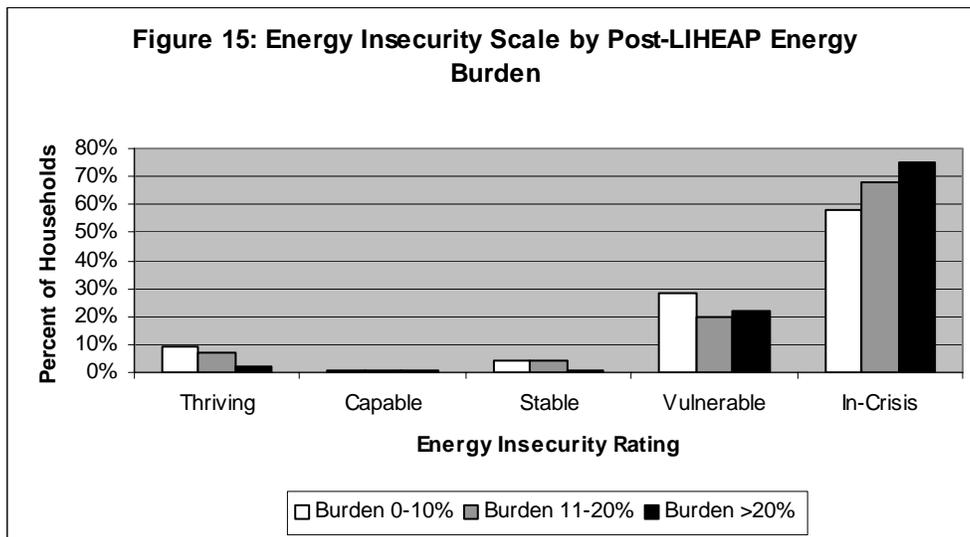


Source: 2003 National Energy Assistance Survey
 The energy insecurity scale classifies respondents based on how they answered a series of questions designed to measure a household’s energy insecurity status at a point in time.

Figure 15 displays the relationship between total residential energy burden and the energy insecurity rating. Households with the highest total residential energy burdens are most likely to be in-crisis. Approximately 75 percent of respondents with a post-LIHEAP total residential

¹¹ Roger Colton. July 2003. “Measuring the Outcomes of Low-Income Energy Assistance Programs Through A Home Energy Insecurity Scale.” A Publication Prepared for: LIHEAP Committee on Managing for Results. U.S. Department of Health and Human Services. Administration for Children and Families. Office of Community Services, Division of Energy Assistance.

energy burden of more than 20 percent are in-crisis, compared to 58 percent of respondents with a post-LIHEAP total residential energy burden of less than 11 percent.



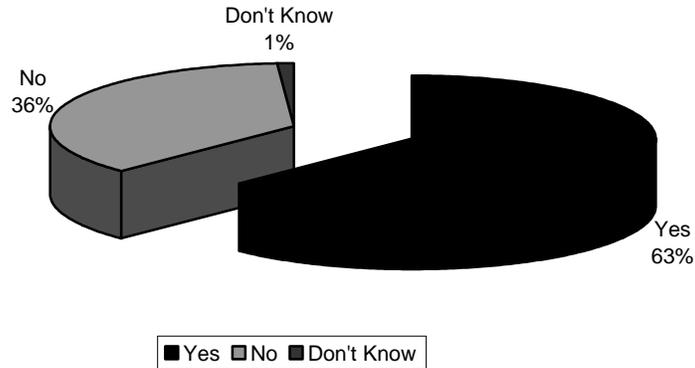
Source: 2003 National Energy Assistance Survey
 The energy insecurity scale classifies respondents based on how they answered a series of questions designed to measure a household's energy insecurity status at a point in time.

Importance of LIHEAP

LIHEAP benefits are often quite small, averaging only \$313 in FY 2003. Therefore, researchers sometimes question the level of impact these benefits can have. One of the benefits of this study is that it provides new evidence on the importance of LIHEAP for recipient households. In this study, respondents were asked to assess the impact that LIHEAP had on their circumstances and whether they would have faced certain problems if LIHEAP had not been available.

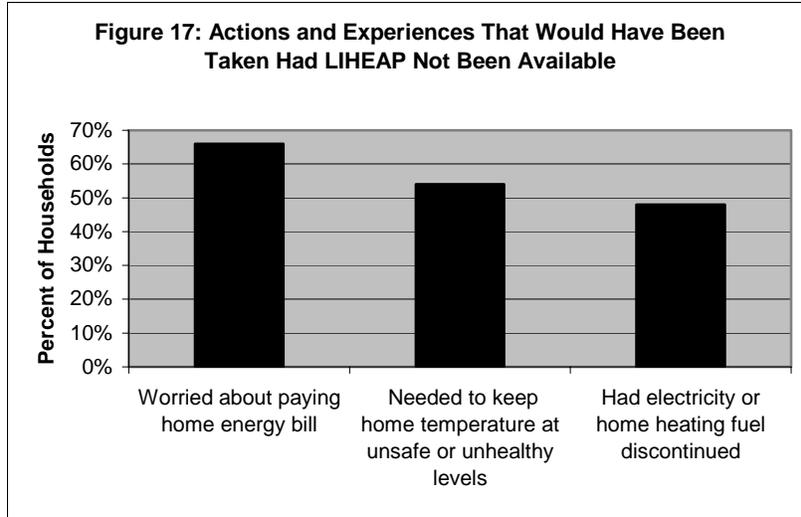
Respondents were asked whether they were unable to use their main source of heat in FY 2003 because they were unable to pay to repair or replace a broken heating system, unable to pay for fuel, or unable to pay to restore disconnected or discontinued energy service. Seventeen percent of respondents experienced a payment-related loss of heat and were asked whether LIHEAP helped restore their main source of heat. Figure 16 shows that 63 percent of these respondents reported that LIHEAP helped to restore use of their main source of heat.

Figure 16: Percent of Households That Experienced Discontinued Energy Service in the Past Year and Reported That LIHEAP Helped Restore Heat



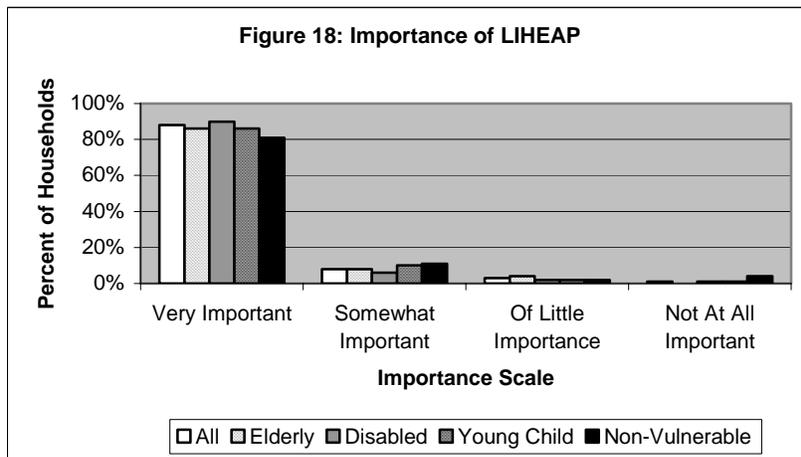
Source: 2003 National Energy Assistance Survey
Figure 16 reports on 17 percent (373 of 2,161) of LIHEAP-recipient respondents that reported being unable to use their main source of heat because they were unable to pay for a bulk fuel delivery or their utility was disconnected due to nonpayment.

Respondents who reported that they did not encounter some of the energy insecurity problems described in the previous subsection were asked whether they believe they would have faced these problems if LIHEAP assistance had not been available. Figure 17 shows that 66 percent reported that they would have worried about paying their home energy bill if LIHEAP had not been available. Fifty-four percent said they would have needed to keep their home at an unsafe or unhealthy temperature had LIHEAP not been available. Forty-eight percent said they would have had their energy service disconnected or discontinued during a time when they needed it to heat or cool their home if LIHEAP had not been available.



Source: 2003 National Energy Assistance Survey

Respondents who reported that they received LIHEAP were asked, “How important has LIHEAP been in helping you to meet your needs?” Figure 18 shows that 88 percent of LIHEAP recipients said that LIHEAP was very important in helping them meet their needs and 8 percent said it was somewhat important.



Source: 2003 National Energy Assistance Survey

I. Introduction

A. *Low-Income Energy Unaffordability*

National survey data show that low-income households face unaffordable energy bills. The 2001 Residential Energy Consumption Survey (RECS) shows that, in FY 2001, U.S. households spent an average of 6 percent of their income on total residential energy. The total residential energy burden for households with income at or above the poverty line was 4 percent, compared to 20 percent for households with income below the poverty line.¹² In that same year, 7.7 million LIHEAP-eligible households spent over 15 percent of their income on total residential energy. Approximately \$4.9 billion of LIHEAP funding would have been needed to reduce all LIHEAP-eligible households to an energy burden of 15 percent.¹³ ¹⁴ Clearly, paying for residential energy puts significant stress on the budgets of low-income households.

Though low-income households receive assistance with total residential energy costs from a number of sources, national studies show that the resources do not meet the need. In FY 2003, Congress appropriated \$1.988 billion in energy assistance benefits for LIHEAP that were used to serve over 4.6 million households.¹⁵ However, even with LIHEAP and other energy programs, households build up significant arrearages and have energy services terminated for nonpayment. The 2001 RECS showed that, during the winter of 2000-2001, about 1.2 million households had a period when they were unable to use their main heating system because they were unable to pay for their heating fuel. A 1990 National Association of Regulatory Utility Commissioners (NARUC) study showed that, in 1990, regulated utilities wrote off almost \$1 billion in residential energy debts.¹⁶ These are just a few of the indicators of the unmet need for energy assistance among low-income households.

However, the consequences of unaffordable energy bills are more far-reaching than indicated by the service termination and bad debt statistics. Despite significant residential energy expenses, most low-income households pay their energy bills regularly. But at what cost? The 1999 Iowa LIHEAP Energy Survey documented some of the strategies that low-income LIHEAP recipients in Iowa use to pay their energy bills. It demonstrated that low-

¹² According to the 2003 March Current Population Survey, households with income below the poverty line had a mean annual gross income of \$7,752, compared to \$64,307 for the households at or above the poverty line (See Table 2).

¹³ U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Services, Division of Energy Assistance. LIHEAP Home Energy Notebook For Fiscal Year 2001: Page 20.

¹⁴ The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. However, information on total residential energy costs is more accessible and more apparent to LIHEAP-recipient respondents. Moreover, any reduction in home heating and cooling costs leads to a direct reduction in total residential energy costs. Therefore, this report will address total residential energy costs.

¹⁵ National Energy Assistance Directors' Association Issue Brief: The Low Income Home Energy Assistance Program, Providing Home Heating and Cooling Assistance To More Than 4.6 Million Low-Income Families.

¹⁶ U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Service, Division of Energy Assistance. 1991. "Low Income Home Energy Assistance Program: Report to Congress for Fiscal Year 1991": pages 160-162.

income households take actions that are potentially harmful to themselves or their families to maintain energy service.

The National Energy Assistance Directors' Association contracted with APPRISE Incorporated to conduct a national survey of LIHEAP recipients. The goal of the survey was to provide information on the choices made by low-income households when they cannot afford their energy bills. This is a groundbreaking study, as no other national data describes how households cope with unaffordable energy bills. This report documents the methodology used for the study and the findings from the research.

B. Low Income Home Energy Assistance Program (LIHEAP)

The Low Income Home Energy Assistance Program (LIHEAP) is authorized by title XXVI of the Omnibus Budget Reconciliation Act of 1981 (OBRA), Public Law 97-35, as amended. LIHEAP is one of the seven block grants originally authorized by OBRA and administered by the U.S. Department of Health and Human Services (HHS). The purpose of LIHEAP is “to assist low-income households, particularly those with the lowest incomes, that pay a high proportion of household income for home energy, primarily in meeting their immediate home energy needs.” The LIHEAP statute defines home energy as “a source of heating or cooling in residential dwellings.”

Federal dollars for LIHEAP are allocated by the U.S. Department of Health and Human Services to the grantees (i.e., the 50 states, District of Columbia, 128 tribes and tribal organizations, and five insular areas) as a block grant. Program funds are distributed by a formula, which is weighted towards relative cold-weather conditions.

Program funds are disbursed to LIHEAP income-eligible households under programs designed by the individual grantees. Section 2605(b)(2) allows LIHEAP grantees to use two income-related standards in determining household eligibility for LIHEAP assistance:

- Categorical eligibility for households with one or more individuals receiving Temporary Assistance for Needy Families, Supplemental Security Income payments, Food Stamps, or certain needs-tested veterans' and survivors' payments, without regard for household income.
- Income eligibility for households with incomes that do not exceed the greater of an amount equal to 150 percent of the federal poverty level¹⁷, or an amount equal to 60 percent of the state median income. Grantees may target assistance to poorer households by setting lower income eligibility levels. Grantees are prohibited from setting income eligibility levels lower than 110 percent of the poverty level. Eligibility priority may be given to households with high energy burden or need.

¹⁷ Most states use the 150 percent of federal poverty level maximum as the guideline. 150 percent of federal poverty in 2003 was \$13,470 for a single person and \$27,600 for a family of four. According to the 2003 CPS, the mean annual gross income for households with income below 150 percent of poverty was \$11,897.

States use a variety of factors and methods to take into account relative income, energy costs, and family size in determining LIHEAP benefits for eligible households. More states varied their heating benefits according to fuel type, energy consumption or cost, region, and household size in comparison to other types of LIHEAP assistance. Some states also used other factors to attempt to match the heating assistance benefit to a household's need. Among these additional factors relating to energy cost were housing type, whether households included persons with heating needs greater than that of the general population (e.g., a person who is elderly, disabled, or a young child), and whether the household was receiving a home energy subsidy from another program.¹⁸

In FY 2003, the Congress appropriated \$1.788 billion in regular grant authority and \$200 million in emergency funds for LIHEAP. The President has requested \$1.8 billion in regular grant funding for FY 2005 and \$200 million in emergency funds. On February 12, 2004, the Senate passed S.1786, The Poverty Prevention and Reduction Act, reauthorizing LIHEAP through FY 2010.¹⁹

C. National Energy Assistance Study

The 2003 National Energy Assistance (NEA) Study is comprised of three components: the 2003 NEA Survey of LIHEAP recipients, a review of previous research on low-income households and energy unaffordability, and analyses of existing national data. The most significant component of the study is the survey. The review of previous research and analysis of other national data are presented to complement and provide context for the survey design and findings.

The 2003 NEA survey provides groundbreaking information on the needs of LIHEAP-recipient households throughout the country. This national survey provides important findings on the choices low-income families make when faced with unaffordable home energy bills. This study demonstrates how those choices vary by demographic group, geography, and fuel type. Moreover, the study serves as a complement to questions unanswered from other important national surveys such as the Residential Energy Consumption Survey, the Current Population Survey, and the American Housing Survey.

D. Survey Methodology

The National Energy Assistance Directors' Association (NEADA) hired APPRISE Incorporated to conduct a national survey of LIHEAP recipients. Using a survey design aimed to balance survey cost with the goal of a nationally representative LIHEAP sample, 20 states were selected for inclusion in the survey. Within states, LIHEAP recipients were stratified by several characteristics in order to ensure that the sample of recipients chosen for

¹⁸ Description of LIHEAP information obtained from "Low Income Home Energy Assistance Program. Report to Congress for Fiscal Year 2001." U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Services, Division of Energy Assistance. Additional information regarding the LIHEAP program can be found on the World Wide Web at: <http://www.acf.dhhs.gov/programs/liheap/>.

¹⁹ National Energy Assistance Directors' Association Issue Brief: The Low Income Home Energy Assistance Program, Providing Home Heating and Cooling Assistance To More Than 4.6 Million Low-Income Families.

the survey represented the characteristics of the population of LIHEAP recipients in the state. A sample of 200 to 300 LIHEAP recipients from each state was selected.

The initial draft of the survey instrument was developed by APPRISE Incorporated. Cognitive interviewing was conducted to refine the survey instrument. The survey instrument was sent to NEADA working group members, and several changes and additions were made based on their comments and suggestions. Telephone interviews of sampled LIHEAP recipients were conducted between November 3, 2003, and December 22, 2003. During this time period, 1,978 interviews were completed. A mail follow-up survey was conducted with a sample of households that could not be reached by telephone. This mail follow-up survey yielded an additional 183 responses, for a total of 2,161 completed interviews. Detailed data and methodology information can be found in Appendix A.

There are limitations that should be noted regarding the findings from this survey. One limitation relates to respondents' ability to think carefully about how many bills they may have struggled to pay. It was likely difficult for respondents to disentangle which of their living expenses was primarily or directly the cause of affordability problems. Some of the difficulties that households reported facing may be due to unaffordable bills that are not related to energy use.

E. Organization of the Report

- The next section of this report, entitled “The Problem,” provides the context for this research. It describes the burden and challenges faced by low-income households trying to manage their energy and other survival needs.
- The third section draws from national statistics to contrast the LIHEAP-recipient population with low-income households overall and nonrecipient LIHEAP income-eligible households.
- The fourth section of the report presents analysis of the actions that LIHEAP-recipient households take to meet their energy needs, household necessities, and health and wellness in the face of significant financial constraints.
- The fifth and sixth sections of the report are regional- and state-level analyses, respectively. These sections help the reader understand how the need for LIHEAP and challenges faced by LIHEAP recipients vary in different parts of the country and in different states.
- The final section provides a summary of the findings and makes recommendations for how the data and findings from the study can be used to substantially or completely eliminate the unhealthy and unsafe practices and conditions associated with energy affordability problems.

II. Low-Income Energy Unaffordability

The challenges that low-income families experience in paying for residential energy services have been documented by news stories and small-scale surveys. Many of these challenges, such as the choice “to heat or to eat,” have existed primarily as anecdotal evidence until now. The National Energy Assistance (NEA) study is the first nationally representative study designed to describe how households cope with unaffordable energy bills. This section highlights the dimensions and the scope of the problem of unaffordable energy bills. This review both informs and places into context the value of this study.

This report makes use of several national data sets to document the demographics of low-income and LIHEAP-recipient households. The data sources that are used include:

- The Residential Energy Consumption Survey (RECS) -- Conducted by the Energy Information Administration of the Department of Energy, RECS provides information on the use of energy in residential housing units. The most recent survey in 2001 included a LIHEAP supplement that provides important information on energy costs for LIHEAP-recipient households.
- The Current Population Survey (CPS) -- Conducted by the Bureau of the Census for the Bureau of Labor Statistics, the CPS provides annual information on income and demographics for U.S. households.
- The American Housing Survey (AHS) -- Conducted by the Bureau of the Census for the Department of Housing and Urban Development, the AHS collects data on the nation’s housing, including energy costs.

These data sources are quite valuable in describing the characteristics of low-income households and their energy use. However, these data sources do not address how low-income households respond to unaffordable energy bills, and the problems that low-income households face as a result of these bills. The NEA study is important because it is the only national study that provides information on the consequences of unaffordable energy bills for low-income households.²⁰

A. *Dimensions of the Problem*

1. **Energy Burden**

Energy burden is a statistic that is often used to assess the problems households have in meeting their energy needs. Energy burden is defined as the percent of income spent on energy bills. This report examines the total residential energy burden, defined as the total cost of energy used in the home divided by income. This study also examines

²⁰ The 1995 Survey of Income and Program Participation (SIPP) studied extended measures of well being. This survey addressed whether households did not pay their full electric, gas, or oil bill.

home heating and cooling energy burden. LIHEAP is designed to assist low-income households with a high home heating and cooling energy burden.

Throughout this report, the term LIHEAP income-eligible household refers to households with incomes which do not exceed the greater of an amount equal to 150 percent of the federal poverty level, or an amount equal to 60 percent of the state median income (per the federal LIHEAP maximum income standard guidelines set forth in Section 2605(b)(2) of the LIHEAP statute).

This study also refers to low-income households, defined as those households with income below 150 percent of poverty. Low-income households are a subset of LIHEAP income-eligible households. According to the March 2003 Current Population Survey, 34.6 million (or 31 percent of all) U.S. households were LIHEAP income-eligible and 23.7 million (or 21 percent of all) U.S. households had incomes below 150 percent of poverty.

Most states limit their benefits to 150 percent of poverty. In FY 2001, 86 percent of households that received LIHEAP had incomes below 150 percent of poverty.²¹ In 2003, 150 percent of federal poverty was \$13,470 for a single person and \$27,600 for a family of four. According to the 2003 CPS, the mean annual gross income for households with income below 150 percent of poverty was \$11,897.

The study also refers to households with income below the poverty line. For FY 2003, a family of four with income below \$18,400 was below the poverty line.²² In 2003, nearly 13 million households, or 11 percent of the total population, had income below the poverty line.²³

The economic challenges low-income households face in paying for residential energy services is apparent from national survey data. In FY 2001, the total residential energy burden for LIHEAP income-eligible households was 12.6 percent, as opposed to 3.1 percent for households not eligible.²⁴ In that same year, 7.7 million LIHEAP-eligible households spent over 15 percent of their income on total residential energy. Approximately \$4.9 billion of LIHEAP funding would have been needed to reduce all LIHEAP-eligible households to a residential energy burden of 15 percent.^{25 26}

²¹ U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Service, Division of Energy Assistance. 2001. "Low Income Home Energy Assistance Program: Report to Congress for Fiscal Year 2001."

²² U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. 2003. "Prior HHS Poverty Guidelines and Federal Register References [online: cited March 1, 2004]." Available from World Wide Web: <http://aspe.hhs.gov/poverty/03poverty.htm>.

²³ Number of households below 150 percent of poverty and below the poverty line were calculated using the March 2003 Current Population Survey.

²⁴ 2001 Residential Energy Consumption Survey

²⁵ U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Services, Division of Energy Assistance. LIHEAP Home Energy Notebook For Fiscal Year 2001: page 20.

²⁶ The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. However, information on total residential energy costs is more accessible and more apparent to LIHEAP-recipient

The NEA study presented in this report confirms that LIHEAP is essential in helping a large number of low-income Americans meet this substantial energy burden. However, the need for LIHEAP far exceeds the availability of benefits. Over 4.6 million households received LIHEAP in 2003, only 13 percent of the 34.6 million households with income below the federal LIHEAP maximum income standard.²⁷ Approximately 12.7 million of those LIHEAP income-eligible households had total household income at or below the poverty line.²⁸ Moreover, the total residential energy burden for households with income below the poverty line was 19.5 percent, compared to only 4 percent for those with income at or above the poverty line.²⁹

2. Loss of Service and Bad Debt Write-Offs

Though low-income households receive assistance with total residential energy costs from a number of sources, national studies show that the resources do not meet the need. Even with LIHEAP and other energy programs, households build up significant arrearages and have energy services terminated for nonpayment. The 2001 RECS showed that, during the winter of 2000-2001, about 1.2 million households had a period when they were unable to use their main heating system because they were unable to pay for their heating fuel.

A 1990 National Association of Regulatory Utility Commissioners (NARUC) study found that regulated utilities wrote off about 1% of residential electric and natural gas billings both in 1984 and 1990.³⁰ These are the most recent data, which underscores the need for more studies like this one that focus on the energy problems of low-income households. Projections to 2001 using the same bad debt rate and the total residential electric and natural gas billings from the 2001 RECS estimate that regulated utilities wrote off nearly 1.5 billion dollars in bad debt in 2001. Arrearages, service terminations, and bad debt write-offs are just a few of the indicators that illustrate the unmet need for energy assistance among low-income households.

3. Tough Choices

The consequences of unaffordable energy bills are more far-reaching than indicated by the service termination and bad debt statistics. Despite significant residential energy burdens, most low-income households pay their energy bills regularly at potentially

respondents. Moreover, any reduction in home heating and cooling costs leads to a direct reduction in total residential energy costs. Therefore, this report addresses total residential energy costs.

²⁷ Number of households receiving LIHEAP was obtained from National Energy Assistance Directors' Association Issue Brief: The Low Income Home Energy Assistance Program, Providing Home Heating and Cooling Assistance To More Than 4.6 Million Low-Income Families. Number of LIHEAP income-eligible households was calculated from the March 2003 Current Population Survey using federal LIHEAP maximum income standard (households with income below 150 percent of poverty or 60 percent of state median income).

²⁸ 2003 Current Population Survey.

²⁹ 2001 Residential Energy Consumption Survey.

³⁰ U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Service, Division of Energy Assistance. 1991. "Low Income Home Energy Assistance Program: Report to Congress for Fiscal Year 1991": pages 160-162.

great costs. The 1999 Iowa LIHEAP Energy Survey documented some of the strategies that LIHEAP recipients in Iowa use to pay their energy bills. It demonstrated that low-income households are willing to make sacrifices in comfort and convenience to stay current on their energy bills. However, it also found that low-income households sometimes have to take actions that are potentially harmful to themselves or their families to maintain energy service.

The Iowa survey found that nearly 30 percent of respondents skipped payment on other bills to meet their total residential energy expenses. Over 12 percent of Iowa LIHEAP recipients went without food to pay their home heating bill. More than 20 percent went without needed or prescribed medical care.³¹ The notion of having to choose to heat or to eat is indeed a tough choice. Having to choose immediate health (i.e., staying warm) over general long-term health (i.e., receiving appropriate medical care) is another untenable situation.

Ten percent of Iowa LIHEAP recipients reported being unable to pay for both rent and home heating. And, when faced with eviction or foreclosure, it is not surprising that people might choose to reduce total residential energy costs to levels so extreme that they suffer in unhealthy living environments.

4. Unhealthy Environments

Low-income seniors, disabled persons, and children face a number of environmental factors that put them at significant risk of injury or death due to high residential energy costs. Many will choose to (or be forced to) simply suffer without air conditioning during the summer or heat during the winter. Every summer there are cases reported in the newspapers regarding people dying in their homes from hyperthermia. Seniors are at greater risk for both hyperthermia and hypothermia (from extreme cold temperatures) due to a number of health problems associated with advancing age that contribute to the body's ability to produce heat and manage heat loss.³²

Many low-income people are economically confined to living in substandard or poorly conditioned housing that is difficult to heat during the winter due to poor insulation and inadequately sealed windows. They suffer in uncomfortable and unhealthy temperatures, and occasionally require doctor or hospital visits due in part to inadequate heat.

Inadequate heating that leads to carbon monoxide poisoning or unhealthy home temperatures can have deleterious effects on child health, reducing the child's ability to

³¹ Mercier Associates. 2000. "Iowa's Cold Winters: LIHEAP Recipient Perspective, The Iowa LIHEAP Energy Study." Commissioned by Iowa's Department of Human Rights, Bureau of Energy [online: cited January 8, 2004]. Available from World Wide Web: http://www.neada.org/comm/correspondence/liheap_iowa_survey.pdf.

³² These health problems include, but are not limited to, neuromuscular disease, arthritis, hypothyroidism, psoriasis, dermatitis, and dehydration. Source: Department of Health and Human Services, Center for Disease Control and Prevention. 2002. "Hypothermia-Related Deaths --- Utah, 2000, and United States, 1979-1998." *Morbidity and Mortality Weekly Report*, 51(04):76-78.

function in school and increasing absenteeism rates. Very young children (under 5) are incapable of expressing or independently addressing the severity of the effects of weather. As a result, children are also more likely than adults to suffer from hypothermia during extreme cold temperatures.³³

While these tragedies are not exclusive to low-income households, evidence supports the conclusion that improving the affordability of energy could reduce many of these tragedies.

5. Unsafe Practices

Unhealthy environments such as severe indoor temperatures produce another set of tough choices. For example, if a low-income senior can't afford her home heating bills, does she choose to turn off the heat and risk death or does she partake in an alternative practice to stay warm? Sadly, the risks involved for alternative home heating methods can lead to just as dire results.

During a single severe weekend freeze in December 2002, one hospital, Duke University Medical Center in North Carolina, treated nearly 200 cases (85 of them children) of carbon monoxide poisoning. The most common cause for these cases that doctors cited was that families were using charcoal grills indoors to heat their home.³⁴ During the 2003 winter season, there were significant increases in hospitals reporting similar cases of carbon monoxide poisoning from hibachi grills and outdoor gas heaters brought indoors for home heating in cities as far west as Salt Lake City, Utah.³⁵

Low-income families will also compensate for a loss of home heating service or unaffordable bills by using space heaters and ovens. The inability to afford or maintain working smoke detectors in combination with misused or poorly maintained alternative heating can be deadly.

In Maine, a single mother was using the kitchen oven and a kerosene space heater to keep her family warm. When the kerosene space heater ran out of fuel oil, it sparked a fire that killed a baby girl and injured four other people.³⁶ In December 2003, a Florida grandmother attempting to use the oven to heat her home accidentally turned on the stove. A decorative burner caught fire and brought down the 30-year-old home she

³³ Department of Health and Human Services, Center for Disease Control and Prevention. 2002. "Hypothermia-Related Deaths --- Utah, 2000, and United States, 1979-1998." *Morbidity and Mortality Weekly Report*, 51(04):76-78.

³⁴ Pamela Leis Higdon. 2002. "Warning Signs and Treatment of CO Poisoning." *Journal of Emergency Medical Services* [online]. Available: <http://www.jems.com/jems/e0212n.html>. Karen Garloch. 2002. "Carbon monoxide poisonings skyrocket." *The Charlotte Observer*: December 7, 2002. Aisling Swift. 2003. "City, Latinos break the ice." *The News Observer* [online: cited January 8, 2004]. Available from World Wide Web: <http://newsobserver.com/news/story/2100517p-2003039c.html>.

³⁵ Geoffrey Fattah. 2003. "Doctors say CO poisoning on rise." *Deseret Morning News*: December 30, 2003.

³⁶ Associated Press Wire. 2000. "Baby's body found in rubble of Lincoln fire." *Associated Press State and Local Wire: State and Regional Section*: February 11, 2000, AM Cycle [online: cited January 8, 2004]. Available from Lexis-Nexis, no link available.

shared with her daughter and grandson.³⁷ When temperatures fell below 20 degrees, a Louisiana man turned on his electric oven for heat and went to work. When he returned from work, his home had been burned to the ground.³⁸ An autistic eight-year old boy was standing too close to a stove being used for home heating. The boy was holding a piece of paper, which was ignited by the stove, causing a fire that took his life.³⁹ In February 2003, an eighty-three-year-old man died from either hypothermia or carbon monoxide poisoning while sitting in his parked car for warmth because his home heating system wasn't working.⁴⁰

The extent to which low-income families will go to stay warm in the winter can be extreme. An Indiana family whose gas service had been discontinued removed a burner from the stovetop and plugged it into an extension cord to heat a downstairs bedroom. Fire officials found no smoke detectors in the remains after fire tore through the house, killing a sixty-five-year-old man and six children all under the age of nine.⁴¹ These tragedies demonstrate that alternative efforts to simply stay warm can lead to grave results for children, the elderly, and people with income below the poverty line.

Low-income households often suffer from older, substandard housing with deteriorating or faulty heating and electrical systems. These homes are less efficient at retaining temperature and are thus more costly to heat during the winter and cool during the summer. Unsafe practices aimed at keeping costs low while heating the home during the winter lead to greater risk of fire and carbon monoxide poisoning. Older homes are less fire-resistant, and purchasing more fire-resistant furniture is unlikely to be high on the priority list of those struggling just to pay the rent. Low-income households are more likely to be in urban areas where criminal bars on the windows reduce exits during a fire. In addition, low-income households are more likely to have nonworking smoke and carbon-monoxide detectors. Getting help during a weather-related health emergency is more difficult for low-income households. Twenty percent of households with income below \$5,000 do not have telephones and 55 percent of households that depend solely on public assistance do not own telephones.⁴² For these reasons, unsafe practices that may seem like mere bad habits are in fact life-threatening.

³⁷ Robin Campbell. 2003. "Woman burns home in heating attempt." Fort Pierce Tribune: December 22, 2003 (St. Lucie County Edition).

³⁸ St. Tammany Bureau. 2002. "Heating tactic backfires, torches Lacombe home." The Times-Picayune: March 1, 2002.

³⁹ Associated Press Wire. 2003. "Boy accidentally starts fire dies." Associated Press State and Local Wire: State and Regional Section: January 5, 2003. BC Cycle [online: cited January 8, 2004]. Available from Lexis-Nexis, no link available.

⁴⁰ Associated Press Wire. 2003. "Vignettes from the winter storm in Pennsylvania." Associated Press State and Local Wire: State and Regional Section: February 18, 2003. BC Cycle [online: cited January 8, 2004]. Available from Lexis-Nexis, no link available.

⁴¹ John Ferak. 1998. "Makeshift heater caused fire gas was shut off at house." South bend Tribune: January 20, 1998 (Mishawaka Edition).

⁴² National Fuel Funds Network. 2001. "In Harm's Way: Home Heating Fire Hazards and Low Income Households" [online: cited January 8, 2004]. Available from World Wide Web: http://www.nationalfuel funds.org/toolkit_main2.htm.

The effects of high residential energy burden and tough choices are often most severe on children, disabled individuals, and the elderly. Children are unable to perceive and react to danger and emergencies. They have a natural curiosity for fire and a tendency to hide during an emergency, making rescue attempts more difficult.⁴³ Between 1994 and 1998, children under the age of 10 accounted for 22 percent of all fire deaths.⁴⁴

Disabled and elderly individuals are more likely than the general population to suffer from some form of sensory impairment (e.g., blindness or hearing loss) and limited mobility.⁴⁵ This places each of these groups at significant risk of injury or death due to smoke inhalation or burns from accidental fires caused by unsafe alternative heating practices. The fire death risk among seniors over 65 is more than double; over age 75 triple; and over age 85 is three and one-half times that of the general population.⁴⁶

Clearly, not everyone who can't afford heat is going to freeze to death or burn down his or her home. Nevertheless, low-income households are at greater risk of catastrophes due to unsafe practices committed in an effort to reduce their energy costs. Low-income household members are more likely to miss school and work due to illnesses caused by unhealthy environments and severe indoor temperatures. Low-income households are more often forced to make difficult health-related choices to meet their energy needs, such as whether to heat or to eat. As this section has shown in so many ways, low-income households regularly struggle due to high energy bills.

B. Scope of the Problem

1. Demographics

According to the 2003 Current Population Survey (CPS), there are approximately 12.7 million households, roughly 11.5 percent of all U.S. households, living below the federal poverty guideline. Table 1 describes the demographic characteristics of households with incomes below the poverty line.

Over 4.2 million households, or one-third of those below the poverty line, have an elderly resident, defined as an adult age 60 or older. More than 5.2 million, or 41 percent of, households with income below the poverty line have some form of a disability.⁴⁷ There are also 5.2 million, or 41 percent of, households with income below

⁴³ Ana Validzic. 2000. "Residential Fire Fact Sheet." UNC Injury Prevention Research Center [online: cited January 8, 2004]. Available from World Wide Web: <http://www.sph.unc.edu/iprc/aboutinjury/fbi.htm>.

⁴⁴ United States Fire Administration. "Home Fire Safety Factsheet: Facts on Fire." Department of Homeland Security: Federal Emergency Management Agency [online: cited January 8, 2004]. Available from World Wide Web: <http://www.usfa.fema.gov/public/factsheets/fact.shtm>.

⁴⁵ Ana Validzic. 2000. "Residential Fire Fact Sheet." UNC Injury Prevention Research Center [online: cited January 8, 2004]. Available from World Wide Web: <http://www.sph.unc.edu/iprc/aboutinjury/fbi.htm>.

⁴⁶ United States Fire Administration. "Home Fire Safety Factsheet: Facts on Fire." Department of Homeland Security: Federal Emergency Management Agency [online: cited January 8, 2004]. Available from World Wide Web: <http://www.usfa.fema.gov/public/factsheets/fact.shtm>.

⁴⁷ Disability is defined here as having been unable to work for part of the year due to being disabled or ill, having a disability that prevents work or limits the type or amount of work, or having received disability income, social

the poverty line with children. Approximately 2.6 million, or 20 percent of, households with income below the poverty line have young children, defined as age 5 or younger.

Over 2.3 million, or 18 percent of, households with income below the poverty line are single parent (or guardian) households, defined as households with only one adult that resides with one or more children. Thirty-two percent of single parent households are below the poverty level, making single parent households the most likely vulnerable population to live below the poverty line.

Table 1
Households Below The Poverty Line with Vulnerable Group Members

	Number of Households (millions)	Percent of Households
Household With Elderly (Age 60 or older)	4.2	33%
Household With Disabled	5.2	41%
Household With Child (Age 18 or younger)	5.2	41%
Household With Young Child (Age 5 or under)	2.6	20%
Single Parent Household	2.3	18%

Source: 2003 Current Population Survey

2. Income

Table 2 displays the mean and median income for households with income at or above and below the poverty line and 150 percent of poverty. According to the 2003 CPS, the mean annual gross income for households with income below 150 percent of poverty was \$11,897, compared to \$70,232 for the average household at or above 150 percent of poverty. Households with income below the poverty line had a mean annual gross income of \$7,752, compared to \$64,307 for households at or above the poverty line.

security disability income, Medicare if under the age of 65, supplemental security income due to being blind or disabled, or veterans disability payments.

Table 2
Median and Mean Annual Income of U.S. Households
At or Above and Below the Poverty Line and 150 Percent of Poverty

Poverty Threshold Criteria	Mean Income		Median Income	
	Below Threshold	At or Above Threshold	Below Threshold	At or Above Threshold
Poverty Line (100% of Poverty)	\$7,752	\$64,307	\$7,260	\$48,684
150% of Poverty	\$11,897	\$70,232	\$11,000	\$54,096

Source: 2003 Current Population Survey

3. Energy Expenditures

Table 3 displays the mean and median total residential energy expenditures for households with income at or above and below 150 percent of poverty. According to the 2001 Residential Energy Consumption Survey (RECS), the mean annual total residential energy expenditures for households with income below 150 percent of poverty were \$1,216, compared to \$1,577 for households with income at or above 150 percent of poverty.

Mean heating and cooling energy expenditures were \$495 for households with income below 150 percent of poverty, compared to \$655 for households with income at or above 150 percent of poverty. Home heating and cooling energy expenses comprise approximately 40 percent of total residential energy expenditures.

The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. However, information on total residential energy costs is more accessible and more apparent to LIHEAP-recipient respondents. Moreover, any reduction in home heating and cooling costs leads to a direct reduction in total residential energy costs. Therefore, this report will sometimes address the broader measure of total residential energy costs.

Table 3
Median and Mean Total Residential Energy Expenditures of U.S. Households
With Income At or Above and Below 150 Percent of Poverty

	Mean Expenditures		Median Expenditures	
	Below 150 Percent of Poverty	At or Above 150 Percent of Poverty	Below 150 Percent of Poverty	At or Above 150 Percent of Poverty
Annual Total Residential Energy Expenses	\$1,216	\$1,577	\$1,109	\$1,450
Annual Home Heating and Cooling Energy Expenses	\$495	\$655	\$421	\$592

Source: 2001 Residential Energy Consumption Survey

4. Energy Burden

Energy burden is a statistic that is often used to assess the problems households have in meeting their energy needs. Energy burden is defined as the percent of income spent on energy bills. This report examines total residential energy burden defined as total cost of energy used in the home divided by income. This study also examines home heating and cooling energy burden.

In addition, this study reports the level of energy burden both prior to subtracting LIHEAP benefits from energy costs, and after subtracting LIHEAP benefits. Energy burdens are high for low-income households, both because of their low income and higher relative costs due to old or substandard housing with inefficient heating systems, low levels of insulation, or gaps in the exterior of the home.

Table 4 displays the mean and median energy burden for households with income at or above and below 150 percent of poverty. Energy burden is defined as total residential energy costs divided by income. The mean total residential energy burden is 20 percent for households with income below 100 percent of poverty, compared to 8 percent for households with income between 100 and 150 percent of poverty, and 3 percent for households with income at or above 150 percent of poverty.

Table 4
Median and Mean Total Residential Energy Burden of U.S. Households
With Income At or Above and Below 150 Percent of Poverty

	Mean Burden				Median Burden			
	All	Percent of Poverty			All	Percent of Poverty		
		< 100%	100%-150%	≥ 150%		< 100%	100%-150%	≥ 150%
Total Residential Energy Burden	6.1%	19.5%	7.8%	3.4%	3.6%	12.5%	7.1%	2.9%
Home Heating and Cooling Energy Burden	2.6%	8.0%	3.3%	1.4%	1.4%	4.8%	2.8%	1.2%

Source: 2001 Residential Energy Consumption Survey

5. Shelter Costs

Table 5 displays the shelter costs differences between households with income at or above and below 150 percent of poverty. Shelter costs encompass all costs related to residential property, rent, taxes, land, and utilities (not including telephone or cable).

According to the 2001 American Housing Survey, the mean annual shelter costs for households with income below 150 percent of poverty was \$6,565, compared to \$11,539 for households with income above 150 percent of poverty.

The median household below 150 percent of poverty spends over 42 percent of its income on shelter, compared to 17 percent for the median household at or above 150 percent of poverty. In addition, total residential energy costs comprise a median of 22 percent of shelter costs for households with income below 150 percent of poverty, compared to 14 percent for households with income at or above 150 percent of poverty.

Table 5
Median and Mean Shelter Costs of U.S. Households
With Income At or Above and Below 150 Percent of Poverty

	Mean		Median	
	Percent of Poverty		Percent of Poverty	
	< 150%	≥ 150%	< 150%	≥ 150%
Total Annual Shelter Costs	\$6,565	\$11,539	\$5,509	\$9,110
Shelter Costs as Proportion of Income	48.7%	20.5%	42.4%	17.4%
Total Residential Energy Costs as Proportion of Shelter Costs	30.3%	21.4%	21.8%	13.8%

Source: 2001 American Housing Survey

It is commonly held that shelter costs are a significant challenge and burden for low-income households. The information presented here suggests that total residential energy expenditures should be considered in the broader context of housing affordability.

Some researchers have defined severe shelter burden as shelter costs at or greater than 50 percent of income.⁴⁸ Using data from the 2001 American Housing Survey, we find that 17 million households (or 16 percent of all households) spent at least 50 percent of their income on shelter costs. Fifty-four percent of households with income below 150 percent of poverty and 72 percent of households with income below the poverty line have shelter burdens of 50 percent or more.

This study uses the severe shelter burden definition as a guide to define severe total residential energy burden.⁴⁹ The median total residential energy costs for households with income below 150 percent of poverty are 21.8 percent of shelter costs. If shelter costs are 50 percent of income, then these total residential energy costs represent 10.9

⁴⁸ Cushing N. Dolbeare. 2001. "Housing Affordability: Challenge and Context." *Cityscape: A Journal of Policy Development and Research*, (5)2:111-130. A Publication of the U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

⁴⁹ The study authors believe that it is useful to define a severe energy burden. The methodology for developing the definition used in this report was constructed as part of an ongoing evaluation study conducted for the U.S. Department of Health and Human Services' Division of Energy Assistance (DEA). This is just one construct for defining severe energy burden, and further research on the topic needs to be conducted.

percent of income.⁵⁰ Therefore, severe total residential energy burden is defined as total residential energy costs that exceed 10.9 percent of income.

Severe home heating and cooling energy burden represents the percentage of income spent on home heating and cooling that would be excessive for low-income households. The 2001 RECS shows that heating and cooling energy expenses comprise 39.3 percent of total residential energy expenditures. Therefore, severe home heating and cooling energy burden is defined as heating and cooling costs that exceed 4.3 percent of income.⁵¹

Table 6 displays the number and proportion of households with severe total residential energy burden (i.e., total residential energy burden greater than 10.9 percent) and severe home heating and cooling energy burden (i.e., home heating and cooling energy burden greater than 4.3 percent). This table shows that 11.6 million households (or 11 percent of all households) have severe total residential energy burdens, and 13.3 million households (or almost 13 percent of all households) have severe home heating and cooling energy burdens.

One-third of households with income below the Federal maximum LIHEAP standard have severe total residential energy burdens. Slightly more than one-third of LIHEAP income-eligible households have severe home heating and cooling energy burdens.

Table 6
Number and Proportion of Households with Severe Total Residential Energy Burden

	Severe Total Residential Energy Burden		Severe Home Heating and Cooling Energy Burden	
	Number (Millions)	Percent	Number (Millions)	Percent
All	11.6	10.8%	13.3	12.5%
LIHEAP income-eligible	11.3	33.5%	12.3	36.5%
Below 150 percent of poverty	10.8	41.0%	11.1	42.1%
Below 100 percent of poverty	8.7	58.4%	8.2	54.9%
Household With Elderly (Age 65 or older)	4.2	15.7%	5.5	20.4%
Household With Child (Age 12 or younger)	2.9	10.2%	3.0	10.2%

Source: 2001 Residential Energy Consumption Survey

This information demonstrates that LIHEAP is offered to homes and families with the greatest need, those that are facing the most severe total residential energy cost burdens. However, LIHEAP is only received by a fraction of those who are income eligible. In

⁵⁰ Calculation: $.218 \times .50 = .109$

⁵¹ Calculation: $.39 \times .218 \times .50 = .043$

FY 2001, 12 million of those income-eligible households that didn't receive LIHEAP fuel assistance had total household income at or below the poverty line. Moreover, the average total residential energy burden for those households at or below the poverty line was 20 percent.

The next section presents statistics on LIHEAP-recipient households and LIHEAP income-eligible households that do not receive benefits.

III. LIHEAP-Recipient and Nonrecipient Households

A. LIHEAP Recipients

This section reports the findings from the 2003 National Energy Assistance (NEA) Survey on the characteristics of LIHEAP-recipient households. This section describes the demographic, income, energy use, and energy costs for these households. The survey design allows for the projection of these results to all LIHEAP-recipient households. Tables presented in this section may not total to 100 percent due to rounding.

Table 7 displays the percentage of LIHEAP-recipient households by number of total and special-category household members. Sixty-three percent of LIHEAP-recipient households have two or more household members.

Table 7
Household Composition

Number in Category	Number of Household Members	Number of Adults Age 60 or Older	Number of Children Age 18 or Younger	Number of Children Age 5 or Under	Number of Disabled ¹	Number of Veterans
0		59%	53%	82%	58%	89%
1	37%	35%	17%	12%	37%	10%
2	22%	6%	18%	5%	5%	1%
3	18%	0%	7%	1%	1%	0%
4	12%	0%	3%	0%	0%	0%
5	7%	0%	1%	0%	0%	0%
6 or more	4%	0%	1%	0%	0%	0%

¹ Respondents were asked to report how many of the people normally living in their household were disabled. Interviewers did not prompt or provide respondents a definition of disabled.

Table 8 presents the proportion of LIHEAP recipients that reported having one or more household members particularly vulnerable to unaffordable energy bills. Forty-one percent reported that they have one or more household members age 60 or older, 43 percent have one or more disabled household members, 47 percent have one or more children age 18 or younger, 18 percent have one or more young children age 5 or younger, and 22 percent are in single parent households.

**Table 8
Vulnerable Groups**

	Household With Elderly (Age 60 or older)	Household With Disabled	Household With Child (Age 18 or younger)	Household With Young Child (Age 5 or under)	Single Parent Household¹
Yes	41%	43%	47%	18%	22%
No	59%	57%	53%	82%	78%

¹ Defined as households with only one adult residing with one or more children.

Respondents were asked for their marital status. Table 9 shows that 24 percent of LIHEAP recipients said that they are married and 76 percent of respondents reported that they currently live without a spouse. Twenty-five percent of LIHEAP recipients lost their spouse through divorce, 23 percent have never been married, 22 percent have suffered the loss of a spouse through death, and 7 percent were separated from their spouse at the time of the survey.

**Table 9
Marital Status**

	Percent
Married	24%
Divorced	25%
Never Married	23%
Widowed	22%
Separated	7%
Other / Don't Know / No Answer	1%

Respondents were asked for the highest level of education attained by any member of their household. Table 10 displays the responses to this question. Twenty-seven percent reported that the highest level of education obtained in their household was less than high school, 38 percent reported that it was a high school diploma or the equivalent, 22 percent reported that it was some college, 9 percent reported that it was college or beyond, and 3 percent reported that vocational training was the highest level of education attained.

**Table 10
Education**

	Percent
Less than High School Diploma	27%
High School Diploma or Equivalent	38%
Some College / Associates Degree	22%
Bachelor's Degree	6%
Master's Degree or Higher	3%
Vocational Training	3%
Don't Know / No Answer	1%

Table 11 shows that 43 percent of clients reported owning their home, 55 percent said they rent, and 1 percent said they reside with a family member.

**Table 11
Home Ownership**

	Percent
Own	43%
Rent	55%
Family / Partner Owned	1%
Other	1%

Respondents were asked whether their family currently has health insurance. Table 12 illustrates that 73 percent reported having some form of health insurance for the entire household. Five percent reported having insurance for the children and not the adults in the household. Four percent reported having insurance only for the adults and not the children in the household. Two percent of respondents said some members of the family have insurance, but not all. Fifteen percent reported that no one in the household had health insurance.

**Table 12
Health Insurance**

Household Members With Health Insurance:	Percent
Entire Household	73%
Adults Only	4%
Children Only	5%
Some, but not all family members	2%
None	15%
Don't Know / No Answer	1%

Respondents were asked, “What is your household’s annual income?”⁵² Table 13 shows that 50 percent reported an annual income at or below \$10,000. Seventy-four percent reported an annual income at or below \$15,000.

Table 13
Annual Income

	Percent
Less than \$ 5,000	10%
\$ 5,001 - \$ 10,000	40%
\$ 10,001 - \$ 15,000	24%
\$ 15,001 - \$ 20,000	7%
\$ 20,001 - \$ 25,000	5%
\$ 25,001 - \$ 30,000	3%
\$ 30,001 - \$ 35,000	2%
\$ 35,001 - \$ 40,000	1%
More than \$ 40,000	1%
Don’t Know	5%
No Answer	4%

Table 14 illustrates that 70 percent of respondents reported annual household incomes below the federal poverty level.

Table 14
Poverty Level

	Percent¹
Below Poverty Level	70%
At or Above Poverty Level	30%

¹ 1,965 respondents provided income information.

Respondents were asked whether in FY 2003 their household received income from employment; any form of retirement income including Social Security, pensions, and other funds; public assistance benefits from Temporary Assistance For Needy Families, Social Security Insurance, Aid for Families with Dependent Children, or general or public assistance; or noncash benefits, including food stamps and public or subsidized housing. Table 15 shows that 36 percent of respondents reported receiving wages or self-employment income, 36 percent said they received retirement income, 45 percent said they received public assistance, and 57 percent said they received noncash benefits.

⁵² Respondents were not asked to specify whether the amount that they reported was gross or net income.

Table 15
Types of Income and Benefits Received

	Wages or Self-Employment Income	Retirement Income	Public Assistance	Noncash benefits
Yes	36%	36%	45%	57%
No	63%	64%	54%	42%
Don't Know / No Answer	2%	1%	1%	1%

Table 16 illustrates that 31 percent of respondents reported that in FY 2003 at least one member of their household was unemployed and looking for work.

Table 16
Unemployed During the Year

	Percent
Yes	31%
No	69%

Table 17 displays responses to the survey question, “Which fuel is used most for heating your home?” Fifty percent reported using natural gas as their primary heating fuel, 21 percent reported electricity, 15 percent reported fuel oil or kerosene, 10 percent reported bottled gas (which included LPG and propane) and 2 percent reported wood.

Table 17
Primary Fuel Used for Home Heating

	Percent
Natural Gas	50%
Electricity	21%
Fuel Oil or Kerosene	15%
Bottled Gas (LPG or Propane)	10%
Wood	2%
Other Fuel	0%
Don't Know	3%

As shown in Table 18, the costs for heat are included in the rent for 11 percent of LIHEAP recipients.

Table 18
Heat included in Rent

	Percent
Yes	11%
No	47%
Don't Pay Rent	42%

Table 19 displays responses to the survey question, “What is the main way that you cool your home on the hottest days of the summer?” Thirty-seven percent said they use a window or wall air conditioner to cool their home, 32 percent said they use fans, 22 percent said they use central air conditioning, and 2 percent said evaporative or swamp cooling. Seven percent reported not using any method to cool their home on the hottest days of the summer.

Table 19
Primary Method of Summer Cooling

	Percent
Window or Wall Air Conditioning	37%
Fans	32%
Central Air Conditioning	22%
Evaporative or Swamp Cooling	2%
No Cooling Method Used	7%

Respondents were asked for the total annual costs of their electricity, gas, and other fuels for their home. Table 20 shows that 43 percent of LIHEAP recipients spend more than \$1,500 each year for residential energy.

Table 20
Annual Total Residential Energy Costs

	Percent¹
Less than \$ 500	8%
\$ 500 - \$ 1,000	27%
\$ 1,001 - \$ 1,500	23%
\$ 1,501 - \$ 2,000	18%
Over \$ 2,000	25%

¹ 1,952 respondents provided energy costs information.

Pre-LIHEAP total residential energy burden is the proportion of income spent on total residential energy costs. Post-LIHEAP total residential energy burden is the proportion of income spent on total residential energy costs less LIHEAP benefit dollars received. Using

the self-reported annual income and self-reported annual total residential energy cost from the 2003 NEA survey, Table 21 displays the pre-LIHEAP total residential energy burden for all LIHEAP recipients. The table also displays both pre-LIHEAP and post-LIHEAP total residential energy burdens for survey respondents for whom we could obtain state-reported benefit amounts.

Ninety-one percent of LIHEAP recipients have total residential energy burdens at or above 6 percent, and 21 percent spend more than 20 percent of their annual income on energy. After accounting for LIHEAP benefits, the proportion of households that fall into the lowest energy burden interval (of 0-5 percent) increases from 9 to 27 percent. LIHEAP benefits reduce the proportion of households with total residential energy burden at or above 16 percent from 38 to 19 percent.

LIHEAP benefits are provided to assist with home heating and cooling expenses. The data from survey respondents are not sufficient to ascertain the amount of heating and cooling energy costs to calculate heating and cooling energy burden. Nevertheless, pre-LIHEAP and post-LIHEAP total residential energy burden serves as a useful indicator of the value of LIHEAP benefits.

Table 21
Total Residential Energy Burden

Energy Burden Intervals	Total Residential Energy Burden Percent of Households ¹	
	Pre-LIHEAP	Post-LIHEAP
0-5%	9%	27%
6%-10%	40%	31%
11-15%	13%	23%
16-20%	18%	6%
21-25%	9%	9%
>25%	12%	4%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

As shown in Table 22, the mean total residential energy burden for respondents is reduced from 14 to 11 percent after accounting for LIHEAP benefits received. The reduction in total residential energy burden that is accounted for by LIHEAP benefits is fairly consistent across household types.

Table 22
Mean Total Residential Energy Burden by Vulnerable Group

	Mean Total Residential Energy Burden ¹	
	Pre-LIHEAP	Post-LIHEAP
All	14%	11%
Elderly (Age 60 or older)	14%	10%
Disabled	16%	12%
Child (Age 18 or younger)	14%	11%
Young Child (Age 5 or younger)	13%	10%
Single Parent	15%	12%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

B. LIHEAP Recipients and the Broader Population of Low-Income Households

Using data from the 2003 NEA Survey, the 2001 Residential Energy Consumption Survey (RECS), and the 2003 Current Population Survey (CPS), this section describes how LIHEAP-recipient households differ from the broader population of low-income households, defined as households with income below 150 percent of poverty.

Table 23 shows the total number of household members in LIHEAP-recipient households and in low-income households (households with income below 150 percent of poverty).

Table 23
Household Size

	LIHEAP-recipient households (2003 NEA Survey)	LIHEAP-recipient households (2001 RECS Supplement)	Households with Income Below 150% of Poverty (2003 CPS)
1	37%	37%	41%
2	22%	22%	23%
3	17%	16%	12%
4	12%	14%	11%
5	6%	5%	7%
6 or more	4%	7%	6%

Based on the LIHEAP law, federal officials have expressed interest in developing performance goals designed to increase the percent of LIHEAP-recipient households having at least one member from a vulnerable group. Vulnerable groups include the elderly (adults age 60 years or older), disabled persons, and young children (age 5 years or younger).

Vulnerable households are also defined as those with high total residential energy burdens. As seen in Table 24 below, LIHEAP funds are being used in this direction.

Table 24 displays the proportion of LIHEAP-recipient households with a member of a vulnerable group, compared to all households with income below 150 percent of poverty. Forty-seven percent of LIHEAP-recipient households have at least one child, compared to 39 percent of low-income households in general. Twenty-two percent of LIHEAP-recipient households are single parent households, compared to 14 percent of low-income households in general.

Table 24
Vulnerable Groups

	LIHEAP-recipient households (2003 NEA Survey)	Households with Income Below 150% of Poverty (2003 CPS)
Elderly Population (60 or older)	41%	39%
Disabled	43%	39%
Child (18 or younger)	47%	39%
Young Child (5 or younger)	18%	19%
Single Parent	22%	14%

Note: Comparable vulnerable groups not available in the 2001 RECS.

Table 25 displays the percentage of LIHEAP-recipient households and the percentage of households with income below 150 percent of poverty that have income below the poverty line. Seventy percent of LIHEAP recipients have income below the poverty level, compared to 54 percent of all low-income households. Forty-one percent of elderly LIHEAP-recipient households are below the poverty level, compared to one-third of all elderly low-income households. Fifty percent of LIHEAP-recipient households with children are below the poverty level, compared to 41 percent of low-income households with children. For young children, single parent, and disabled person households, the percentages between LIHEAP recipients and the broader low-income population are fairly similar.

Table 25
Households Below Poverty Level by Vulnerable Group

	Percent Below Poverty Level	
	LIHEAP-recipient households (2003 NEA Survey)	Households with Income Below 150% of Poverty (2003 CPS)
All	70%	54%
Elderly Population (60 or older)	41%	33%
Disabled	44%	41%
Child (18 or younger)	50%	41%
Young Child (5 or younger)	20%	20%
Single Parent	23%	18%

C. Income-Eligible Households Not Receiving LIHEAP

According to the 2001 RECS, the mean total residential energy burden is 14 percent for low-income households, compared to 3 percent for households that are not low-income. As shown in Table 21, LIHEAP benefits reduce the percentage of LIHEAP-recipient households with total residential energy burdens over 15 percent from 39 percent to 20 percent. However, LIHEAP is only received by a fraction of those who are income-eligible. In FY 2001, twelve million of those income-eligible households that didn't receive LIHEAP fuel assistance had total household income at or below the poverty line. This section has two goals: to examine the differences between the LIHEAP-recipient households and LIHEAP income-eligible nonrecipient households, and to describe the need for LIHEAP among the 30 million households that are LIHEAP income-eligible but do not currently receive LIHEAP benefits.

The majority of LIHEAP benefits assist households with home heating and cooling expenses. Table 26 examines the primary fuel used for heating the homes of LIHEAP-recipient and LIHEAP income-eligible nonrecipient households. Twenty-one percent of LIHEAP recipients use electricity to heat their home, compared to 32 percent of LIHEAP income-eligible nonrecipients. LIHEAP-recipient households are more likely to use fuel oil or kerosene or bottled gas than income-eligible nonrecipients. The proportion of households using natural gas is similar for the two groups.

Table 26
Primary Fuel Used for Home Heating

	LIHEAP-Recipient Households (2003 NEA Survey)	LIHEAP-Recipient Households (2001 RECS Supplement)	LIHEAP Income-Eligible Nonrecipient Households (2001 RECS)
Natural Gas	50%	52%	53%
Electricity	21%	21%	32%
Fuel Oil or Kerosene	15%	12%	7%
Bottled Gas (LPG or Propane)	10%	11%	5%
Wood	2%	2%	2%
Don't Know	3%	0%	1%

Table 27 displays the proportion of households using air conditioners across the nation and by region for LIHEAP recipients and income-eligible nonrecipients. In the 2003 NEA Survey, respondents were asked, “What is the main way that you cool your home on the hottest days of the summer?” to which 60 percent reported central, window, or wall air conditioning. In the 2001 RECS, respondents were asked if they had an air conditioner, not whether it was used as a primary cooling method. Sixty-nine percent of LIHEAP recipients and 71 percent of LIHEAP income-eligible nonrecipients said that they had an air conditioner in their home. Differences in the wording of the question may account for the differences between recipients in 2003 and 2001.

Table 27
Household Primarily Uses / Has Air Conditioning

	Household Reports Air Conditioning As Primary Summer Cooling Method	Household Reports Owning an Air Conditioner	
	LIHEAP-Recipient Households (2003 NEA Survey)	LIHEAP-Recipient Households (2001 RECS Supplement)	LIHEAP Income-Eligible Nonrecipient Households (2001 RECS)
All	60%	69%	71%
Northeast	48%	51%	65%
Midwest	65%	77%	77%
South	84%	95%	92%
West	35%	45%	37%

Table 28 presents the mean total residential energy expenditures and mean total residential energy burden for LIHEAP-recipient and nonrecipient households. In 2001, LIHEAP-recipient households spent on average \$1,451 on total annual residential energy, compared to \$1,252 for LIHEAP income-eligible households that did not receive benefits. LIHEAP recipients tend to have higher total residential energy expenditures and total residential

energy burdens than LIHEAP income-eligible nonrecipients. Moreover, heating and cooling energy expenditures and home heating and cooling energy burdens in 2001 were larger for LIHEAP recipients than for LIHEAP income-eligible nonrecipients. This table also shows that, on average, LIHEAP benefits are going to those who need it most. However, the LIHEAP income-eligible nonrecipients also demonstrate a serious need for LIHEAP, as evidenced by their 12 percent total residential energy burden. This burden is higher than the severe total residential energy burden guideline of 10.9 percent developed in the previous section.

Table 28
Mean Total Residential Energy Expenditures and Mean Total Residential Energy Burden

	Self-Reported ¹	Based on Analysis of Utility Bills and Household Information	
	LIHEAP-Recipient Households (2003 NEA Survey)	LIHEAP-Recipient Households (2001 RECS Supplement)	LIHEAP Income-Eligible Nonrecipient Households (2001 RECS)
Total Residential Energy Expenditures	\$1,336	\$1,451	\$1,252
Total Residential Energy Burden	14%	17%	12%
Heating and Cooling Energy Expenditures		\$655	\$510
Home Heating and Cooling Energy Burden		8%	5%

¹ Self-reported data from the 2003 NEA Survey are not sufficient to ascertain the amount of heating and cooling costs.

Table 29 demonstrates the energy crises faced in 2001 for LIHEAP-recipient and income-eligible nonrecipient 2001 RECS respondents. Eight percent of LIHEAP recipients experienced a loss of electricity, compared to 2 percent of income-eligible nonrecipients. Twelve percent of LIHEAP recipients went without their main source of heat due to an inability to pay for energy service or fuel, compared to 3 percent of income-eligible nonrecipients.

Table 29 shows that LIHEAP income-eligible nonrecipients who lose their main source of heat spend more days without heat than LIHEAP recipients. This may be because those who manage to get crisis assistance get their heat turned back on more quickly.

**Table 29
Energy Crises in Past 12 Months**

	LIHEAP-Recipient Households (2001 RECS Supplement)	LIHEAP Income- Eligible Nonrecipient Households (2001 RECS)
Electricity shut off	8%	2%
Went without main source of heat because:		
Heating system broken and unable to pay for a repair or replacement	2%	2%
Ran out of fuel and unable to pay for delivery	5%	1%
Utility company discontinued gas or electric service because of nonpayment of energy bill	7%	2%
For Households Experiencing One of the Above Scenarios:		
Median number of days without heat	4	10
Mean number of days without heat	16	39
Without heat during the October through March period	10%	3%

The statistics presented above show that LIHEAP assistance is helping those with the highest total residential energy and heating and cooling energy expenditures, largest total residential energy burdens, and the most vulnerable populations. Nevertheless, the LIHEAP income-eligible nonrecipient households spend 12 percent of their income on energy, which we define as a severe total residential energy burden.

IV. The Need for LIHEAP and Challenges Faced by LIHEAP Recipients

This section uses the 2003 NEA Survey to examine the financial challenges and difficult choices made by LIHEAP recipients to manage their total residential energy costs. In addition, this section provides evidence on the importance of LIHEAP benefits in helping low-income households afford their high energy bills. Tables presented in this section may not total to 100 percent due to rounding.

A. *Types of LIHEAP Assistance*

Potential survey respondents were selected directly from state lists of FY 2003 LIHEAP recipients. Therefore, all respondents did receive LIHEAP benefits in FY 2003. However, many households are not aware or do not recall that they received LIHEAP benefits. Preliminary findings being evaluated by the U.S. Department of Health and Human Services from the 2001 RECS LIHEAP Supplement showed that some recipients do not recall or are not aware that they received benefits. Table 30 also shows that 14 percent of respondents in the NEA survey said they did not receive benefits and 2 percent did not know if they received benefits.⁵³ The inability to recall receiving LIHEAP appears to be similar across vulnerable household types (i.e., households with one member who is elderly, disabled, or a young child).

Table 30
Recall Receiving LIHEAP

	Percent
Yes	84%
No	14%
Don't Know	2%

Respondents were asked what time of year they received benefits. Table 31 illustrates that 64 percent of respondents reported receiving LIHEAP benefits in the winter, 11 percent reported fall, 7 percent reported spring, and 6 percent reported summer. Eight percent of respondents reported receiving LIHEAP benefits more than once or all year round.

⁵³ Interviewers used the name for the LIHEAP program particular to the state of the recipient interviewed. If the respondent was initially confused or did not recall the program based on the state-designated name, interviewers were trained to assist their memory by describing energy assistance benefits, and using the term energy assistance throughout the survey instead of the state-designated LIHEAP name.

Table 31
Reported Season of LIHEAP Receipt

	Percent¹
Winter	64%
Spring	7%
Summer	6%
Fall	11%
More Than Once	3%
All Year Round	5%
Don't Know	3%

¹ 1,809 respondents who recalled receiving LIHEAP were asked this question.

Respondents were asked how many times in the past five years they received LIHEAP benefits. Table 32 shows that 25 percent reported receiving LIHEAP only once, and 21 percent reported that they received LIHEAP five times in the past five years. Approximately 25 percent of households with an elderly person and 27 percent of households with a disabled person have received LIHEAP five times in five years, compared to 12 percent for non-vulnerable (i.e., non-elderly, disabled, or young child household) households and 9 percent for LIHEAP-recipient households with children age 5 or younger.

Table 32
Number of Years Received LIHEAP in the Past Five Years

	All	Elderly¹	Disabled²	Young Child³	Non-Vulnerable⁴
1	25%	19%	21%	31%	37%
2	23%	19%	23%	28%	29%
3	16%	18%	17%	13%	12%
4	8%	8%	7%	12%	5%
5	21%	25%	27%	9%	12%
Don't Know / No Answer	7%	11%	6%	7%	6%

¹ 888 respondents ² 919 respondents ³ 397 respondents ⁴ 117 respondents

Respondents were asked whether they had or would apply for energy assistance in the coming winter or next summer. Table 33 shows that 83 percent of LIHEAP recipients planned to apply for LIHEAP. The proportion of LIHEAP-recipient households with vulnerable populations that applied or plan to apply for LIHEAP in the near future is approximately 86 percent, compared to 72 percent of non-vulnerable households.

Table 33
Applied or Plans to Apply for LIHEAP
in Coming Winter or Next Summer

	All	Elderly¹	Disabled²	Young Child³	Non-Vulnerable⁴
Yes	83%	87%	86%	84%	72%
No	10%	9%	5%	11%	20%
Don't Know	7%	4%	9%	5%	8%

¹ 888 respondents ² 919 respondents ³ 397 respondents ⁴ 117 respondents

States were asked to provide the amount of heating, cooling, and crisis benefits received by each household. All twenty states included in the survey provided data for nearly all (2,132 of 2,161) of the respondents. Table 34 shows that the total average LIHEAP award was \$313 in FY 2003. The average LIHEAP grant was \$267 for heating, \$10 for cooling, and \$45 for crisis.⁵⁴ Most LIHEAP recipients received heating assistance, but only a small minority received cooling assistance.

Table 34
State Reported Mean LIHEAP Benefits Received

	Number Receiving Benefits	Mean Benefits in Dollars²
Heating	1,959	\$ 267
Cooling	56	\$ 10
Crisis	245	\$ 45
Total¹	2,132	\$ 313

¹ Total benefits are not a summation of the three previous benefit types, but are the mean of total benefits received by each respondent. Some recipients received more than one type of assistance. State benefits data were provided for 2,132 of 2,161 respondents.

² These benefits are averaged over all recipients in the state that offers the benefits. Among just those who received benefits, the average LIHEAP grant was \$294 for heating, \$147 for cooling, and \$264 for crisis.

B. Constraints, Hardships, and Unsafe Practices

Respondents were asked whether they took specific actions in FY 2003 to bring down their total residential energy costs. Table 35 illustrates that nearly all LIHEAP recipients took constructive actions to lower their energy bills. Forty-four percent of LIHEAP recipients said that they put plastic on their windows and 76 percent said they turned down the heat when they went to bed. Eighty-three percent said they kept shades and curtains closed during the daytime in the summer and 78 percent said they used fans and opened windows.

⁵⁴ These benefits are averaged over all recipients in the state that offers the benefits. Among just those who received benefits, the average LIHEAP grant was \$294 for heating, \$147 for cooling, and \$264 for crisis.

Sixty-five percent said they washed clothes in cold water and 44 percent said they used compact fluorescent light bulbs.

Table 35
Constructive Actions Taken to Lower Energy Bills

	Number taking at least one of the following actions	Actions taken to bring down heating bills		Actions taken to bring down cooling bills		Other energy-saving actions taken	
		Put plastic on windows	Turn down the heat when you go to bed	Keep shades and curtains closed in daytime	Use fans and open windows	Wash clothes in cold water	Use compact fluorescent light bulbs
Yes	99%	44%	76%	83%	78%	65%	44%
No	1%	56%	24%	17%	22%	34%	53%
Don't Know	0%	0%	0%	0%	0%	1%	3%

Note: These responses may be overestimated due to respondent compliance (i.e., desire to provide a socially desirable or positive response).

Respondents were asked whether they encountered specific housing problems over the past five years due in part to their total residential energy expenses. Table 36 shows that 28 percent of respondents reported not making a full rent or mortgage payment, 9 percent reported that they moved in with friends or family, 4 percent said they were evicted from their home or apartment, and 4 percent were homeless at some point.

Table 36
Experiences with Housing Problems
Due to Energy Bills in Past Five Years

	Didn't make full rent or mortgage payment	Evicted from home or apartment	Moved in with friends or family	Moved into shelter or been homeless
Yes	28%	4%	9%	4%
No	71%	96%	90%	96%
Don't Know	1%	0%	0%	0%

Respondents were asked whether they needed to use a different name in order to obtain or continue receiving energy services in the past five years. Table 37 shows that 3 percent of respondents said they needed to use a different name in order to obtain or continue receiving energy services. LIHEAP recipients with young children were more likely and non-vulnerable were less likely to report this behavior.

Table 37
Use Different Name to Obtain or
Continue Receiving Energy Service

	All	Elderly ¹	Disabled ²	Young Child ³	Non-Vulnerable ⁴
Yes	3%	2%	3%	7%	1%
No	96%	98%	96%	93%	99%
Don't Know	1%	0%	1%	0%	0%

¹ 888 respondents ² 919 respondents ³ 397 respondents ⁴ 117 respondents

Table 38 shows that in the past five years, 1 percent of LIHEAP recipients reported having a fire caused by unsafe heating or lighting due to their energy bills. Despite the small proportion of LIHEAP recipients experiencing a fire caused by unsafe practices, 1 percent still represents approximately 46,000 households in FY 2003.⁵⁵

Table 38
Fire Caused by Unsafe Heating or Lighting

	All	Elderly ¹	Disabled ²	Young Child ³	Non-Vulnerable ⁴
Yes	1%	1%	2%	0%	1%
No	99%	99%	98%	100%	99%

¹ 888 respondents ² 919 respondents ³ 397 respondents ⁴ 117 respondents

C. Health: Tough Choices and Health Problems

Respondents were asked whether they went without food, medical care, or medicine in the past five years due in part to their total residential energy expenses. Table 39 shows that 22 percent of LIHEAP recipients reported that they went without food for at least one day, 38 percent said they went without medical care, 30 percent said they didn't fill a prescription or took less than the full dose of a prescribed medicine, and 20 percent said they were unable to pay their energy bill due to medical expenses.

⁵⁵ Based on 1 percent of 4.6 million LIHEAP-recipient households as reported in National Energy Assistance Directors' Association Issue Brief: The Low Income Home Energy Assistance Program, Providing Home Heating and Cooling Assistance To More Than 4.6 Million Low-Income Families.

Table 39
Experiences with Other Expenses
Due to Energy Bills in Past Five Years

	Went without food for at least one day	Went without medical or dental care	Didn't fill prescription or took less than the full dose of a prescribed medicine	Unable to pay energy bill due to medical expenses
Yes	22%	38%	30%	20%
No	78%	62%	69%	80%
Don't Know	0 %	0%	1%	0%

Respondents were asked whether they suffered illness in the past five years because their homes were too hot or too cold. Table 40 shows that 21 percent of LIHEAP recipients reported that someone in their household became sick because their home was too cold, and 14 percent reported that someone in the household needed to go to the doctor or hospital due to an illness. Seven percent of LIHEAP recipients reported that someone in their household became sick because their home was too hot, and 5 percent reported that an illness resulted in a doctor or hospital visit.

Table 40
Health Problems Due to Energy Bills in Past Five Years

	Someone in household became sick because home was too cold	Someone in household needed to go to a doctor or hospital because home was too cold	Someone in household became sick because home was too hot	Someone in household needed to go to a doctor or hospital because home was too hot
Yes	21%	14%	7%	5%
No	78%	86%	92%	95%
Don't Know	1%	0%	1%	0%

D. Home Energy Insecurity

LIHEAP recipients were asked a series of questions designed to measure the home energy insecurity of their household. The purpose of these questions is to examine aspects of energy affordability and the experiences of households trying to meet their energy expenses. A scale of home energy insecurity will be presented at the end of this subsection.

Respondents were asked to report the frequency of actions or experiences in FY 2003 that could be considered indicators of energy insecurity. As shown in Table 41, 72 percent of LIHEAP recipients worried in FY 2003 about their ability to pay the home energy bill. Seventy-eight percent said that they needed to reduce expenses for basic household necessities to afford their energy bill. Fifty-two percent of LIHEAP recipients skipped

paying or paid less than their entire home energy bill. Thirty-one percent of respondents reported that they used their kitchen stove for heat.

Table 41
Actions and Experiences
Due to Not Having Enough Money for the Energy Bill
During Past Year

	Almost Every Month	Some Months	1 or 2 Months	Never / No	Don't Know / No Answer
Worried about paying home energy bill	31%	28%	13%	27%	2%
Reduced expenses for basic household necessities	40%	29%	9%	20%	1%
Borrowed from a friend or relative to pay home energy bill	7%	22%	17%	52%	2%
Skipped paying or paid less than entire home energy bill	14%	22%	16%	48%	1%
Received notice or threat to disconnect or discontinue electricity or home heating fuel	5%	15%	18%	62%	1%
Closed off part of home because could not afford to heat or cool it	13%	18%	6%	63%	0%
Kept home at temperature you felt was unsafe or unhealthy	5%	13%	7%	73%	1%
Left home for part of the day because it was too hot or too cold	2%	12%	10%	76%	0%
Used kitchen stove or oven to provide heat	2%	18%	11%	70%	0%

Table 42 displays whether the respondent reported a loss of electricity, heating, or air conditioning. Eight percent of LIHEAP recipients reported not being able to use their main source of heat in FY 2003 because their electricity was shut off due to nonpayment, 10 percent said their heating system broke and they were unable to pay for a repair or replacement, 10 percent reported not being able to pay for a bulk fuel delivery, and 11 percent said they couldn't use their main source of heat because the utility company discontinued their energy service. Twelve percent of LIHEAP recipients reported not being able to use their air conditioner because it was broken and they were unable to pay for a repair or replacement, and 6 percent reported not being able to use their air conditioner because the utility company discontinued their service.

Table 42
Experienced Loss of Electricity, Main Source of Heating, or Air Conditioning
During Past Year

	Yes	No	Don't Know / No Answer
Electricity shut off due to nonpayment	8%	91%	1%
Heating system broken and unable to pay for repair or replacement	10%	89%	1%
Unable to use main source of heat because unable to pay for a fuel delivery	10%	90%	1%
Unable to use main source of heat because utility company discontinued gas or electric service due to nonpayment	11%	89%	0%
Unable to use air conditioner because it was broken, and unable to pay for repair or replacement	12%	87%	1%
Unable to use air conditioner because utility company discontinued electric service due to nonpayment	6%	94%	1%

Respondents who had their electricity or gas shut off or who could not afford to pay for fuel were asked whether they went without showers, baths, or hot meals, and whether they used candles or lanterns. Table 43 shows that 9 percent of LIHEAP recipients went without showers or baths, 5 percent went without hot meals, and 8 percent used candles or lanterns for lighting.

Table 43
Actions and Experiences
Due to Discontinued Energy Services or
Inability to Buy Fuel During Past Year

	Went without showers or baths	Went without hot meals	Used candles or lanterns
Yes	9%	5%	8%
No / Not Asked	91%	95%	92%

Table 44 presents a scale that classifies the low-income population based on its level of home energy insecurity. The scale, constructed from some of the previously described NEA Survey questions, is a modified version of the home energy insecurity scale developed in Roger Colton's paper, "Measuring the Outcomes of Low-Income Energy Assistance Programs Through a Home Energy Insecurity Scale."

The scale classifies respondents as thriving, capable, stable, vulnerable, or in-crisis, based on how they answered the questions previously presented in this section. The response patterns

used to classify the respondents are described in Appendix B.⁵⁶ Each threshold serves as a measured stage of a household's energy insecurity status at a point in time.

The thresholds indicate the following about a household:

- A **thriving** household engages in a full range of home energy uses of its choice without financial strain or worry.
- A **capable** household may have arrears because it cannot afford to pay its energy bills, but those arrears do not put maintaining energy service at risk. Moreover, the arrears do not have a negative impact on basic household necessities or household comfort and convenience.
- A **stable** household may have more than occasional arrears. However, those arrears are never in combination with threatened loss of energy service. A stable household never foregoes basic household necessities, but may temporarily constrain energy use in ways potentially detrimental to health and well-being.
- A **vulnerable** household does not experience loss of energy service, but to avoid doing so requires regular constraints of energy use to unsafe or unhealthy levels, reduction of basic household necessities, regularly borrowing money from family or friends to pay the energy bill, or inappropriate energy solutions (such as using the kitchen stove for heat).
- An **in-crisis** household suffers a loss of energy service, regularly foregoes basic household necessities to pay its energy bill, regularly constrains energy use to unsafe or unhealthy levels, or regularly practices unsafe or dangerous alternative heating techniques.

Table 44 shows that 62 percent of LIHEAP recipients are classified as being in-crisis, meaning that actions or experiences regularly occur in the household that threaten the physical and/or emotional health or safety of household members. Elderly households are least likely to be in-crisis and households with young children are most likely to be in-crisis. While research has shown that elderly households are more likely to pay their bills and less likely to be shut off, there is also evidence that they are less likely to admit that they have problems meeting their needs. The response patterns used to classify the respondents are described in Appendix B.

⁵⁶ Roger Colton. July 2003. "Measuring the Outcomes of Low-Income Energy Assistance Programs Through a Home Energy Insecurity Scale." A Publication Prepared for: LIHEAP Committee on Managing for Results. U.S. Department of Health and Human Services. Administration for Children and Families. Office of Community Services, Division of Energy Assistance.

Table 44
Energy Insecurity Scale

	All	Elderly¹	Disabled²	Young Child³	Non-Vulnerable⁴
Thriving	9%	15%	7%	5%	7%
Capable	1%	1%	1%	0%	2%
Stable	4%	5%	4%	2%	3%
Vulnerable	25%	27%	23%	23%	28%
In-Crisis	62%	51%	65%	70%	61%

¹ 888 respondents ² 919 respondents ³ 397 respondents ⁴ 117 respondents

Table 45 displays the relationship between total residential energy burden and the energy insecurity rating. Households with the highest total residential energy burdens are most likely to be in-crisis. Approximately 75 percent of respondents with a post-LIHEAP total residential energy burden of more than 20 percent are in-crisis, compared to 58 percent of respondents with a post-LIHEAP total residential energy burden of less than 11 percent.

Table 45
Energy Insecurity Scale by Total Residential Energy Burden

	Post-LIHEAP Total Residential Energy Burden¹		
	0-10%	11-20%	>20%
Thriving	9%	7%	2%
Capable	1%	1%	1%
Stable	4%	4%	1%
Vulnerable	28%	20%	21%
In-Crisis	58%	68%	75%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

E. Importance of LIHEAP

LIHEAP benefits are often quite small, averaging only \$313 in FY 2003. Therefore, researchers sometimes question the level of impact these benefits can have. One of the benefits of this study is that it provides new evidence on the importance of LIHEAP for recipient households. In this study, respondents were asked to assess the impact that LIHEAP had on their circumstances and whether they would have faced certain problems if LIHEAP had not been available. This section addresses the responses to these questions.

Respondents were asked whether they were unable to use their main source of heat in FY 2003 because they were unable to pay to repair or replace a broken heating system, unable to pay for fuel, or unable to pay to restore disconnected or discontinued energy service. Those who said they did face one of these problems were asked whether LIHEAP helped restore

their main source of heat. Table 46 shows that 62 percent reported that LIHEAP helped to restore use of their main source of heat.

Table 46
LIHEAP Helped to Restore Heat

	Percent¹
Yes	62%
No	36%
Don't Know	1%

¹ 373 respondents

Respondents who reported that they did not encounter some of the energy insecurity problems described in the previous subsection were asked whether they believe they would have faced these problems if LIHEAP assistance had not been available. Table 47 shows that 66 percent reported that they would have worried about paying their home energy bill if LIHEAP had not been available. Fifty-four percent said they would have needed to keep their home at an unsafe or unhealthy temperature had LIHEAP not been available. Forty-eight percent said they would have had their energy service disconnected or discontinued during a time when they needed it to heat or cool their home if LIHEAP had not been available.

Table 47
If LIHEAP Had Not Been Available

	Would you have worried about paying home energy bill?¹	Would you have needed to keep home temperature at unsafe or unhealthy levels?²	Would you have had electricity or home heating fuel discontinued?³
Yes	66%	54%	48%
No	31%	42%	45%
Don't Know	3%	5%	7%

¹ 511 respondents ² 1,392 respondents ³ 1,555 respondents

Respondents who reported that they received LIHEAP were asked, “How important has LIHEAP been in helping you to meet your needs?” Table 48 shows that 88 percent of LIHEAP recipients said that LIHEAP was very important in helping them meet their needs, and 8 percent said it was somewhat important. The non-vulnerable households were somewhat less likely to say that LIHEAP was very important.

**Table 48
Importance of LIHEAP**

	All¹	Elderly²	Disabled³	Young Child⁴	Non-Vulnerable⁵
Very Important	88%	86%	90%	86%	81%
Somewhat Important	8%	8%	6%	10%	11%
Of Little Importance	3%	4%	2%	2%	2%
Not At All Important	1%	0%	1%	1%	4%
Don't Know / No Answer	1%	1%	1%	0%	2%

¹ 1,812 respondents ² 727 respondents ³ 784 respondents ⁴ 341 respondents ⁵ 101 respondents

This section showed that LIHEAP has had a significant impact on energy affordability and quality of life for most recipients.

V. Regional-Level Report

This section reports whether challenges faced by LIHEAP recipients vary by region of the country. Tables presented in this section may not total to 100 percent due to rounding.

A. LIHEAP Recipients by Region

For each region of the country, Table 49 displays the proportion of LIHEAP recipients who reported having one or more vulnerable members in the household. Northeastern LIHEAP-recipient households are most likely and Western LIHEAP-recipient households are least likely to have an elderly household member. Respondents in the West were most likely to report having a household with children.

Table 49
Vulnerable Groups by Region

	Household With Elderly (Age 60 or older)	Household With Disabled	Household With Child (Age 18 or younger)	Household With Young Child (age 5 or younger)	Single Parent Household¹
All	41%	43%	47%	18%	22%
Northeast	48%	43%	44%	15%	18%
Midwest	36%	38%	48%	18%	25%
South	44%	48%	45%	21%	21%
West	33%	45%	55%	23%	26%

¹ Defined as households with only one adult residing with one or more children.

Table 50 displays the percentage of LIHEAP recipients below poverty by region. Eighty-three percent of respondents in the South reported income below the poverty level. Respondents in the other regions were less likely to report income below the poverty level. Seventy percent of respondents in the West, 70 percent of respondents in the Northeast, and 63 percent of respondents in the Midwest reported income below the poverty level.

Table 50
Below Poverty Level

	Percent¹
All	70%
Northeast	70%
Midwest	63%
South	83%
West	70%

¹ 1,965 respondents provided income information.

Respondents were asked whether in FY 2003 their household received income from employment; any form of retirement income including Social Security, pensions, and other funds; public assistance benefits from TANF, SSI, AFDC, or general or public assistance; or noncash benefits, including food stamps and public or subsidized housing. Table 51 illustrates the types of income and benefits received by LIHEAP recipients in each region. Respondents in the South were least likely to report receiving wages or self-employment income. Respondents in the West were least likely to report receiving retirement income. Respondents in the Midwest were least likely to report receipt of public assistance or noncash benefits. Respondents in the Northeast were most likely to report receiving public assistance.

Table 51
Types of Income and Benefits Received by Region

	Wages or Self-Employment Income	Retirement Income	Public Assistance	Noncash benefits
All	36%	36%	45%	57%
Northeast	32%	39%	54%	59%
Midwest	42%	35%	36%	52%
South	27%	37%	44%	63%
West	40%	29%	47%	58%

Pre-LIHEAP total residential energy burden is the proportion of income spent on total residential energy costs. Post-LIHEAP total residential energy burden is the proportion of income spent on total residential energy costs less LIHEAP benefit dollars received. Table 52 displays, for each region, pre-LIHEAP and post-LIHEAP total residential energy burdens for survey respondents for whom we could obtain state benefit amounts. Respondents from the West had the lowest energy burdens and respondents from the South had the highest energy burdens.

Table 52
Total Residential Energy Burden by Region

	Total Residential Energy Burden Percent of Households ¹					
	Pre-LIHEAP			Post-LIHEAP		
Energy Burden Intervals	0-10%	11-20%	>20%	0-10%	11-20%	>20%
All	48%	32%	20%	58%	28%	14%
Northeast	47%	32%	21%	61%	26%	13%
Midwest	48%	34%	18%	59%	29%	12%
South	41%	32%	27%	46%	33%	21%
West	63%	23%	14%	69%	24%	7%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

Table 53 presents, by region, the average pre-LIHEAP and post-LIHEAP total residential energy burdens for survey respondents for whom we could obtain state benefit amounts. The reduction in total residential energy burden due to LIHEAP benefits is fairly consistent across regions. Households in the West have the lowest energy burdens because of lower fuel costs.⁵⁷

Table 53
Mean Total Residential Energy Burden by Region

	Mean Total Residential Energy Burden ¹	
	Pre-LIHEAP	Post-LIHEAP
All	14%	11%
Northeast	15%	11%
Midwest	14%	10%
South	16%	13%
West	12%	9%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

B. Types of LIHEAP Assistance

All survey respondents were chosen from state lists of FY 2003 LIHEAP recipients, ensuring that all respondents had received LIHEAP benefits in FY 2003. However, previous research has shown that some recipients do not recall or are not aware that they received

⁵⁷ Analysis of the 2001 Residential Energy Consumption Survey (RECS) confirms lower total residential energy costs for households in the West.

benefits. Table 54 shows respondents in the Midwest and in the West were more likely than respondents in the Northeast and South to report that they received benefits in FY 2003.

Table 54
Recall Receiving LIHEAP by Region

	Percent Reported		
	Yes	No	Don't Know
All	84%	14%	2%
Northeast	77%	22%	1%
Midwest	91%	7%	2%
South	79%	18%	3%
West	91%	8%	2%

Respondents were asked how many times in the past five years they received LIHEAP benefits. Table 55 shows that households in the West were more likely to only receive benefits in one of the past five years. Households in the South were least likely to report receiving benefits in each of the past five years.

Table 55
Number of Years Received LIHEAP in the Past Five Years by Region

	Years Receiving LIHEAP					
	1	2	3	4	5	Don't Know / No Recall
All	25%	23%	16%	8%	21%	7%
Northeast	25%	21%	14%	10%	22%	9%
Midwest	21%	23%	18%	9%	24%	4%
South	27%	25%	16%	7%	13%	11%
West	30%	24%	18%	5%	19%	5%

States were asked to provide the amount of heating, cooling, and crisis benefits received in FY 2003. Table 56 shows the mean heating, cooling, and crisis benefits by region. Respondents in the South received the highest cooling benefits and the lowest heating, crisis, and total benefits.

Table 56
State-Reported Mean LIHEAP Benefits Received by Region

	Heating¹	Cooling¹	Crisis¹	Total²
All	\$267	\$10	\$45	\$313
Northeast	\$288	\$1	\$58	\$340
Midwest	\$292	\$9	\$42	\$338
South	\$170	\$20	\$31	\$236
West	\$262	*	\$36	\$290

¹ Benefits are averaged over all recipients in the state that offers the benefits. Among just those who received benefits, the national average LIHEAP grant was \$294 for heating, \$147 for cooling, and \$264 for crisis.

² Total benefits are not a summation of the three previous benefit types, but are the mean of total benefits received by each respondent. Some recipients received more than one type of assistance. State benefits data were provided for 2,036 of 2,161 respondents.

* Cooling benefits not available for any states in the West region.

C. Constraints, Hardships, and Unsafe Practices

Respondents were asked whether they took specific actions in FY 2003 to bring down their total residential energy costs. Table 57 illustrates that respondents in the Northeast were least likely to say that they turn down the heat when they go to bed to bring down total residential energy costs. Respondents in the South were least likely to say that they used fans and opened windows during the summer or used compact fluorescent light bulbs to reduce total residential energy costs.

Table 57
Actions Taken to Lower Energy Bills by Region

	Actions taken to bring down heating bills		Actions taken to bring down cooling bills		Other energy-saving actions taken	
	Put plastic on windows	Turn down the heat when you go to bed	Keep shades and curtains closed in daytime	Use fans and open windows	Wash clothes in cold water	Use compact fluorescent light bulbs
All	44%	76%	83%	78%	65%	44%
Northeast	50%	67%	79%	80%	65%	48%
Midwest	45%	77%	86%	81%	62%	43%
South	37%	85%	86%	66%	70%	35%
West	34%	81%	86%	82%	66%	49%

Note: These responses may be overestimated due to respondent compliance (i.e., desire to provide a socially desirable or positive response).

Respondents were asked whether they encountered specific housing problems over the past five years due in part to their energy bills. Table 58 shows that experiences with housing problems were fairly consistent across regions.

Table 58
Experiences with Housing Problems
Due to Energy Bills in Past Five Years by Region

	Didn't make full rent or mortgage payment	Was evicted from home or apartment	Moved in with friends or family	Moved into shelter or been homeless
All	28%	4%	9%	4%
Northeast	26%	4%	10%	7%
Midwest	27%	3%	8%	2%
South	33%	5%	9%	2%
West	31%	4%	12%	5%

Respondents were asked whether they needed to use a different name in order to obtain or continue receiving energy services in the past five years. Table 59 presents the responses to this question by region.

Table 59
Use Different Name to Obtain or
Continue Receiving Energy Service by Region

	Percent
All	3%
Northeast	3%
Midwest	3%
South	3%
West	6%

Table 60 shows that 1 percent of respondents in each region reported having a fire caused by unsafe heating or lighting, due to their total residential energy expenses.

Table 60
Fire Caused by Unsafe Heating or Lighting by Region

	Percent
All	1%
Northeast	1%
Midwest	1%
South	1%
West	1%

D. Health: Tough Choices and Health Problems

Respondents were asked whether they went without food, medical care, or medicine in the past five years due in part to their total residential energy expenses. As Table 61 shows, respondents in the West were more likely than the respondents in any other region to say that they went without food for at least one day.

Table 61
Experiences with Other Expenses
Due to Energy Bills by Region

	Went without food for at least one day	Went without medical or dental care	Didn't fill prescription or took less than the full dose of a prescribed medicine	Unable to pay energy bill due to medical expenses
All	22%	38%	30%	20%
Northeast	20%	36%	21%	19%
Midwest	22%	37%	35%	20%
South	19%	38%	33%	19%
West	30%	43%	34%	22%

Respondents were asked whether they suffered illness in the past five years because their homes were too hot or too cold. Table 62 shows that respondents in the West and Northeast regions were more likely than those in the Midwest and South to say that someone in their household had been sick because their home was too cold and that someone in their household needed to go to a doctor or hospital because of this illness.

Table 62
Health Problems Due to Energy Bills in Past Five Years by Region

	Someone in household became sick because home was too cold	Someone in household needed to go to a doctor or hospital because home was too cold	Someone in household became sick because home was too hot	Someone in household needed to go to a doctor or hospital because home was too hot
All	21%	14%	7%	5%
Northeast	26%	18%	8%	6%
Midwest	16%	9%	7%	3%
South	17%	13%	7%	5%
West	29%	21%	7%	3%

E. Energy Insecurity

LIHEAP recipients were asked a series of questions designed to measure the home energy insecurity of their household. The purpose of these questions is to examine aspects of energy affordability and the experiences of households trying to meet their energy expenses. A scale of home energy insecurity will be presented at the end of this subsection.

Respondents were asked to report the frequency of actions or experiences in FY 2003 that could be considered indicators of energy insecurity. Table 63 shows the percentage of respondents who reported that these experiences occurred almost every month or some months due to not having enough money for the energy bill, by region. Respondents in the West were more likely than those in any other region to report that they skipped paying or paid less than their entire home energy bill. Respondents in the Northeast were least likely to receive a notice or threat to disconnect or discontinue electricity or home heating fuel. This may be due to winter shut off moratoriums.

Table 64 displays whether the respondent reported a loss of electricity, heating, or air conditioning during FY 2003. Respondents in the South were more likely than LIHEAP recipients in any other region to report that they were unable to use their main source of heat because they could not afford to pay for a bulk fuel delivery.

Table 63
Actions and Experiences
Occurring Almost Every Month or Some Months
Due to Not Having Enough Money for the Energy Bill
During Past Year by Region

	Worried about paying home energy bill	Reduced expenses for basic household necessities	Borrowed from a friend or relative to pay home energy bill	Skipped paying or paid less than entire home energy bill	Received notice or threat to disconnect or discontinue electricity or home heating fuel	Closed off part of home because could not afford to heat or cool it	Kept home at temperature you felt was unsafe or unhealthy	Left home for part of the day because it was too hot or too cold	Used kitchen stove or oven to provide heat
All	59%	69%	29%	35%	20%	31%	18%	13%	20%
Northeast	56%	69%	27%	31%	14%	26%	21%	16%	24%
Midwest	57%	67%	26%	36%	20%	33%	14%	11%	14%
South	66%	70%	35%	35%	26%	34%	20%	12%	23%
West	65%	72%	30%	44%	22%	33%	21%	16%	18%

Table 64
Experienced Loss of Electricity, Main Source of Heating, or Air Conditioning
During Past Year

	Electricity shut off due to nonpayment	Heating system broken and unable to pay for repair or replacement	Unable to use main source of heat because unable to pay for a fuel delivery	Unable to use main source of heat because utility company discontinued gas or electric service due to nonpayment	Unable to use air conditioner because it was broken, and unable to pay for repair or replacement	Unable to use air conditioner because utility company discontinued electric service due to nonpayment
All	8%	10%	10%	11%	12%	6%
Northeast	7%	8%	8%	8%	11%	4%
Midwest	7%	9%	7%	12%	12%	5%
South	11%	15%	17%	13%	16%	9%
West	11%	15%	9%	12%	12%	9%

Respondents who had their electricity or gas shut off or who could not afford to pay for fuel were asked whether they went without showers, baths, or hot meals, and whether they used candles or lanterns. Table 65 shows that experiences due to discontinued energy services were fairly consistent across the regions.

Table 65
Actions and Experiences
Due to Discontinued Energy Services During Past Year by Region

	Went without showers or baths due to nonpayment of energy service or delivery needed for hot water	Went without hot meals due to nonpayment of energy service or delivery	Used candles or lanterns due to nonpayment of energy service
All	9%	5%	8%
Northeast	9%	3%	7%
Midwest	8%	6%	6%
South	11%	7%	10%
West	8%	8%	10%

Table 66 presents a scale that classifies the low-income population based on their level of home energy insecurity. The scale, constructed from some of the previously described NEA Survey questions, is a modified version of the home energy insecurity scale developed in Roger Colton’s paper, “Measuring the Outcomes of Low-Income Energy Assistance Programs Through a Home Energy Insecurity Scale.”

In summary, the scale classifies respondents as thriving, capable, stable, vulnerable or in-crisis, based on how they answered the questions previously presented in this section. A detailed description of the scale and definitions for each threshold can be found in the text that precedes Table 44.

Table 66 shows that LIHEAP recipients in the Midwest are most likely to be thriving and least likely to be in-crisis, compared to respondents in other regions.

Table 66
Energy Insecurity Scale by Region

	Thriving	Capable	Stable	Vulnerable	In-Crisis
All	9%	1%	4%	24%	62%
Northeast	8%	1%	4%	22%	66%
Midwest	13%	1%	4%	25%	57%
South	7%	1%	2%	27%	63%
West	5%	1%	5%	26%	63%

F. Importance of LIHEAP

This section examines respondents' ratings of the importance and influence of LIHEAP by region.

Respondents were asked whether they were unable to use their main source of heat in FY 2003 because they were unable to pay to repair or replace a broken heating system, unable to pay for fuel, or unable to pay to restore disconnected or discontinued energy service. Those who said they did face one of these problems were asked whether LIHEAP helped restore their main source of heat. Table 67 shows that 55 percent of respondents in the South reported that LIHEAP helped to restore use of their main source of heat, compared to 64 percent of respondents in the Midwest, 64 percent in the Northeast, and 71 percent in the West.

Table 67
LIHEAP Helped to Restore Heat by Region¹

	Yes	No	Don't Know
All	62%	36%	1%
Northeast	64%	32%	4%
Midwest	64%	36%	0%
South	55%	44%	1%
West	71%	29%	0%

¹ 373 respondents

Respondents who reported that they did not encounter some of the energy insecurity problems described in the previous subsection were asked whether they believe they would have faced these problems if LIHEAP assistance had not been available. Table 68 shows that respondents in the West were most likely to say that they would have worried about paying their home energy bill and would have had their electricity or home heating fuel discontinued if LIHEAP assistance had not been available.

Table 68
If LIHEAP Had Not Been Available by Region

	Would you have worried about paying home energy bill?¹	Would you have needed to keep home temperature at unsafe or unhealthy levels?²	Would you have had electricity or home heating fuel discontinued?³
All	66%	54%	48%
Northeast	63%	55%	40%
Midwest	64%	53%	50%
South	68%	49%	47%
West	81%	58%	60%

¹ 511 respondents ² 1,392 respondents ³ 1,555 respondents

Respondents who reported that they received LIHEAP were asked, “How important has LIHEAP been in helping you to meet your needs?” Table 69 shows the ratings of the importance of LIHEAP by region.

Table 69
Importance of LIHEAP by Region¹

	Very Important	Somewhat Important	Of Little Importance	Not at All Important	Don't Know
All	88%	8%	3%	1%	1%
Northeast	90%	7%	1%	1%	1%
Midwest	85%	9%	4%	1%	1%
South	85%	9%	4%	1%	1%
West	94%	3%	2%	0%	1%

¹ 1,812 respondents who recall receiving LIHEAP

VI. State-Level Report

This section displays findings from the 2003 National Energy Assistance (NEA) Survey by state. State information should be considered in careful context as states have different demographics, climates, and energy and nonenergy benefits. The analysis in this section describes the experiences faced by LIHEAP recipients within states and is not a measure of state performance. The data should not be used to make interstate comparisons. Tables presented in this section may not total to 100 percent due to rounding.

A. LIHEAP Recipients by State

For each state in the sample, Table 70 presents the proportion of LIHEAP recipients who reported having one or more vulnerable members in the household.

Table 70
Vulnerable Groups by State

	Household With Elderly (Age 60 or older)	Household With Disabled	Household With Child (Age 18 or younger)	Household With Young Child (age 5 or younger)	Single Parent Household¹
All	41%	43%	47%	18%	22%
California	35%	45%	58%	27%	28%
Colorado	37%	43%	49%	19%	22%
Delaware	38%	48%	53%	22%	28%
Georgia	59%	60%	32%	16%	15%
Iowa	34%	45%	46%	18%	17%
Louisiana	53%	35%	41%	15%	9%
Maine	49%	31%	39%	5%	14%
Massachusetts	40%	53%	38%	17%	13%
Minnesota	43%	39%	47%	19%	20%
Montana	36%	42%	46%	22%	25%
New Mexico	28%	36%	64%	27%	39%
New York	57%	50%	39%	13%	14%
North Carolina	37%	45%	50%	25%	31%
North Dakota	33%	47%	42%	20%	20%
Ohio	38%	32%	52%	14%	33%
Pennsylvania	42%	41%	43%	17%	19%
Rhode Island	39%	35%	57%	20%	29%
Virginia	35%	52%	46%	25%	18%
Washington	30%	53%	53%	16%	20%
Wisconsin	32%	39%	47%	32%	22%

¹ Defined as households with only one adult residing with one or more children.

Table 71 displays the percent of LIHEAP recipients below the poverty level by state.

Table 71
Below Poverty Level by State

	Percent¹
All	70%
California	65%
Colorado	67%
Delaware	66%
Georgia	84%
Iowa	75%
Louisiana	97%
Maine	47%
Massachusetts	51%
Minnesota	48%
Montana	69%
New Mexico	71%
New York	89%
North Carolina	82%
North Dakota	56%
Ohio	65%
Pennsylvania	74%
Rhode Island	55%
Virginia	82%
Washington	77%
Wisconsin	64%

¹ 1,965 respondents provided income information.

Respondents were asked whether in FY 2003 their household received income from employment; any form of retirement income including Social Security, pensions, and other funds; public assistance benefits from TANF, SSI, AFDC, or general or public assistance; or noncash benefits, including food stamps and public or subsidized housing. Table 72 illustrates the types of income and benefits received by LIHEAP recipients in each state.

Table 72
Types of Income and Benefits Received by State

	Wages or Self-Employment Income	Retirement Income	Public Assistance	Noncash benefits
All	36%	36%	45%	57%
California	37%	24%	50%	49%
Colorado	42%	36%	36%	47%
Delaware	39%	29%	43%	50%
Georgia	20%	48%	42%	48%
Iowa	43%	33%	42%	54%
Louisiana	9%	40%	41%	59%
Maine	47%	46%	25%	48%
Massachusetts	33%	32%	46%	39%
Minnesota	47%	34%	36%	44%
Montana	43%	39%	38%	60%
New Mexico	38%	31%	40%	67%
New York	18%	40%	82%	80%
North Carolina	28%	32%	45%	83%
North Dakota	51%	29%	28%	51%
Ohio	37%	40%	35%	55%
Pennsylvania	34%	41%	44%	55%
Rhode Island	47%	36%	33%	44%
Virginia	40%	35%	47%	64%
Washington	40%	25%	61%	66%
Wisconsin	40%	29%	41%	50%

Pre-LIHEAP total residential energy burden is the proportion of income spent on total residential energy costs. Post-LIHEAP total residential energy burden is the proportion of income spent on total residential energy costs less LIHEAP benefit dollars received. Table 73 displays, by state, the pre-LIHEAP and post-LIHEAP total residential energy burdens for survey respondents for whom we could obtain state benefit amounts.

Table 73
Total Residential Energy Burden by State

Energy Burden Intervals	Total Residential Energy Burden Percent of Households ¹					
	Pre-LIHEAP			Post-LIHEAP		
	0-10%	11-20%	>25%	0-10%	11-20%	>25%
All	48%	32%	20%	58%	28%	14%
California	71%	21%	8%	75%	22%	4%
Colorado	59%	23%	17%	67%	20%	13%
Delaware	54%	26%	20%	68%	25%	7%
Georgia	28%	37%	36%	31%	33%	36%
Iowa	37%	41%	22%	44%	41%	15%
Louisiana	44%	33%	23%	50%	40%	10%
Maine	51%	39%	9%	71%	23%	5%
Massachusetts	57%	27%	16%	78%	16%	7%
Minnesota	66%	27%	7%	80%	19%	1%
Montana	60%	24%	16%	66%	33%	1%
New Mexico	61%	24%	15%	61%	24%	15%
New York	45%	28%	27%	51%	28%	21%
North Carolina	40%	29%	31%	40%	29%	31%
North Dakota	67%	19%	13%	82%	12%	5%
Ohio	41%	37%	22%	49%	32%	19%
Pennsylvania	41%	38%	22%	56%	34%	10%
Rhode Island	52%	32%	16%	69%	22%	9%
Virginia	42%	34%	24%	46%	37%	17%
Washington	58%	24%	18%	71%	22%	7%
Wisconsin	49%	35%	16%	65%	29%	6%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

For each state, Table 74 presents both pre-LIHEAP and post-LIHEAP mean total residential energy burdens for survey respondents for whom we could obtain state benefit amounts.

Table 74
Mean Total Residential Energy Burden by State

	Mean Total Residential Energy Burden¹	
	Pre-LIHEAP	Post-LIHEAP
All	14%	11%
California	10%	8%
Colorado	13%	10%
Delaware	13%	9%
Georgia	18%	15%
Iowa	15%	12%
Louisiana	19%	10%
Maine	16%	9%
Massachusetts	12%	8%
Minnesota	10%	7%
Montana	13%	8%
New Mexico	13%	12%
New York	17%	15%
North Carolina	16%	15%
North Dakota	11%	6%
Ohio	15%	12%
Pennsylvania	15%	11%
Rhode Island	12%	9%
Virginia	15%	12%
Washington	13%	9%
Wisconsin	13%	9%

¹ 1,825 respondents provided both income and energy costs information. States provided LIHEAP benefit amounts for all of these respondents.

B. Types of LIHEAP Assistance

Potential survey respondents were selected directly from state lists of FY 2003 LIHEAP recipients. Therefore, all respondents did receive LIHEAP benefits in FY 2003. However, preliminary findings being evaluated by the U.S. Department of Health and Human Services from the 2001 RECS LIHEAP Supplement have shown that some recipients do not recall or are not aware that they received benefits. Table 75 shows, by state, the proportion of respondents that reported that they received LIHEAP benefits in FY 2003.

Table 75
Recall Receiving LIHEAP by State

	Percent Reported:		
	Yes	No	Don't Know
All	84%	14%	2%
California	85%	11%	4%
Colorado	93%	5%	2%
Delaware	69%	24%	7%
Georgia	80%	16%	4%
Iowa	94%	5%	1%
Louisiana	87%	12%	1%
Maine	88%	10%	1%
Massachusetts	86%	12%	2%
Minnesota	88%	8%	5%
Montana	97%	2%	1%
New Mexico	88%	12%	0%
New York	63%	36%	1%
North Carolina	74%	21%	5%
North Dakota	96%	2%	2%
Ohio	92%	7%	1%
Pennsylvania	90%	9%	1%
Rhode Island	78%	21%	2%
Virginia	86%	13%	1%
Washington	94%	5%	1%
Wisconsin	81%	15%	4%

For each state, Table 76 illustrates how many times in the past five years respondents said that they received LIHEAP benefits.

Table 76
Number of Years Received LIHEAP in the Past Five Years by State

	Years Received LIHEAP:					
	1	2	3	4	5	Don't Know / No Recall
All	25%	23%	16%	8%	21%	7%
California	36%	23%	19%	1%	13%	8%
Colorado	22%	26%	17%	8%	24%	3%
Delaware	29%	19%	10%	4%	19%	19%
Georgia	24%	26%	15%	10%	11%	13%
Iowa	20%	18%	20%	10%	28%	4%
Louisiana	32%	35%	15%	4%	9%	7%
Maine	18%	24%	16%	10%	30%	2%
Massachusetts	22%	11%	25%	7%	29%	6%
Minnesota	21%	20%	18%	8%	31%	1%
Montana	19%	21%	18%	12%	29%	2%
New Mexico	41%	23%	15%	7%	11%	2%
New York	27%	17%	9%	15%	18%	14%
North Carolina	26%	23%	18%	8%	9%	15%
North Dakota	21%	22%	16%	10%	26%	5%
Ohio	21%	24%	19%	9%	22%	5%
Pennsylvania	26%	26%	18%	4%	25%	1%
Rhode Island	24%	28%	11%	8%	19%	11%
Virginia	27%	21%	19%	9%	18%	6%
Washington	27%	25%	21%	1%	20%	6%
Wisconsin	25%	33%	12%	8%	17%	5%

States were asked to provide the amount of heating, cooling, and crisis benefits received by each household. All twenty states included in the survey provided data for most of the respondents. Table 77 presents the mean state-reported LIHEAP benefits received by state.

Table 77
Mean State-Reported LIHEAP Benefits Received by State

	Heating¹	Cooling¹	Crisis¹	Total²
All	\$267	\$10	\$45	\$313
California	\$155	*	\$66	\$221
Colorado	\$319		\$2	\$322
Delaware	\$309	\$28	\$54	\$391
Georgia	\$196			\$196
Iowa	\$305		\$3	\$309
Louisiana	*	*		\$358
Maine	\$467		\$2	\$469
Massachusetts	\$521			\$521
Minnesota	\$373		\$54	\$427
Montana	\$426		\$21	\$448
New Mexico	\$83	*	\$26	\$109
New York	\$166	\$1	\$46	\$213
North Carolina	\$66		\$3	\$70
North Dakota	\$500		\$26	\$525
Ohio	\$157	\$9	\$55	\$221
Pennsylvania	\$225		\$144	\$369
Rhode Island	\$362		\$20	\$382
Virginia	\$168	\$45	\$47	\$260
Washington	\$378			\$378
Wisconsin	\$368		\$52	\$420

¹ Benefits are averaged over all recipients in the state that offers the benefits. Among just those who received benefits, the national average LIHEAP grant was \$294 for heating, \$147 for cooling, and \$264 for crisis.

² Total benefits are not a summation of the three previous benefit types, but are the mean of total benefits received by each respondent. Some recipients received more than one type of assistance. State benefits data were provided for 2,036 of 2,161 respondents.

* Benefits data for this benefit type were not available from the state for clients surveyed. Shaded areas denote states where benefit type was not offered in 2003.

C. Constraints, Hardships, and Unsafe Practices

For each state, Table 78 presents the proportion of respondents who reported that their household took specific constructive actions in FY 2003 to reduce their total residential energy costs.

Table 78
Constructive Actions Taken In the Past Year to Lower Energy Bills by State

	Actions taken to bring down heating bills		Actions taken to bring down cooling bills		Other energy-saving actions taken	
	Put plastic on windows	Turn down the heat when you go to bed	Keep shades and curtains closed in daytime	Use fans and open windows	Wash clothes in cold water	Use compact fluorescent light bulbs
All	44%	76%	83%	78%	65%	44%
California	21%	71%	86%	85%	66%	55%
Colorado	37%	86%	85%	83%	67%	41%
Delaware	45%	88%	91%	77%	68%	38%
Georgia	37%	85%	84%	68%	77%	44%
Iowa	56%	81%	90%	73%	69%	38%
Louisiana	26%	90%	79%	56%	77%	24%
Maine	45%	78%	79%	82%	79%	34%
Massachusetts	40%	78%	78%	85%	69%	65%
Minnesota	35%	74%	83%	84%	61%	46%
Montana	36%	90%	88%	85%	63%	46%
New Mexico	44%	86%	84%	80%	65%	33%
New York	60%	48%	71%	82%	58%	51%
North Carolina	35%	81%	83%	62%	67%	33%
North Dakota	50%	74%	90%	81%	59%	41%
Ohio	44%	77%	84%	81%	61%	42%
Pennsylvania	55%	76%	88%	77%	60%	44%
Rhode Island	35%	82%	82%	75%	74%	46%
Virginia	43%	80%	92%	69%	64%	40%
Washington	42%	79%	86%	78%	67%	58%
Wisconsin	42%	77%	83%	82%	61%	45%

Note: These responses may be overestimated due to respondent compliance (i.e., desire to provide a socially desirable or positive response).

Table 79 shows the proportion of respondents, by state, that reported experiencing a specific housing problem in the past five years due to their total residential energy expenses.

Table 79
Experiences with Housing Problems
Due to Energy Bills in Past Five Years by State

	Didn't make full rent or mortgage payment	Was evicted from home or apartment	Moved in with friends or family	Moved into shelter or been homeless
All	28%	4%	9%	4%
California	29%	6%	14%	6%
Colorado	30%	3%	10%	2%
Delaware	40%	7%	11%	3%
Georgia	25%	1%	8%	0%
Iowa	27%	2%	8%	1%
Louisiana	33%	3%	7%	1%
Maine	20%	2%	4%	1%
Massachusetts	24%	3%	8%	8%
Minnesota	17%	3%	8%	3%
Montana	26%	0%	16%	4%
New Mexico	29%	2%	6%	3%
New York	24%	1%	15%	11%
North Carolina	35%	7%	12%	4%
North Dakota	21%	2%	9%	1%
Ohio	35%	4%	7%	2%
Pennsylvania	27%	8%	6%	4%
Rhode Island	31%	6%	9%	4%
Virginia	32%	4%	8%	1%
Washington	39%	6%	14%	6%
Wisconsin	23%	4%	12%	3%

Table 80 shows, by state, the proportion of respondents who reported that they needed to use a different name in order to obtain or continue receiving energy services in the past five years.

Table 80
Use Different Name to Obtain or
Continue Receiving Energy Service In Past Five Years by State

	Percent
All	3%
California	9%
Colorado	8%
Delaware	5%
Georgia	2%
Iowa	2%
Louisiana	4%
Maine	3%
Massachusetts	3%
Minnesota	2%
Montana	2%
New Mexico	4%
New York	1%
North Carolina	3%
North Dakota	1%
Ohio	4%
Pennsylvania	3%
Rhode Island	6%
Virginia	2%
Washington	4%
Wisconsin	3%

Table 81 shows, by state, the percentage of respondents who reported that they had a fire in their home caused by unsafe heating or lighting in the past five years.

Table 81
Fire Caused by Unsafe Heating or Lighting by State

	Percent
All	1%
California	2%
Colorado	1%
Delaware	1%
Georgia	1%
Iowa	2%
Louisiana	0%
Maine	1%
Massachusetts	2%
Minnesota	2%
Montana	2%
New Mexico	1%
New York	1%
North Carolina	2%
North Dakota	0%
Ohio	1%
Pennsylvania	1%
Rhode Island	1%
Virginia	3%
Washington	1%
Wisconsin	1%

D. Health: Tough Choices and Health Problems

For each state, Table 82 presents the proportion of respondents that said someone in their household went without food, medical care, or medicine in the past five years due in part to their total residential energy expenses.

Table 82
Experiences with Other Expenses
Due to Energy Bills in Past Five Years by State

	Went without food for at least one day	Went without medical or dental care	Didn't fill prescription or took less than the full dose of a prescribed medicine	Unable to pay energy bill due to medical expenses
All	22%	38%	30%	20%
California	34%	29%	29%	23%
Colorado	27%	55%	43%	23%
Delaware	26%	39%	36%	18%
Georgia	16%	37%	28%	20%
Iowa	22%	31%	40%	18%
Louisiana	11%	38%	39%	23%
Maine	9%	39%	26%	8%
Massachusetts	21%	39%	29%	19%
Minnesota	17%	25%	19%	14%
Montana	31%	53%	37%	24%
New Mexico	22%	47%	34%	19%
New York	17%	39%	9%	25%
North Carolina	21%	33%	28%	14%
North Dakota	17%	41%	35%	24%
Ohio	24%	42%	40%	22%
Pennsylvania	23%	37%	31%	18%
Rhode Island	25%	26%	27%	14%
Virginia	22%	43%	34%	20%
Washington	30%	44%	34%	20%
Wisconsin	28%	40%	34%	16%

For each state, Table 83 shows the proportion of respondents who said that someone in their household suffered illness in the past five years because their homes were too hot or too cold. Table 83 also illustrates the proportion of respondents in each state that reported a person in their household needed to go to a doctor or hospital due to a home-temperature-related illness.

Table 83
Health Problems Due to Energy Bills in Past Five Years by State

	Someone in household became sick because home was too cold	Someone in household needed to go to a doctor or hospital because home was too cold	Someone in household became sick because home was too hot	Someone in household needed to go to a doctor or hospital because home was too hot
All	21%	14%	7%	5%
California	35%	23%	10%	7%
Colorado	21%	14%	5%	0%
Delaware	20%	14%	9%	7%
Georgia	5%	5%	4%	4%
Iowa	16%	10%	8%	5%
Louisiana	18%	10%	12%	8%
Maine	8%	7%	5%	4%
Massachusetts	22%	15%	5%	3%
Minnesota	10%	6%	5%	3%
Montana	20%	12%	5%	3%
New Mexico	29%	23%	2%	0%
New York	37%	25%	11%	10%
North Carolina	21%	16%	5%	3%
North Dakota	11%	7%	8%	3%
Ohio	19%	10%	7%	2%
Pennsylvania	23%	17%	7%	4%
Rhode Island	22%	14%	8%	4%
Virginia	17%	15%	7%	6%
Washington	33%	27%	9%	4%
Wisconsin	19%	12%	8%	5%

E. Energy Insecurity

LIHEAP recipients were asked a series of questions designed to measure the home energy insecurity of their household. The purpose of these questions is to examine aspects of energy affordability and the experiences of households trying to meet their energy expenses. A scale of home energy insecurity will be presented at the end of this subsection.

Respondents were asked to report the frequency of actions or experiences in FY 2003 that could be considered indicators of energy insecurity. For each state, Table 84 illustrates the proportion of respondents who reported that a specific action or experience occurred during three or more months in FY 2003.

Table 85 shows, by state, the proportion of respondents who reported that in FY 2003 they experienced a loss of electricity, heating, or air conditioning due to inability to pay for fuel service or repairs for broken fuel sources.

Table 84. Actions and Experiences Occurring Some Months or More Due to Not Having Enough Money for the Energy Bill During Past Year by State

	Worried about paying home energy bill	Reduced expenses for basic household necessities	Borrowed from a friend or relative to pay home energy bill	Skipped paying or paid less than entire home energy bill	Received notice or threat to disconnect or discontinue electricity or home heating fuel	Closed off part of home because could not afford to heat or cool it	Kept home at temperature you felt was unsafe or unhealthy	Left home for part of the day because it was too hot or too cold	Used kitchen stove or oven to provide heat
All	59%	69%	29%	35%	20%	31%	18%	13%	20%
California	67%	71%	39%	49%	25%	25%	19%	22%	26%
Colorado	63%	67%	22%	38%	23%	29%	15%	9%	15%
Delaware	64%	70%	34%	44%	30%	26%	21%	12%	16%
Georgia	63%	78%	31%	31%	22%	33%	13%	8%	22%
Iowa	59%	70%	21%	36%	19%	37%	16%	11%	12%
Louisiana	73%	70%	42%	38%	28%	47%	32%	17%	39%
Maine	48%	60%	15%	25%	15%	33%	11%	9%	11%
Massachusetts	58%	69%	19%	39%	17%	35%	16%	10%	11%
Minnesota	45%	60%	21%	26%	15%	26%	16%	10%	9%
Montana	69%	77%	26%	41%	12%	42%	17%	6%	11%
New Mexico	63%	67%	31%	37%	26%	26%	24%	11%	20%
New York	52%	69%	28%	19%	6%	20%	27%	24%	36%
North Carolina	67%	64%	39%	30%	31%	34%	17%	13%	24%
North Dakota	57%	63%	22%	32%	13%	32%	9%	7%	9%
Ohio	59%	71%	29%	42%	27%	35%	15%	14%	21%
Pennsylvania	60%	72%	27%	30%	17%	30%	20%	7%	18%
Rhode Island	61%	71%	32%	49%	22%	26%	21%	16%	19%
Virginia	62%	72%	26%	35%	17%	31%	17%	10%	15%
Washington	62%	75%	28%	49%	22%	46%	28%	20%	15%
Wisconsin	61%	66%	29%	35%	16%	31%	14%	10%	8%

Table 85
Experienced Loss of Electricity, Main Source of Heating, or Air Conditioning
During Past Year by State

	Electricity shut off due to nonpayment	Heating system broken and unable to pay for repair or replacement	Unable to use main source of heat because unable to pay for a fuel delivery	Unable to use main source of heat because utility company discontinued gas or electric service due to nonpayment	Unable to use air conditioner because it was broken, and unable to pay for repair or replacement	Unable to use air conditioner because utility company discontinued electric service due to nonpayment
All	8%	10%	10%	11%	12%	6%
California	15%	18%	8%	17%	13%	13%
Colorado	11%	9%	6%	9%	10%	8%
Delaware	10%	19%	24%	12%	15%	10%
Georgia	11%	11%	13%	13%	5%	9%
Iowa	4%	10%	6%	7%	10%	3%
Louisiana	9%	24%	6%	13%	26%	10%
Maine	10%	4%	17%	5%	4%	5%
Massachusetts	10%	10%	8%	11%	11%	4%
Minnesota	9%	8%	6%	9%	9%	4%
Montana	0%	9%	8%	2%	6%	1%
New Mexico	11%	15%	15%	11%	15%	12%
New York	4%	2%	3%	4%	12%	1%
North Carolina	11%	10%	20%	12%	19%	8%
North Dakota	8%	13%	5%	6%	13%	3%
Ohio	5%	9%	8%	19%	13%	6%
Pennsylvania	5%	18%	11%	8%	14%	2%
Rhode Island	11%	9%	11%	13%	9%	8%
Virginia	17%	11%	20%	14%	11%	9%
Washington	13%	17%	9%	13%	14%	6%
Wisconsin	11%	4%	5%	10%	13%	7%

Respondents who had their electricity or gas shut off or who could not afford to pay for fuel were asked whether they went without showers, baths, or hot meals, and whether they used candles or lanterns. Table 86 illustrates the proportion of respondents, by state, that reported experiencing one of those problems due to discontinued energy services in FY 2003.

Table 86
Actions and Experiences
Due to Discontinued Energy Services During Past Year by State

	Went without showers or baths due to nonpayment of energy service or delivery needed for hot water	Went without hot meals due to nonpayment of energy service or delivery	Used candles or lanterns due to nonpayment of energy service or delivery
All	9%	5%	8%
California	14%	13%	17%
Colorado	5%	3%	7%
Delaware	12%	12%	8%
Georgia	11%	5%	9%
Iowa	6%	3%	4%
Louisiana	9%	6%	11%
Maine	3%	3%	6%
Massachusetts	7%	1%	3%
Minnesota	5%	4%	6%
Montana	2%	2%	0%
New Mexico	6%	9%	9%
New York	13%	3%	14%
North Carolina	10%	5%	10%
North Dakota	3%	3%	3%
Ohio	14%	9%	9%
Pennsylvania	3%	3%	3%
Rhode Island	11%	6%	5%
Virginia	12%	9%	12%
Washington	5%	6%	11%
Wisconsin	6%	4%	5%

For each state, Table 87 presents a scale that classifies the low-income population based on their level of home energy insecurity. The scale, constructed from some of the previously described NEA Survey questions, is a modified version of the home energy insecurity scale developed in Roger Colton's paper, "Measuring the Outcomes of Low-Income Energy Assistance Programs Through a Home Energy Insecurity Scale."

In summary, the scale classifies respondents as thriving, capable, stable, vulnerable, or in-crisis, based on how they answered the questions previously presented in this section. A detailed description of the scale and definitions for each threshold can be found in the text that precedes Table 44.

Table 87
Energy Insecurity Scale by State

	Thriving	Capable	Stable	Vulnerable	In-Crisis
All	9%	1%	4%	24%	62%
California	5%	0%	7%	18%	70%
Colorado	8%	4%	1%	33%	55%
Delaware	9%	1%	2%	29%	59%
Georgia	5%	1%	2%	25%	66%
Iowa	9%	1%	2%	36%	51%
Louisiana	7%	1%	3%	20%	68%
Maine	17%	1%	8%	24%	51%
Massachusetts	7%	4%	4%	28%	57%
Minnesota	17%	1%	7%	28%	47%
Montana	2%	0%	8%	27%	63%
New Mexico	7%	1%	4%	32%	57%
New York	8%	0%	3%	15%	74%
North Carolina	9%	1%	0%	25%	66%
North Dakota	11%	2%	8%	28%	51%
Ohio	14%	0%	2%	20%	64%
Pennsylvania	5%	1%	3%	24%	67%
Rhode Island	6%	1%	5%	26%	62%
Virginia	4%	3%	4%	35%	55%
Washington	6%	1%	4%	27%	62%
Wisconsin	12%	0%	5%	23%	60%

F. Importance of LIHEAP

This section examines respondents' ratings of the importance and influence of LIHEAP by state.

Respondents were asked whether they were unable to use their main source of heat in FY 2003 because they were unable to pay to repair or replace a broken heating system, unable to pay for fuel, or unable to pay to restore disconnected or discontinued energy service. Those who said they did face one of these problems were asked whether LIHEAP helped restore their main source of heat. Among those respondents who lost their heat, Table 88 reports the percentage of respondents, by state, who said that LIHEAP benefits helped them to restore their heat.

Table 88
LIHEAP Helped to Restore Heat by State

	Percent¹
All	62%
California	67%
Colorado	86%
Delaware	69%
Georgia	53%
Iowa	64%
Louisiana	53%
Maine	69%
Massachusetts	64%
Minnesota	50%
Montana	91%
New Mexico	63%
New York	77%
North Carolina	44%
North Dakota	59%
Ohio	65%
Pennsylvania	68%
Rhode Island	52%
Virginia	60%
Washington	68%
Wisconsin	80%

¹ 373 respondents

Respondents who reported that they did not encounter some of the energy insecurity problems described in the previous subsection were asked whether they believe they would have faced these problems if LIHEAP assistance had not been available. For each state, Table 89 illustrates the proportion of respondents who would have worried about paying their bill, kept their home at unsafe or unhealthy temperature levels, or would have faced disconnection had it not been for LIHEAP benefits.

Table 89
If LIHEAP Had Not Been Available by State

	Would you have worried about paying home energy bill?¹	Would you have needed to keep home temperature at unsafe or unhealthy levels?²	Would you have had electricity or home heating fuel discontinued?³
All	66%	54%	48%
California	82%	51%	53%
Colorado	75%	72%	60%
Delaware	87%	55%	57%
Georgia	69%	57%	37%
Iowa	63%	41%	45%
Louisiana	64%	58%	42%
Maine	76%	60%	39%
Massachusetts	83%	56%	49%
Minnesota	65%	46%	44%
Montana	88%	68%	63%
New Mexico	74%	52%	55%
New York	47%	44%	21%
North Carolina	41%	33%	44%
North Dakota	61%	57%	49%
Ohio	69%	60%	56%
Pennsylvania	65%	63%	51%
Rhode Island	82%	57%	58%
Virginia	92%	52%	63%
Washington	87%	56%	66%
Wisconsin	53%	49%	47%

¹ 511 respondents ² 1,392 respondents ³ 1,555 respondents

Respondents who reported that they received LIHEAP were asked, “How important has LIHEAP been in helping you to meet your needs?” Table 90 shows the ratings of the importance of LIHEAP by state.

Table 90
Importance of LIHEAP by State¹

	Very Important	Somewhat Important	Of Little Importance	Not at All Important	Don't Know
All	88%	8%	3%	1%	1%
California	95%	3%	2%	0%	0%
Colorado	92%	4%	4%	0%	0%
Delaware	93%	5%	0%	2%	0%
Georgia	85%	10%	4%	0%	1%
Iowa	82%	15%	0%	1%	1%
Louisiana	92%	3%	1%	1%	3%
Maine	91%	7%	0%	1%	1%
Massachusetts	93%	4%	1%	1%	1%
Minnesota	90%	8%	1%	0%	1%
Montana	95%	4%	1%	0%	0%
New Mexico	93%	4%	1%	1%	1%
New York	93%	5%	0%	0%	2%
North Carolina	74%	15%	8%	3%	0%
North Dakota	76%	13%	5%	5%	1%
Ohio	89%	3%	7%	1%	1%
Pennsylvania	91%	5%	2%	2%	1%
Rhode Island	82%	15%	1%	1%	0%
Virginia	88%	6%	4%	0%	1%
Washington	93%	2%	2%	1%	2%
Wisconsin	82%	15%	1%	1%	1%

¹ 1,812 respondents who recall receiving LIHEAP

VII. Summary of Findings

Low-income households face significant hardship in attempting to pay their energy bills. In the past five years:

- 38 percent went without medical or dental care;
- 30 percent went without filling a prescription or taking the full dose of a prescribed medicine;
- 28 percent did not make a rent or mortgage payment;
- 22 percent went without food for at least one day;
- 21 percent believe they became sick because their home was too cold; and,
- 7 percent believe they became sick because their home was too hot

due in part to unaffordable energy bills.

Some LIHEAP recipients faced life-threatening challenges. In FY 2003:

- 17 percent were unable to use their main source of heat due to discontinued utility service or an inability to pay for fuel; and,
- 8 percent had their electricity shut off due to nonpayment.

The 2003 NEA study found significant differences among LIHEAP recipients based on fuel type and homeownership. In FY 2003:

- 31 percent of bulk fuel respondents said that they experienced a loss of energy service due to discontinued utility service or an inability to pay for fuel, compared to 15 percent of respondents that use natural gas or electricity as the primary fuel for heating their home.
- 72 percent of bulk fuel respondents who were without heat due to inability to pay their energy bill said that LIHEAP helped restore their heat, compared to 49 percent of respondents that use natural gas or electricity as the primary fuel for heating their home.
- 53 percent of renters said that they needed to borrow from a friend or relative to pay their home energy bill, compared to 38 percent of homeowners.
- 56 percent of renters said that they skipped paying or paid less than the whole energy bill, compared to 46 percent of homeowners.

The National Energy Assistance (NEA) study presented in this report finds that LIHEAP is essential in helping a large number of low-income Americans meet their energy needs. LIHEAP assistance reduces the percentage of household income spent on total residential energy costs from 14 to 11 percent.⁵⁸ This reduction is achieved through a relatively small average grant of \$313 in FY 2003. Despite the small grant, the findings point to very large benefits:

⁵⁸ The statutory intent of LIHEAP is to reduce home heating and cooling costs for low-income households. However, information on total residential energy costs is more accessible and more apparent to LIHEAP-recipient

- 88 percent of recipients said that LIHEAP has been very important in helping meet their needs; another 8 percent said it was somewhat important.
- 62 percent of those who lost their heat due to an inability to pay their energy bills said that LIHEAP helped to restore their heat.
- 54 percent of recipients said that they would have kept their home at an unsafe or unhealthy temperature if LIHEAP had not been available.
- 48 percent of recipients said that they would have had electricity or home heating fuel discontinued if LIHEAP had not been available.

The need for LIHEAP far exceeds the availability of current appropriations. Over 4.6 million households received LIHEAP in 2003, only 13 percent of the over 34.6 million households that were eligible to receive LIHEAP under the federal LIHEAP maximum income standard.

Four key findings from the 2003 NEA study are: (1) low-income households spend an inordinate amount of their household income on residential energy; (2) households that receive LIHEAP face significant hardship in attempting to pay their energy bills; (3) LIHEAP makes a significant difference for recipient households; (4) LIHEAP still only serves a small fraction of eligible households. One apparent recommendation would be to increase funding for LIHEAP so that more needy households could be served.

Administering LIHEAP

The findings from this report highlight the difficulties that low-income families face in coping with unaffordable energy bills. As long as LIHEAP appropriations fall short of the need, managing LIHEAP at the state level remains a balancing act. States must decide whether to serve more people with smaller grants or fewer people with larger grants. States have to decide whether to focus funding toward regular or crisis grants and bulk or utility fuels.

States can contemplate how best to balance limited LIHEAP resources by using the data from the 2003 NEA study to examine their own statistics and identify outcomes to target for improvement. State LIHEAP directors can address these areas for improvement using their in-depth knowledge of how LIHEAP operates in their state and how their LIHEAP benefits are used to complement other state programs and services.

States can examine whether outcomes from their state are of particular concern by comparing their statistics to those of states with similar characteristics (e.g., climate, program types, demography). Various states have attempted different program initiatives to assist households with unaffordable energy bills. State LIHEAP directors can use the 2003 NEA study findings, their understanding of various state initiatives, and their longstanding relationships with other state LIHEAP directors to modify or replicate successful program initiatives. Familiarity with LIHEAP models, state programs and services, and other factors that influence state level outcomes are necessary to interpret differences between states.

respondents. Moreover, any reduction in home heating and cooling costs leads to a direct reduction in total residential energy costs. Therefore, this report addresses total residential energy costs.

Recommendations for Future Research

The 2003 National Energy Assistance (NEA) Survey successfully interviewed a nationally representative sample of 2,161 LIHEAP recipients, resulting in never-before-available national information on the difficult choices low-income households make in managing unaffordable energy bills.

The 2003 NEA Survey is a cross-sectional design, capturing a snapshot of LIHEAP recipients at a particular point in time. Future research could use a panel study designed to re-interview the same LIHEAP recipients. This research could tell us whether changes in LIHEAP benefits or length of time receiving LIHEAP were related to households' ability to deal with energy bills. A panel design would also provide pre- and post-benefit data that could be used for evaluation of policy interventions.

The 2003 NEA Survey was designed to provide nationally representative data. However, some states might wish to examine differences among targeted groups within their states. This would require larger state sample sizes than those used in this design. Moreover, states might be interested in having more information from their LIHEAP recipients regarding their experiences with the intake process, timeliness of benefits received, and other administrative information. Future research could extend the survey to include a program administration module that provides information regarding which administrative procedures work best and which need improvement.

While the 2003 NEA Study provides a significant amount of new and valuable information, we have just begun to scratch the surface of understanding how low-income families cope with energy unaffordability and how LIHEAP relieves some of their burdens. Additional research is needed to increase our understanding of these important issues.

Appendix A: Methodology and Data

A. Sample Selection

The survey design called for the selection of 20 states to represent LIHEAP households nationally. This design aimed to balance survey cost with the goal of a nationally representative LIHEAP sample. States were divided into 13 strata based on weather and geography. The number of states to be included in the survey from each strata was determined proportionally to the LIHEAP block grant for FY 2002 for each strata. The states' probability of selection within the strata was determined by the percentage of the funding in the strata that was allocated to each state. Using these allocation criteria, 20 states were randomly selected for inclusion in the survey. Florida, Illinois, Kentucky, Michigan, New Hampshire, Connecticut, and Texas were unable to participate in the survey due to data confidentiality restrictions or unavailability of programming staff to provide the LIHEAP recipient data. In all cases except for one, a substitute from the same strata was chosen to replace the state initially selected. The one state that was substituted outside of the original strata was Montana, which was chosen as a substitute for Michigan.

Table A-1 displays the states in each strata, the states initially selected for the survey, and the states in which the survey was conducted.

Table A-1
Allocation of States to Strata,
States Selected for the Survey, and
States Included in the Survey

Strata	States	States Initially Selected	States Interviewed
1	TX, LA, MS, AL, FL, GA	TX, FL	LA, GA
2	OK, AK, TN, NC, SC	NC	NC
3	KY, WV, VA, MD, DE, DC	KY, DE	VA, DE
4	CA	CA	CA
5	WA, OR,	WA	WA
6	ID, MT, WY, CO, AK	CO	CO, MT
7	NV, UT, NM, AZ	NM	NM
8	ND, SD, MN, WI, MI	MI, WI, MN	ND, WI, MN
9	NE, IA, KS, MO	IA	IA
10	IL, IN, OH	IL, OH	OH
11	NY	NY	NY
12	PA, NJ, CT, RI	PA, CT	PA, RI
13	MA, VT, NH, ME	MA, NH	MA, ME

Within states, LIHEAP recipients were stratified by several characteristics in order to ensure that the sample of recipients chosen for the survey represented the characteristics of the population of LIHEAP recipients in the state. These characteristics included poverty level (under or over 100 percent of poverty) or income; the presence of disabled, elderly, or young child household members; and the type of benefits received (heating, cooling, and/or crisis). This stratification was done when these data were provided by the state.

B. Development of the Survey Instrument

The initial draft of the survey instrument was developed by APPRISE Incorporated. The survey instrument was sent to NEADA working group members, and several changes and additions were made based on their comments and suggestions. APPRISE then conducted cognitive testing of the survey instrument. Cognitive testing involved one-on-one interviews designed to determine the processes respondents use in answering a question, or to identify problems respondents have in understanding or answering a question. Using purposive and convenience sampling, APPRISE interviewed volunteers identified as LIHEAP recipients by local community action agencies. A variety of cognitive testing techniques were used, including asking clients to think aloud as they answered each question to determine what factors they were considering in answering the question. These techniques provided valuable insights that were used to improve the comprehension of the final questionnaire.

C. Survey Procedures

An initial sample of 200 LIHEAP recipients from each state was selected, except where the state was unable to provide phone numbers, and in these states 300 clients were selected.⁵⁹ Each client selected for the survey was sent an advance letter, stating that they had been selected for the survey, explaining the purpose and importance of the survey, and providing the option for the client to call in to the phone center's toll-free number rather than waiting for the call.

An additional 50 LIHEAP recipients from New Mexico, New York, Rhode Island, Virginia, and Washington were selected during the field period. This sample was sent to the phone center to increase the number of completed interviews in these states.

Braun Research was hired to conduct the telephone interviews. In addition to standard phone interviewer training provided by Braun Research, APPRISE conducted an additional two-hour training session for all interviewers to acclimate them to specific nuances and performance expectations related to the National Energy Assistance Survey. This training session provided interviewers with an overview of the project, purpose behind questions asked, and strategies to provide accurate unbiased clarification and elicit acceptable responses through neutral probing techniques.

⁵⁹ Phone numbers in these states were obtained using online or compact disc directories. About half of the clients' phone numbers were identified.

Telephone surveys, conducted at Braun Research's centralized facilities, were monitored by APPRISE staff to assess interviewer performance and provide timely feedback to control interviewer error. While interviewers knew that they would be monitored, neither interviewers nor respondents knew when a particular call was being monitored. Interviewers were monitored more intensively immediately following training, until the results from monitoring were stable, at which time the level of monitoring was reduced to a more reasonable level throughout the project field period.

Telephone interviews were conducted between November 3, 2003, and December 22, 2003. During this time period, 1,978 interviews were completed. The table on the following page lists the number of telephone interviews completed in each state.

A phone-only survey may bias findings on LIHEAP recipients, as some recipients do not have phones, and some recipients move frequently and could not be contacted with their original program information. This bias would result if clients who moved or did not have adequate contact information were different from those who could be contacted by phone. To address this concern, the survey design included a follow-up mail component. A sample of households that could not be reached by phone was sent a mail survey on January 5, 2004. Between 20 and 60 clients in each state were sent a written version of the survey.⁶⁰ The number of clients selected in each state depended on the number of phone completes and the number of households that had unavailable or disconnected phone numbers. States with lower numbers of completes received more mail surveys in order to try to obtain a total of at least 100 completes (phone and mail) in each state. States with higher numbers of unavailable or disconnected phone numbers received more mail surveys in order to provide greater coverage for these unreachable households. This mail follow-up survey yielded an additional 183 responses, for a total of 2,161 completed interviews.

⁶⁰ The one exception was Louisiana, where 331 clients were sent the mail survey. In this state, only 21 phone surveys were completed because, due to confidentiality restrictions, only those clients who called in to the phone center were interviewed.

Table A-2
Number of Phone Interviews by State

State	Number of Phone Interviews	Number of Mail Interviews	Total Completed Interviews
California	94	3	97
Colorado	107	2	109
Georgia	114	1	110
Delaware	109	2	116
Iowa	92	8	100
Louisiana	21	98	119
Maine	119	3	122
Massachusetts	107	5	112
Minnesota	108	-	108
Montana	92	12	104
New Mexico	112	2	114
New York	101	7	108
North Carolina	95	9	104
North Dakota	103	11	114
Ohio	98	5	103
Pennsylvania	112	4	116
Rhode Island	92	3	95
Virginia	100	4	104
Washington	100	3	103
Wisconsin	102	1	103
TOTAL	1,978	183	2,161

D. Weights

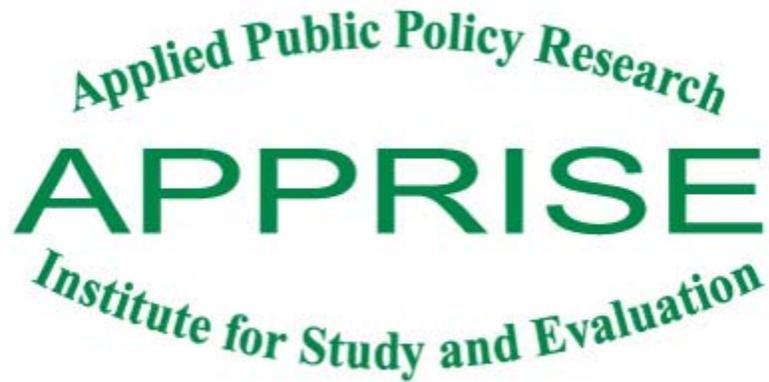
Two sets of weights were used to ensure that the findings are representative of the national LIHEAP population. First, weights were applied within states. The purpose of these weights was to adjust for response rate variation within poverty, vulnerable status, and type of benefit strata. A second set of weights was used so that the sum of the state weights was proportional to the strata size from which it was drawn. In the overall and regional level estimates, the total weight, comprised of these two separate weights, is used. In the state level estimates, only the state weight is used.

Appendix B: Energy Insecurity Scale

Response Patterns Used to Generate Scale

	Thriving	Capable	Stable	Vulnerable	In-Crisis
Receipt of Outside Assistance					
C3. Did you need to borrow from a friend or relative to pay your home energy bill?	Never	Some months	Some months	Almost every month	Almost every month
Constraints on Energy Use					
C6. Did you close off part of your home because you could not afford to heat or cool it?	Never	1 or 2 months	Some months	Almost every month	Almost every month
C7. Did you keep your home at a temperature that you felt was unsafe or unhealthy at any time of the year?	Never	Never	1 or 2 months	Some months	Almost every month
C8. Did you leave your home for part of the day because it was too hot or too cold?	Never	Never	1 or 2 months	Some months	Almost every month
C9. Did you use your kitchen stove or oven to provide heat?	Never	Never	Never	1 or 2 months	Some months
<i>Constraints on Household Necessities</i>					
C2. Did you reduce your expenses for what you consider to be basic household necessities?	Never	Never	Never	Some months	Almost every month
Nonpayment on Energy Bills					
C4. Did you skip paying your home energy bill or pay less than your whole home energy bill?	Never	1 or 2 months	Some months (combined with "never" in C5)	Some months	Almost every month
C5. Did you have a supplier of your electric or home heating service threaten to disconnect your electricity or home heating fuel service or discontinue making fuel deliveries?	Never	Never	Never	Some months	Almost every month
C10. Was your electricity ever shut off because you were unable to pay your electric bill?	No	No	No	No	Yes
C12. Was there ever a time that you wanted to use your main source of heat but could not because you ran out of fuel oil, kerosene, LPG, propane, coal, or wood because you were unable to pay for a delivery?	No	No	No	No	Yes
C13. Was there ever a time that you wanted to use your main source of heat but could not because the utility company discontinued your gas or electric service because you were unable to pay your bill?	No	No	No	No	Yes
C16. Was there ever a time that you wanted to use your air conditioner but could not because the utility company discontinued your electric service because you were unable to pay your bill?	No	No	No	No	Yes
<i>Financial Strain</i>					
C1. Did you worry that you wouldn't be able to pay your home energy bill?	Never	1 or 2 months	Almost every month	Almost every month	Almost every month

Appendix C: Telephone Survey Instrument



**NEADA LIHEAP SURVEY
FINAL INSTRUMENT
October 29, 2003**

Screener

Hello. This is (INTERVIEWER) from Braun Research calling for (NAME) regarding the National Energy Assistance study.

{Interviewer Note: The goal is to conduct the survey with either (NAME) or that person's spouse/partner. If (NAME) is not home / unavailable, politely ask, "May I speak with the spouse or partner of (NAME)".}

You should have received a letter in the mail from the National Energy Assistance Director's Association about this survey. I'm calling to ask you a few brief questions about your experiences with the (state specific LIHEAP name), home energy assistance, benefits that your household received in the past year. Your responses will help us better understand the need for (state specific LIHEAP name) energy assistance, and the problems caused by high energy bills. All your responses will be kept confidential, and will not affect your energy assistance benefits.

S1. {Interviewer: DO NOT READ, Whom are you speaking to?}

- 01 NAME
- 02 Spouse/Partner
- 03 Caretaker/Guardian
- 04 Other/Don't Know

[ASK if S1=04]

S2. When can I call back to speak with (NAME) or the spouse or partner of (NAME)? _____ WRITE DATE AND TIME FOR CALLBACK

S3. Did you receive (State specific LIHEAP name) this past year?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

A. Experience with Energy Assistance

[DO NOT ASK A1 IF S3=2,7,8]

A1. When did you receive (State specific LIHEAP name), winter, spring, summer, or fall, more than once, or all year round?

- 01 WINTER (DECEMBER, JANUARY, OR FEBRUARY)
- 02 SPRING (MARCH, APRIL, OR MAY)
- 03 SUMMER (JUNE, JULY, OR AUGUST)
- 04 FALL (SEPTEMBER, OCTOBER, OR NOVEMBER)
- 05 MORE THAN ONCE
- 06 ALL YEAR ROUND
- 97 DON'T KNOW
- 98 REFUSED

A2. In how many of the past 5 years have you received (State specific LIHEAP name)?

- 01 Received for the first time this year
- 02 2
- 03 3
- 04 4
- 05 5 or every year
- 07 DON'T KNOW
- 08 REFUSED

A3. Have you or will you apply for energy assistance for the coming winter or next summer?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

B. Actions taken to meet energy expenses

Which of the following actions did you take in the past year to bring down your heating bills in the winter:

	01	02	07	08
B1. Put plastic on windows?	YES	NO	DON'T KNOW	REFUSED
B2. Turn down the heat when you go to bed?	YES	NO	DON'T KNOW	REFUSED

Which of the following actions did you take in the past year to bring down your cooling bills in the summer?

	01	02	07	08
B3. Keep shades and curtains closed in daytime?	YES	NO	DON'T KNOW	REFUSED
B4. Use fans and open windows?	YES	NO	DON'T KNOW	REFUSED

Which of the following other energy-saving actions did you take in the past year?

	01	02	07	08
B5. Wash your clothes in cold water?	YES	NO	DON'T KNOW	REFUSED
B6. Use compact fluorescent light bulbs?	YES	NO	DON'T KNOW	REFUSED

Energy bills can take up a large part of a family's budget, and households often find it necessary to make choices about what bills they will pay or what needs they will meet. In this section of the survey we ask some questions about actions that your household may have taken when it was difficult to meet all of your expenses.

In the past 5 years, have you or any member of your family taken any of the following actions or experienced any of the following due to your energy bills:

Housing Problems	01	02	07	08
B7. Didn't make full rent or mortgage payment?	YES	NO	DON'T KNOW	REFUSED
B8. Was evicted from home or apartment?	YES	NO	DON'T KNOW	REFUSED
B9. Moved in with friends or family?	YES	NO	DON'T KNOW	REFUSED
B10. Moved into a shelter or been homeless?	YES	NO	DON'T KNOW	REFUSED
Other Expenses	01	02	07	08
B11. Went without food for at least one day?	YES	NO	DON'T KNOW	REFUSED
B12. Went without medical/dental care?	YES	NO	DON'T KNOW	REFUSED
B13. Didn't fill a prescription or took less than the full dose of a prescribed medicine?	YES	NO	DON'T KNOW	REFUSED

Utility Service and Health	01	02	07	08
B14. Needed to use a different person's name to obtain or continue receiving energy service?	YES	NO	DON'T KNOW	REFUSED
B15. Had someone in your household get sick because your home was too cold?	YES	NO	DON'T KNOW	REFUSED
B16. (Ask if B15=1, YES) Did you need to go to the doctor or hospital because of this illness?	YES	NO	DON'T KNOW	REFUSED
B17. Had someone in your household get sick because your home was too hot?	YES	NO	DON'T KNOW	REFUSED
B18. (Ask if B17=1, YES) Did you need to go to the doctor or hospital because of this illness?	YES	NO	DON'T KNOW	REFUSED
B19. Had fire caused by unsafe heating/lighting?	YES	NO	DON'T KNOW	REFUSED

C. Energy Insecurity Scale

In the past 12 months, did you almost every month, some months, only in 1 or 2 months, or never do the following because there wasn't enough money for your energy bill?

(INTERVIEWER NOTE: IF ASKED, ALMOST EVERY MONTH MEANS 10 OR MORE MONTHS, AND SOME MONTHS MEANS 3 TO 9 MONTHS.)

	01	02	03	04	07	08
C1. Did you worry that you wouldn't be able to pay your home energy bill?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C2. Did you reduce your expenses for what you consider to be basic household necessities?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C3. Did you need to borrow from a friend or relative to pay your home energy bill?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C4. Did you skip paying your home energy bill or pay less than your whole home energy bill?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C5. Did you have a supplier of your electric or home heating service threaten to disconnect your electricity or home heating fuel service, or discontinue making fuel deliveries?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C6. Did you close off part of your home because you could not afford to heat or cool it?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C7. Did you keep your home at a temperature that you felt was unsafe or unhealthy at any time of the year?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C8. Did you leave your home for part of the day because it was too hot or too cold?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C9. Did you use your kitchen stove or oven to provide heat?	ALMOST EVERY MONTH	SOME MONTHS	1 OR 2 MONTHS	NEVER/ NO	DON'T KNOW	REFUSED
C10. In the past 12 months, was your electricity ever shut off because you were unable to pay your electric bill?		01 YES	02 NO	07 DON'T KNOW		08 REFUSED

Was there ever a time during the past 12 months when you wanted to use your main source of heat, but could not for one or more of the following reasons?

	01	02	07	08
C11. Your heating system was broken and you were unable to pay for its repair or replacement?	YES	NO	DON'T KNOW	REFUSED
C12. You ran out of fuel oil, kerosene, LPG, propane, coal, or wood because you were unable to pay for a delivery?	YES	NO	DON'T KNOW	REFUSED
C13. The utility company discontinued your gas or electric service because you were unable to pay your bill?	YES	NO	DON'T KNOW	REFUSED

(Ask C14 if C11=1, YES, C12=1, YES, OR C13=1, YES)

	01	02	07	08
C14. Did (State specific LIHEAP name) help you to restore use of your main source of heat?	YES	NO	DON'T KNOW	REFUSED

Was there ever a time during the past 12 months when you wanted to use your air conditioner, but could not for one or more of the following reasons?

	01	02	07	08
C15. Your air conditioner was broken and you were unable to pay for its repair or replacement?	YES	NO	DON'T KNOW	REFUSED
C16. The utility company discontinued your electric service because you were unable to pay your bill?	YES	NO	DON'T KNOW	REFUSED

(ASK C17 - C19 IF C12=1, YES OR C13=1, YES, or C16=1, YES)

Was there ever a time during the past 12 months when you had to do the following because the utility company discontinued your gas or electric service or because you ran out of fuel and could not pay for a delivery?

	01	02	07	08
C17. Did you have to go without showers or baths because you didn't have hot water?	YES	NO	DON'T KNOW	REFUSED
C18. Did you have to go without hot meals because you didn't have cooking fuel?	YES	NO	DON'T KNOW	REFUSED
C19. Did you have to use candles or lanterns because you didn't have lights?	YES	NO	DON'T KNOW	REFUSED

(READ IF S3=1 AND [C1=4, NEVER or C7=4, NEVER] or [C12=2, NO, C13=2, NO, AND C16=2, NO])

You stated that you did not face some of these problems that we asked about in the past year. In the next few questions we ask whether you think you may have had some of these problems if (State specific LIHEAP name) assistance had not been available.

	01	02	07	08
C20. (Ask if C1=4, NEVER) Would you have worried about paying your home energy bill if (State specific LIHEAP name) assistance had not been available?	YES	NO	DON'T KNOW	REFUSED
C21. (Ask if C7=4, NEVER) Would you have needed to keep your home at a temperature that you felt was unsafe or unhealthy at any time of the year if (State specific LIHEAP name) assistance had not been available?	YES	NO	DON'T KNOW	REFUSED
C22. (Ask if [C12=2, NO, C13=2, NO, AND C16=2, NO]) Would you have had your electricity or home heating fuel shut off or discontinued during a time when you needed it to heat or cool your home if (State specific LIHEAP name) assistance had not been available?	YES	NO	DON'T KNOW	REFUSED

[DO NOT ASK C23 IF S3=2,7,8]

C23. How important has STATE SPECIFIC LIHEAP NAME been in helping you to meet your needs?

- 01 VERY IMPORTANT/HAS MADE A VERY BIG DIFFERENCE
- 02 SOMEWHAT IMPORTANT/HAS MADE A DIFFERENCE
- 03 OF LITTLE IMPORTANCE/HAS MADE A SMALL DIFFERENCE
- 04 NOT AT ALL IMPORTANT/NOT BIG ENOUGH BENEFIT TO HELP
- 07 DON'T KNOW
- 08 REFUSED

D. Demographics

D1. Do you own or rent your home?

- 01 OWN
- 02 RENT
- 03 OTHER _____
- 07 DON'T KNOW
- 08 REFUSED

D2. Including yourself, how many people normally live in this household? (Interviewer instruction: if someone asks if a child who is away at college should be included, instruct them that the child should only be included if he/she is listed as a dependent on the household's tax form.) (USE CODES 97 FOR 'DON'T KNOW' AND 98 FOR 'REFUSED')

_____ OCCUPANTS

D3. How many are 60 or older? (USE CODES 97 FOR 'DON'T KNOW' AND 98 FOR 'REFUSED')

_____ OCCUPANTS OVER AGE 60

D4. How many are 18 or under? (USE CODES 97 FOR 'DON'T KNOW' AND 98 FOR 'REFUSED')

_____ CHILDREN 18 OR UNDER

(ASK D5 IF D4 IS NOT EQUAL TO 0)

D5. How many are 5 or under? (USE CODES 97 FOR 'DON'T KNOW' AND 98 FOR 'REFUSED')

_____ CHILDREN 5 OR UNDER

D6. How many are disabled? (USE CODES 97 FOR 'DON'T KNOW' AND 98 FOR 'REFUSED')

_____ DISABLED OCCUPANTS

D7. How many are veterans? (USE CODES 97 FOR 'DON'T KNOW' AND 98 FOR 'REFUSED')

_____ VETERANS

D8. What is your marital status?

- 01 MARRIED
- 02 SINGLE, SEPARATED
- 03 SINGLE, DIVORCED
- 04 SINGLE, NEVER MARRIED
- 05 WIDOW
- 95 OTHER _____
- 97 DON'T KNOW
- 98 REFUSED

D9. What is the highest level of education reached by any member of your household?

- 01 LESS THAN HIGH SCHOOL
- 02 HIGH SCHOOL DIPLOMA OR EQUIVALENT
- 03 SOME COLLEGE/ASSOCIATES DEGREE
- 04 BACHELOR'S DEGREE
- 05 MASTER'S DEGREE OR HIGHER
- 06 VOCATIONAL TRAINING
- 95 OTHER _____
- 97 DON'T KNOW
- 98 REFUSED

D10. Are you Spanish/Hispanic/Latino?

- 01 NO, NOT SPANISH/HISPANIC/LATINO
- 02 YES, MEXICAN, MEXICAN AMERICAN, OR CHICANO
- 03 YES, PUERTO RICAN
- 04 YES, CUBAN
- 05 YES, OTHER SPANISH/HISPANIC/LATINO
- 07 DON'T KNOW
- 08 REFUSED

D11. What is your race? PROBE: Are you White, Black, American Indian, Aleut or Eskimo, Asian or Pacific Islander or something else? (Can choose more than one)

- 01 WHITE
- 02 BLACK
- 03 AMERICAN INDIAN, ALEUT, OR ESKIMO
- 04 ASIAN OR PACIFIC ISLANDER
- 05 OTHER _____
- 07 DON'T KNOW
- 08 REFUSED

D12. Which fuel is used most for heating your home?

- 01 GAS; FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD
- 02 GAS: BOTTLED, TANK OR LPG, OR PROPANE
- 03 ELECTRICITY
- 04 FUEL OIL, KEROSENE, ETC.
- 05 COAL OR COKE
- 06 WOOD
- 07 SOLAR ENERGY
- 08 OTHER FUEL
- 09 NO FUEL USED
- 97 DON'T KNOW
- 98 REFUSED

[ASK IF D1 ≠ 01]

D13. Is heat included in your rent?

- 01 YES
- 02 NO
- 03 DO NOT PAY RENT
- 07 DON'T KNOW
- 08 REFUSED

D14. What is the main way that you cool your home on the hottest days of the summer?

- 01 CENTRAL AIR CONDITIONER
- 02 WINDOW OR WALL AIR CONDITIONER
- 03 EVAPORATIVE COOLING OR SWAMP COOLERS
- 04 FANS
- 05 NONE
- 07 DON'T KNOW
- 08 REFUSED

D15. In the past 12 months, what was the cost of electricity, gas, and other fuels (oil, coal, kerosene, wood, etc.) for your home?

- 01 <\$500
- 02 \$500 - \$1,000
- 03 \$1,000 - \$1,500
- 04 \$1,500 - \$2,000
- 05 \$2000 OR MORE
- 07 DON'T KNOW
- 08 REFUSED

D16. Does your family have health insurance?

- 01 NO (ENTIRE FAMILY)
- 02 YES (PRIVATE, ENTIRE FAMILY)
- 03 CHILDREN ONLY (MEDICAID, CHIP)
- 04 ADULTS ONLY (MEDICAID)
- 05 ADULTS AND CHILDREN (MEDICAID)
- 06 ADULTS ONLY (MEDICARE)
- 07 OTHER _____
- 97 DON'T KNOW
- 98 REFUSED

D17. In the past 12 months, did you not pay your home energy bill or not pay your bill in full because of expenses for medical bills or prescription medicine?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

D18. In the past 12 months, did you or any member of your household receive employment income from wages and salaries or self-employment income from a business or farm?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

D19. In the past 12 months, was any member of your household unemployed and looking for work?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

D20. In the past 12 months, did you or any member of your household receive retirement income from Social Security or pensions and other retirement funds?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

D21. In the past 12 months, did you or any member of your household receive benefits from Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), or general assistance or public assistance?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

D22. In the past 12 months, did you or any member of your household receive Food Stamps or live in public/subsidized housing?

- 01 YES
- 02 NO
- 07 DON'T KNOW
- 08 REFUSED

D23. What is your household's annual income? (give option to provide monthly income)

- 01 ≤\$5,000
- 02 \$5,001 - \$10,000
- 03 \$10,001 - \$15,000
- 04 \$15,001 - \$20,000
- 05 \$20,001 - \$25,000
- 06 \$25,001 - \$30,000
- 07 \$30,001 - \$35,000
- 08 \$35,001 - \$40,000
- 09 >\$40,000
- 10 DON'T KNOW
- 11 REFUSED

That was my last question. Thank you very much for your time and cooperation. Have a pleasant day/evening.

Appendix D: Mail Survey Instrument

HOME ENERGY ASSISTANCE PROGRAM
2003 RECIPIENT EXPERIENCE SURVEY

Thank you for taking the time to complete this survey. Your responses will help us better understand the need for energy assistance and the problems caused by high energy bills. All of your responses will be kept confidential and will not affect your energy assistance benefits. When you have completed the survey, please use the enclosed postage-paid envelope to mail it back to APPRISE, 403 Wall Street, Princeton, NJ 08540.

Si usted desea tomar este examen sobre el teléfono en español, por favor llame el numero de teléfono que sigue: 1-888-527-7779, extension 3874. Las llamada es gratis.

EXPERIENCE WITH ENERGY ASSISTANCE

S3. Did your household receive energy assistance this past year?

- 1 Yes
2 No (*Please skip to Question A2.*)

A1. When did you receive energy assistance?

- 1 Winter 4 Fall
2 Spring 5 More than once
3 Summer 6 All year round

A2. In how many of the past 5 years have you received energy assistance?

- 1 1 year 4 4 years
2 2 years 5 All 5 years
3 3 years 9 Never received

A3. Have you or will you apply for energy assistance for the coming winter or next summer?

- 1 Yes 2 No 7 Don't know

ACTIONS TAKEN TO MEET ENERGY EXPENSES

Which of the following actions did you take in the past year to bring down your heating bills in the winter (*Check all that apply*):

- B1.** Put plastic on windows
B2. Turn down the heat when you go to bed

Which of the following actions did you take in the past year to bring down your cooling bills in the summer (*Check all that apply*):

- B3.** Keep shades and curtains closed in daytime
B4. Use fans and open windows

Which of the following other energy-saving actions did you take in the past year (Check all that apply):

- B5. Wash your clothes in cold water
 B6. Use compact fluorescent light bulbs

ACTIONS TAKEN OR EVENTS EXPERIENCED DUE TO ENERGY BILLS

In the past 5 years, have you or any member of your household taken any of the following actions or experienced any of the following due to your energy bills (Check all that apply):

Housing Problems

- B7. Didn't make full rent or mortgage payment
 B8. Was evicted from home or apartment
 B9. Moved in with friends or family
 B10. Moved into a shelter or been homeless

Other Expenses

- B11. Went without food for at least one day
 B12. Went without medical/dental care
 B13. Didn't fill a prescription or took less than the full dose of a prescribed medicine.

Utility Service and Health

- B14. Needed to use a different person's name to obtain or continue receiving energy service
 B15. Had someone in your household get sick because your home was too cold
 └─▶ B16. (Skip if B15 is not checked)
 This person needed to go to the doctor or hospital because of this illness
 B17. Had someone in your household get sick because your home was too hot
 └─▶ B18. (Skip if B17 is not checked)
 This person needed to go to the doctor or hospital because of this illness
 B19. Had fire caused by unsafe heating/lighting?

In the past 12 months, did you almost every month, some months, only in 1 or 2 months, or never do the following because there wasn't enough money for your energy bill (Check one box for each statement):

	Almost Every Month	Some Months	One or Two Months	Never
C1. Did you worry that you wouldn't be able to pay your home energy bill?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C2. Did you reduce your expenses for what you consider to be basic household necessities?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C3. Did you need to borrow from a friend or relative to pay your home energy bill?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C4. Did you skip paying your home energy bill or pay less than your whole home energy bill?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C5. Did you have a supplier of your electric or home heating service threaten to disconnect your electricity or home heating fuel service, or discontinue making fuel deliveries?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C6. Did you close off part of your home because you could not afford to heat or cool it?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C7. Did you keep your home at a temperature that you felt was unsafe or unhealthy at any time of the year?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
C8. Did you leave your home for part of the day because it was too hot or too cold?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

C9. Did you use your kitchen stove or oven to provide heat? 1 2 3 4

C10. In the past 12 months, was your electricity ever shut off because you were unable to pay your electric bill?

1 Yes 2 No

Was there ever a time during the past 12 months when you wanted to use your main source of heat but could not for one or more of the following reasons (*Check one box for each statement*):

	Yes	No
C11. Your heating system was broken and you were unable to pay for its repair or replacement?	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C12. You ran out of fuel oil, kerosene, LPG, propane, coal, or wood because you were unable to pay for a delivery?	1 <input type="checkbox"/>	2 <input type="checkbox"/>
--	----------------------------	----------------------------

C13. The utility company discontinued your gas or electric service because you were unable to pay your bill?	1 <input type="checkbox"/>	2 <input type="checkbox"/>
--	----------------------------	----------------------------

C14. Did energy assistance help you to restore use of your main source of heat?

1 Yes 2 No

Was there ever a time during the past 12 months when you wanted to use your air conditioner but could not for one or more of the following reasons (*Check one box for each statement*):

	Yes	No
C15. Your air conditioner was broken and you were unable to pay for its repair or replacement?	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C16. The utility company discontinued your electric service because you were unable to pay your bill?	1 <input type="checkbox"/>	2 <input type="checkbox"/>
---	----------------------------	----------------------------

Was there ever a time during the past 12 months when you had to do the following because the utility company discontinued your gas or electric service, or because you ran out of fuel and could not pay for a delivery (Check one box for each statement):

- | | Yes | No |
|--|----------------------------|----------------------------|
| C17. Did you have to go without showers or baths because you didn't have hot water? | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| C18. Did you have to go without hot meals because you didn't have cooking fuel? | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| C19. Did you have to use candles or lanterns because you didn't have lights? | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

In the next few questions we ask whether you think you may have had some of these problems if energy assistance had not been available (Check one box for each statement).

- | | Yes | No |
|---|----------------------------|----------------------------|
| C20. Would you have worried about paying your home energy bill if energy assistance had not been available? | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| C21. Would you have needed to keep your home at a temperature that you felt was unsafe or unhealthy at any time of the year if energy assistance had not been available? | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
| C22. Would you have had your electricity or home heating fuel shut off or discontinued during a time when you needed it to heat or cool your home if energy assistance had not been available? | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |
- C23. How important has energy assistance been in helping you to meet your needs?**
- 1 Very important 2 Somewhat Important 3 Of little importance 4 Not at all important

DEMOGRAPHICS

D1. Do you own or rent your home?

- 1 Own 3 Other
2 Rent

D2. Including yourself, how many people normally live in this household?

_____ Total Occupants

Of the number of occupants listed above, how many fit into each of the following groups:

- D3.** _____ Adults 60 or older
D4. _____ Children 18 or under
D5. _____ Children 5 or under
D6. _____ Disabled occupants
D7. _____ Veterans of the U.S. armed forces

D8. What is your marital status?

- 1 Married 4 Never Married
2 Separated 5 Widow
3 Divorced 95 Other

D9. What is the highest level of education reached by any member of your household?

- 1 Less than High School
- 2 High school diploma or equivalent
- 6 Vocational training
- 3 Some college / Associate's degree
- 4 Bachelor's degree
- 5 Master's degree or higher
- 95 Other _____

D10. Are you Spanish/Hispanic/Latino?

- 1 No, Not Spanish/Hispanic/Latino
- 2 Yes, Mexican, Mexican American, or Chicano
- 3 Yes, Puerto Rican
- 4 Yes, Cuban
- 5 Yes, Other _____

D11. What is your race? (Please check all that apply.)

- 1 White
- 2 Black or African-American
- 3 American Indian, Aleut, or Eskimo
- 4 Asian or Pacific Islander
- 5 Other _____

D12. Which fuel is used most for heating your home?

- 1 Gas; from underground pipes serving the neighborhood
- 2 Gas: bottled, tank or LPG, or propane
- 3 Electricity
- 4 Fuel oil, kerosene, etc.
- 5 Coal or coke
- 6 Wood
- 7 Solar energy
- 8 Other fuel _____
- 9 No fuel used
- 97 Don't know

D13. Is heat included in your rent?

- 1 Yes 2 No 3 Do not pay rent

D14. What is the main way that you cool your home on the hottest days of the summer?

- 1 Central air conditioning
- 2 Window or wall air conditioner
- 3 Evaporative cooling or swamp coolers
- 4 Fans
- 5 No cooling method used

D15. In the past 12 months, what was the cost of electricity, gas, and other fuels (oil, coal, kerosene, wood, etc.) for your home?

- 1 less than \$500 4 \$1,501 - \$2,000
- 2 \$500 - \$1,000 5 More than \$2,000
- 3 \$1,001 - \$1,500

D16. Does your family have health insurance?

- 1 No (entire family)
- 2 Yes (private, entire family)
- 3 Children only (Medicaid, state program)
- 4 Adults only (Medicaid, state program)
- 5 Adults and children (Medicaid, state program)
- 6 Adults only (Medicare)
- 7 Other _____

- D17. In the past 12 months, did you not pay your home energy bill or not pay your bill in full because of expenses for medical bills or prescription medicine?**
- 1 Yes 2 No
- D18. In the past 12 months, did you or any member of your household receive employment income from wages and salaries or self-employment income from a business or farm?**
- 1 Yes 2 No
- D19. In the past 12 months, was any member of your household unemployed and looking for work?**
- 1 Yes 2 No
- D20. In the past 12 months, did you or any member of your household receive retirement income from Social Security or pensions and other retirement funds?**
- 1 Yes 2 No
- D21. In the past 12 months, did you or any member of your household receive benefits from Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), or general assistance or public assistance?**
- 1 Yes 2 No
- D22. In the past 12 months, did you or any member of your household receive Food Stamps or live in public/subsidized housing?**
- 1 Yes 2 No
- D23. What is your household's yearly income?**
- 1 less than \$5,000 6 \$25,001 - \$30,000
2 \$5,001 - \$10,000 7 \$30,001 - \$35,000
3 \$10,001 - \$15,000 8 \$35,001 - \$40,000
4 \$15,001 - \$20,000 9 >\$40,000
5 \$20,001 - \$25,000

Thank you for your comments. Please return your completed questionnaire in the enclosed postage-paid envelope to:
APPRISE Incorporated, 403 Wall Street, Princeton, NJ 08540

