

Iowa's Cold Winters: LIHEAP Recipient Perspective



Iowa LIHEAP Energy Survey

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June 2000

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This project was supported by
the Iowa Department of Human Rights,
Division of Community Action Agencies,
Bureau of Energy Assistance

Acknowledgments

We would like to express our gratitude to the following groups and individuals:

Jerry McKim, Chief of the Bureau of Energy Assistance, who initiated the project and gave us every assistance and encouragement.

Roger D. Colton of Fisher, Sheehan & Colton, Public Finance and General Economics who graciously read and commented on the manuscript.

The Community Action Agencies and their staff who distributed and collected the questionnaires.

The respondents who gave generously of their time and provided insights into their lives and heating energy use. We trust that their views are accurately

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EXECUTIVE SUMMARY

PROJECT BACKGROUND

Low-income Iowans cannot afford to pay their home energy bills. With the amount of the combined average annual electric and home heating bills in Iowa reaching more than \$1,400, it is not surprising that households with lower incomes experience affordability problems.

A low-income Iowan with an annual income of \$4,000, for example, will spend \$120 from each month's income of \$333 on natural gas and electricity. This household thus has \$213 each month for all other living expenses, including food, housing, clothes, medical care, telephone service, child-care, transportation, water-sewer, household goods and whatever else the household might need.

The Iowa LIHEAP Energy Survey examines the consequences of unaffordable home energy bills. The Survey further examines outcomes of public programs designed to address affordability problems. The Survey seeks to document what activities low-income Iowans engage in to make their heating bills more affordable, as well as what actions low-income Iowans take when faced with unaffordable bills.

PART 1. METHODOLOGY

The *Iowa LIHEAP Energy Survey* consisted of a written survey distributed by local community action agencies to 10,000 LIHEAP applicants during the period October 1999 through February 2000. The discussion, which follows, is based upon the 3,661 surveys that were completed and returned to the Iowa Department of Human Rights.

PART 2. HOW LOW-INCOME IOWANS TRY TO HEAD OFF AFFORDABILITY PROBLEMS

Low-income Iowans take a variety of actions in anticipation of high and unaffordable energy bills. Two types of actions include efforts to reduce home energy usage and efforts to seek outside assistance through public and private parties.

Reducing Home Energy Usage

Efforts to reduce winter heating bills often involve changes in household behavior, many of which are either dangerous and/or unhealthy for the household members. Nearly half of the survey respondents turned their thermostats to under 65 degrees when they were home. About three percent turned off their hot water heater in order to save energy.

Other actions, however, are constructive. Sixty percent of the survey respondents put plastic on their windows to keep the cold air out and the warm air in. Two-thirds wear extra layers of clothing to keep their heating bills down. One-fifth go to bed with “lots of blankets.”

Some actions involve low-income households abandoning their homes on a temporary basis. Two percent of all survey respondents move in with others to avoid high home heating bills. Almost five percent leave their homes for the day to avoid needing to heat their homes during that time.

Finally, ten percent of survey respondents indicated that they took some “other” response to reduce their winter heating bills. These responses included blocking drafts, adjusting the thermostat (both at night and while they were away from home), burning wood, using electric space heaters, shutting off rooms, adjusting the water heater temperature (without turning it completely off), installing storm windows and doors, making home repairs, and using their oven as a supplemental heat source.

Seeking Winter Heating Assistance

In addition to trying to reduce their bills, a second action that many low-income Iowans take in anticipation of high winter heating bills is to seek outside payment assistance from both public and private parties. Over 40 percent sought fuel assistance from the community, while almost 40 percent asked utility companies for payment plans.

A host of barriers, however, impedes the receipt of such assistance. Many low-income Iowans mistakenly believed they were not eligible for energy assistance. Others did not know of the existence of energy assistance. Still others, while they knew of the existence of benefits, did not know how to access such benefits.

Different populations of low-income Iowans learn about the availability of energy assistance through different mechanisms. Community-based strategies such as flyers and caseworkers were the two most commonly listed sources of information.

PART 3: WHAT LOW-INCOME IOWANS DO IN RESPONSE TO UNAFFORDABLE HOME ENERGY BILLS

Despite efforts to reduce winter heating bills to more affordable levels, and to seek assistance to help pay for high winter bills, the simple reality is that high heating bills during Iowa’s harsh winters are often unaffordable to low-income Iowans. When faced with unaffordable bills, many Iowans go without medical care, food, and other necessities in order to make their energy payments. The problems arising from unaffordable bills are common.

- Over 12 percent of the survey respondents went without food to pay their home heating bill. Projected to the total participating LIHEAP population, this means that about 7,600 low-income households (representing 20,000

Iowa citizens) went without food at times as a result of unaffordable heating bills.

- More than one of every five of the survey respondents went without medical care to pay for heating bills. This may mean not seeking medical assistance when it is needed, not filling prescriptions for medicine when the doctor has prescribed them, and/or not taking prescription medicines in the dosage ordered by the doctor.
- Almost one of every ten respondents were unable to pay their rent or house payments if they paid for their heating energy. Nonpayment of rent or house payments means increased numbers of foreclosures for homeowners or evictions for tenants.
- Almost 30 percent of survey respondents reported that they did not pay other bills, but did not elaborate as to which bills they were not paying. In addition to not paying other bills, many low-income households incurred debt in order to pay both their home heating bills and other basic necessities: borrowed from friends and/or neighbors, used credit cards to buy food and other necessities, or did not pay the heating bill.

Energy Assistance and Weatherization Programs are Needed Because:

Many respondent explanations regarding why they need Energy Assistance and/or the Weatherization Program is that of low-income. Over 60 percent (60.7%) of Iowa LIHEAP recipients had incomes at or below 100 percent of Poverty Level in the 1999-2000 winter season. Respondents are the unemployed, the under-employed, the disabled, the elderly, and single parents. They include people in poor health and with high medical costs, the working poor, as well as those unable to work for whatever reason.

PART 4: THE AFFORDABILITY IMPACTS ON PARTICULAR GROUPS OF LOW-INCOME IOWANS

Different groups of low-income Iowans react differently, and take different actions, in response to the unaffordability of home heating bills. The impacts of those actions vary depending upon the group being considered. The particular groups considered include households with seniors, households with a child or children under age six, households with disabled members, and households with a wage earner.

PART 5: IMPLICATIONS AND RECOMMENDATIONS

The participants in this study have unaffordable winter heating bills that create large energy burdens relative to their household income. Sheehan (1994) suggests that the “ceiling of affordability” (Sheehan, 1994) should not exceed more than 10 percent of their income, but Iowa LIHEAP recipients pay an average of 19 percent of their incomes on winter heating bills alone representing an *affordability crisis* for these people. Because many of their homes are not energy efficient, most could benefit from additional weatherization assistance to lower energy consumption and reduce energy bills thus leaving more money for other necessities.

The households surveyed in this report are receiving some level of assistance, but LIHEAP is only serving about 30 percent of all eligible households. Further, a typical benefit is approximately 20 percent of the heating expense only. In turn, total heating costs are typically 40% of the total household energy bill. Even though LIHEAP targets the most vulnerable, a significant proportion of the unserved population is no better off in relative terms. The LIHEAP program is critically essential and grossly under-funded.

Recommendations

The following recommendations are made based on study results:

- Increase funding for LIHEAP and Low-Income Weatherization programs.
- Increase inter-agency coordination to address identification of, outreach to, and intake for eligible households.
- Create a low-income affordability fund through a mechanism commonly referred to as a Systems Benefit Charge.
- Adopt a electricity lifeline, low-income discounted rate.
- Intensify, at the local level, the use of case management approaches where the needs of the whole household are considered and coordinated with other services.
- Direct outreach towards the most vulnerable, highest burdened households.

For questions or a copy of the complete report, please contact Jerry McKim, Chief, Bureau of Energy Assistance, Iowa Department of Human Rights, 515-281-0859, jmckim@radiks.net

INTRODUCTION

Low-income Iowans cannot afford to pay their home energy bills. With combined average annual electric and home heating bills in Iowa reaching more than \$1,400, it is not surprising that households with lower incomes experience affordability problems. A 2-person household living at *exactly* the federal Poverty Level in Iowa, for example, will pay 13 percent of its income for energy, given average Iowa energy bills. To place this into context, the average Iowa household living with exactly the average state income, would be paying nearly \$4,500 a year for home energy if it were to be paying the same proportion of income.

The entire notion of "affordability" of home energy in Iowa deserves close attention. Most public energy policy today is based on the view that energy burden is the appropriate factor to consider in assessing the affordability of home energy costs. "Energy burden" is the percent of income that a household pays for energy. A household with an income of \$6,000 and a home energy bill of \$900 has an energy burden of 15 percent ($\$900 / \$6,000 = 0.15$).

Low-income Iowans bear extraordinary home energy burdens. According to a 1994 report, in the winter of 1990-1991, Mason City area households with incomes at or below \$15,000 had a natural gas heating burden of 13.2 percent, while Low-Income Home Energy Assistance Program (LIHEAP) recipients had a burden of 21.9 percent. For those households with incomes between \$2,000 and \$4,000, winter natural gas bills took 37.2 percent of that income (Sheehan, 1994). Households receiving public assistance had a burden of 30.7 percent. (Electric bills are in addition to these heating bills.)

Merely because a home energy bill is unaffordable does not mean the bill will not be paid by the low-income household. Nor does the fact that a bill *is* paid necessarily mean it is affordable. Many low-income households struggle to pay their energy bills while often unable to pay for other basic needs such as food, rent, and medicine.

This report's purpose is to give depth to that picture of the unaffordable home energy bill. The *Iowa LIHEAP Energy Survey* was undertaken to examine the consequences of unaffordable home energy bills and to examine outcomes of public programs designed to address such problems. It was designed to help better inform legislators and policy makers regarding the energy needs of low-income Iowans and the sacrifices being made by these consumers as a consequence of their heating bills.

The study below is presented in five parts. *Part 1* will explain how the *Iowa LIHEAP Energy Survey* was conducted from a process perspective. *Part 2* will discuss ways in which low-income Iowans seek to head-off affordability problems. *Part 3* identifies the actions that low-income Iowans are forced to take when they do face unaffordable

energy bills. *Part 4* examines different segments of the low-income population. Finally, *Part 5* explores some of the public policy implications of the survey findings.

PART 1: THE SURVEY METHODOLOGY

The *Iowa LIHEAP Energy Survey* consisted of a written survey instrument distributed to LIHEAP applicants in the Fiscal Year (FY) 2000 LIHEAP program. The FY 2000 program began October 1999. Developed by the Iowa Department of Human Rights, and closely modeled on a similar survey in Minnesota (Energy Cents Coalition, 1998), the Iowa survey was designed to ascertain the following information:

- ✓ What activities do low-income Iowans engage in to make heating bills more affordable?
- ✓ What responses do low-income Iowans make when faced with unaffordable home heating bills?
- ✓ What factors contribute to a low-income household's decision to apply, or not to apply, for home energy assistance?
- ✓ What information sources do low-income households use to obtain information regarding home energy assistance?
- ✓ What factors contribute to the perceived need, by low-income households, for energy assistance and/or weatherization assistance?

Of the 10,000 surveys distributed, 3,661 were completed and returned to the Department of Human Rights.

The *Iowa LIHEAP Energy Survey* was distributed to LIHEAP applicants through local community action agencies. It was distributed to LIHEAP applicants in proportion to the number of LIHEAP applications taken by all outreach centers and agencies during the Fiscal Year 1999 program year. Three groups of persons received the survey, including:

- *Persons automatically eligible for LIHEAP assistance* during the FY 2000 program received one-third of the survey distribution. In October of 1999, these households received a letter informing them of their automatic eligibility for LIHEAP. Every fourth letter that was mailed included a survey until this group's proportion of surveys was distributed.
- *Eligible elderly and disabled persons* received one-third of the survey distribution. In October of 1999, the LIHEAP application process was reserved for the elderly and disabled populations who were not already automatically eligible. Every fourth person who applied for LIHEAP during this time period received a survey until this group's proportion of surveys was distributed.

- *All other eligible persons* received one-third of the surveys. From November 1999 through February 2000, all eligible persons were allowed to apply for LIHEAP assistance. Every fourth person was provided with a survey until this group's proportion of surveys was distributed.

Completed surveys were coded and analyzed to examine the effects of unaffordable energy bills for these households. Data were also analyzed to gain insights on how these households responded to receipt of these bills, especially for home heating costs during the winter. Special emphasis was placed on results relating to:

- The steps taken to reduce these heating bills,
- The actions taken to seek assistance in paying of these bills, and
- The effects these bills had on expenditures for other household and personal necessities.

Appendix A presents a complete copy of the survey instrument. Appendix B presents an overview of the demographic make-up of the respondents to the survey. And Appendix C describes household eligibility and includes Table C-1, which summarizes replies to the “other” response to Question 1.

PART 2:

HOW LOW-INCOME IOWANS TRY TO HEAD OFF AFFORDABILITY PROBLEMS

While stories of the harshness of Iowa winters are legendary, in fact, Iowa winters bring *many* harsh realities to low-income Iowans. One harsh reality is that Iowans have no choice about paying their home heating bill. If heating bills are *not* paid, and service is disconnected, homes become uninhabitable due to the frigid temperatures that are experienced during Iowa winters. (It should be noted that Iowa currently has a winter moratorium from disconnects from November through March, but the moratorium only applies to households certified as income-eligible for the LIHEAP program.) A second harsh reality is that when winter heating bills place an overwhelming burden on household income, low-income households must decide which basic necessities they must pay, and which they must defer or do without.

Rather than waiting for the affordability crisis to arise, however, low-income Iowans take a variety of actions in anticipation of high and unaffordable bills. The two types of actions that are discussed below include efforts to reduce home energy usage (and the bills which accompany such usage) and efforts to seek outside assistance through public and private parties.

Low-Income Actions to Reduce Winter Bills to More Affordable Levels

The bitter cold of Iowa winters, and the high-energy costs which accompany it, come as no surprise to Iowa residents, low-income or otherwise. Given the knowledge that cold weather brings high winter heating bills, the *Iowa LIHEAP Energy Survey* asked low-income Iowans what actions they take to reduce energy usage and make their home energy bills more affordable during the winter months. Table 1 summarizes those actions that low-income Iowans report taking to reduce their winter bills.

LIHEAP participants try to keep warm in ways other than simply turning up the thermostat. They find a variety of ways to conserve energy. Two-thirds of the respondents to this survey said that they put on extra layers of clothing to keep their heat bills down: 70.5 percent of the seniors, 58.7 percent of the households with a child under six, almost 70 percent of the households with a disabled family member, and 70.5 percent of the households that had a wage earner in it.

Almost 60 percent of the sample put plastic on the windows to keep the cold air out and the warm air in. The group of respondents who used this practice the most was households with a child or children under six: 77 percent of those households put plastic on the windows. These households were also less likely (46.0%) to close off rooms to conserve on the heat. Having more household members in the unit more than likely necessitates using more rooms. Households with fewer persons in them –

either a single person or two in the household (often seniors) - were more likely to close off rooms (61.1%) than to put plastic on the windows (46%). A parent of a small child who is under six is probably more physically able to put plastic on the windows than many older persons would be.

Table 1: "Yes" Responses to Question 1: "To Make My Heating Bills More Affordable During the Winter I. . ."

Item	Total Sample	% Yes Households Including:			
	Valid % YES	Senior	Child	Disabled	Wage earner
Wear layers of clothing	66.4	70.5	58.7	69.8	70.5
Plastic on windows	59.4	46.6	77.0	59.1	74.3
Close off rooms	54.1	61.1	46.0	56.1	48.8
Thermostat < 65 when home	41.3	42.0	33.5	44.1	41.1
Other (written in)	10.5	11.9	8.7	12.2	10.7
Turn hot water heater off	2.4	2.6	.8	3.3	1.6

**Each item was coded 1=Yes, 0=No. N=3661. No missing cases.*

Nearly half the respondents turned their thermostats to under 65 degrees when they were at home. Those households with a child or children under six were the least likely (33.5%) to turn the thermostats down while the rest of the households were quite similar in the percentages using this practice: seniors (41.3%), disabled (44.1%), and wage earner (41.1%).

Keeping the interior of their home colder than is comfortable, however, is a common energy saving measure by low-income lowans. Nearly one-fifth of all respondents (19.0%) reported that they go to bed with "lots of blankets." Households with seniors and disabled members were more likely to do this (22.2% and 24.0% respectively) than wage earner households (15.3%) or households with a child or children under six (11.4%). It is not always easy to keep a small child under blankets.

There were some low-income persons who are simply forced to abandon their homes for periods of time so that they don't have to heat the home. Leaving home for the day was a practice of 4.7 percent of the total sample. About 2 percent of the sample moved in with others to avoid home heating bills.

Some respondents turned the hot water heater off to conserve energy. While the proportion may seem small (2.4%), absolute numbers are not. Nearly 90 survey sample respondents took this action. If projected to the 62,000 LIHEAP participating households, nearly 1,500 low-income Iowa households are going without hot water due to unaffordable home energy bills. Households with a disabled member used this practice the most (3.3%).

Over 10 percent of the total sample wrote responses for the open-ended “other” category. The highest percentage of those respondents (27.3%) said that they “blocked drafts” to conserve energy. More than a quarter of those respondents (27.1%) adjusted the thermostat when at home during the night, but only 7 percent of them stated that they adjusted the thermostat when they were away from their home. Six percent covered up at home. The remaining responses ranged from under 4 percent to half a percent. They included burning wood (3.9%), conserving energy use (3.4%), using ceiling fans/electric space heaters (3.1%), living in an apartment (*which must mean that utilities are paid*) (2.9%), shutting off rooms (2.6%), adjusting water heater (2.3%), using sun for supplemental heat (2.3%), asking for payment assistance (1.8%), making repairs (1.3%), storm windows/doors (1.0%), using oven for supplemental heat (1.0%), always pay (0.8%), or using cold water (0.5%) (see Table C-1, Appendix C).

Low-Income Actions to Seek Winter Heating Assistance

In addition to trying to reduce their bills, a second action that many low-income lowans take in anticipation of high winter heating bills is to seek outside payment assistance from both public and private parties. Over 40 percent of the total sample (42.1%) said that they seek fuel assistance from the community. This breaks down into half the wage earners (51.1%) seeking assistance, almost half of the households with children under age six (47.4%) and households with disabled members (45.7%) seeking fuel assistance from the community at relatively higher rates than the households with seniors (36.1%).

A slightly lower percentage of the total sample (38.8%) asked utility companies for payment plans: households with seniors (24.4%), households with a child or children under six (56.4%), households with disabled members (40.4%), and households of wage earners (51.1%). Again, the seniors were least likely to request such a plan. One might question whether the lower rate of seeking these types of assistance by the households with seniors in them compared to the other vulnerable groups is because the households with seniors in them have more difficulty dealing with bureaucracies.

Information sources regarding assistance: Needing fuel assistance, being aware of fuel assistance, and knowing how to access fuel assistance, are three very different propositions. Considerable experience and research counsels that a variety of personal and institutional barriers prevent enrollment in programs such as LIHEAP.

- ✓ **Lack of effective knowledge:** The lack of “effective knowledge” is the primary barrier to participation in Pennsylvania’s LIHEAP. In a study of LIHEAP participation in Pennsylvania, Penn State University’s Drew Hyman found that the lack of information substantially impeded participation. The Penn State study found

that "while most consumers indicate awareness of energy assistance, in general, their knowledge is not sufficient to allow them to act. Almost half of those who say they "know about" energy assistance cannot name a single program" (Hyman, 1988).

- ✓ **Misperceptions as to eligibility:** A 1988 study of why low-income households do not participate in the Food Stamp program nationwide found that about half of the eligible non-participants had misperceptions regarding their eligibility for the program. Of those households who thought they were ineligible, more than half mistakenly believed that their income or assets were too high to entitle them to receive Food Stamps or that some other program requirement precluded their participation. (General Accounting Office, 1988).

As the General Accounting Office said about Food Stamp enrollment, "From a policy viewpoint, an informed decision on the part of an eligible household not to participate in the program is not an issue. Lack of information about the program, however, and at least some program and access problems can and should be remedied." (General Accounting Office, 1990). *Exactly* the same thing can be said about fuel assistance programs. As the GAO found with respect to the Food Stamp program, "since more than three-fifths of the eligible households gave these reasons for nonparticipation -- 36.8 percent gave a lack of information, and 25.0 percent gave program or access problems as reasons for nonparticipation - it is clearly important to address those problems."

Different populations of low-income lowans learn about the availability of home energy assistance through different mechanisms. LIHEAP recipients responding to the *Iowa LIHEAP Energy Survey* reported that:

- Elderly participants in LIHEAP learned about the program in the following ranked order: flyers, caseworkers, friend/acquaintance, relative/family member, newspaper, radio or television announcement, or from a poster. Slightly more than one-third of these households learned about the program from flyers, and the other percentages were all ranked below that.
- Households with children under the age of six were most likely to learn about LIHEAP from flyers followed closely by a caseworker (see Table 2). Next information sources were friend/acquaintance, or relative/family member. Over one-fifth of the households with children under age six learned about LIHEAP in this way. Newspapers, radio or television announcements and posters were the least chosen sources of information (in that order).
- Information sources used by households with disabled were flyers first and caseworkers a close second. The next most utilized information sources were friend/acquaintance and relative/family member. The least used sources were

newspapers, radio or television announcements, or posters.

- Information sources about LIHEAP used by the low-income wage earner were (ranked in order of use) flyer, caseworker, friend/acquaintance, relative/family member, newspaper, radio or television announcement, and posters. More of the low-income wage-earners learned about LIHEAP through flyers than did any of the other household types in the study. (Historically, Iowa has seldom used television and very little radio for announcements.)

*Table 2: "Yes" Responses to Question 5. "I learned about the Energy Assistance Program (LIHEAP) From:"**

Item	Total Sample	% Yes Households Including:			
	Valid % YES	Senior	Child	Disabled	Wage earner
Flyer	35.5	34.05	34.9	37.2	42.6
Caseworker	29.8	29.6	30.6	36.5	25.4
Friend/acquaintance	27.1	26.4	30.1	24.7	28.6
Relative/family member	24.2	19.8	32.4	22.5	27.7
Newspaper	13.5	17.6	9.7	14.0	13.4
Radio or TV announcement	4.7	7.0	2.4	6.0	2.4
Poster	3.6	2.5	5.1	4.1	5.5

**Each item was coded 1=Yes, 0=No. N=3661. No missing cases.*

PART 3:

WHAT LOW-INCOME IOWANS DO IN RESPONSE TO UNAFFORDABLE HOME ENERGY BILLS

At some levels of income, home energy bills - particularly winter bills - will be unaffordable irrespective of what the household does to reduce energy use or seek public assistance. With annual incomes of \$4,000 or less, for example, the *average* Iowa combined annual natural gas and electric bill (\$1,450/year) will take \$120 from each month's income of up to \$333. After paying the average home energy bill, this household has only \$213 left each month for all other living expenses, including food, housing, clothes, medical care, telephone service, transportation, water/sewer, child care, household goods and whatever else the household might need. In FY 2000, 3,673 Iowa LIHEAP recipient households had annual incomes of \$4,000 or less.

What happens when low-income households are faced with such problems? Even though many low-income Iowans *do* manage to pay their heating bills, these payments do not mean that the bill is affordable for them. One commentator recently noted that "*many* consumer responses exist due to an inability-to-pay home energy bills, only one limited set of which involves *not* paying the bill" (Colton 1999). The section below discusses what activities low-income Iowans report they engage in when they cannot afford to pay their home energy bills.

Overview

To keep the heat on during Iowa winters, many Iowans go without medical care, food, and other necessities in order to make their energy payment. Low-income Iowans speak of paying part of their bill or paying late, of getting assistance from family members or friends or taking out a loan. Responses show that many households represented by these participants sought assistance in various ways or gave up something important to their welfare. Table 3 summarizes those actions that low-income Iowans report taking in response to unaffordable winter heating bills. The various responses are discussed in more detail below.

Many Low-Income Iowans Go without Food So They Can Pay their Home Heating Bills.

Many low-income Iowans go without food at times to make sure they can pay their home heating bills. Of the total sample of respondents, 12.3 percent said that they went without food to pay their heating bill. Projected on to this year's 62,000 LIHEAP recipient households, this means that over 7,600 low-income households went without food at times as a result of unaffordable home heating bills. Some comments

written in the survey are included below.

Survey Respondent Comments

- Not enough funds to pay heat and food.
- It helps me to save money so I can get more groceries or pay another bill.
- Income is \$534 monthly and I like to eat!
- My income is low and help makes a difference in the way I live and eat.
- It helps with electric bill. I can then afford food to last a while longer.
- I am not working at a job. I get \$53 dollars a week to buy food. I give of my time five times a week at the senior center.
- I do not have enough money to cover all my bills for each month and buy food and the other things needed for daily living.

Being forced by economic circumstances to choose between food and heat has an overwhelming negative impact on low-income individuals and families. A U.S. Surgeon General's report states that "For two out of three adult Americans who do not smoke and do not drink excessively, one personal choice seems to influence long-term health prospects more than any other: what we eat" (p.1, Surgeon General's Report on Nutrition and Health, 1988). "Malnutrition compromises the immune system and contributes to the development of infection, poor wound healing, serious complications, sepsis, multi-system organ failure [and] disability" (pg. 4, Cope, 1996). Good nutrition and diet, i.e., starting with an adequate food supply in the home, is important in promoting good health and reducing chronic disease for conditions ranging from preventing low birth weight to weight reduction, diabetes mellitus, cardiovascular disease, and dietary intervention in cancer prevention and control.

Going without food as a strategy to ensure the heating bill gets paid has serious implications for particularly vulnerable groups of Iowans. More specifically, children, the elderly, and the disabled will be adversely affected.

Households with children under age six: Nearly one in ten Iowa low-income households with children under age six go without food at times in order to have sufficient funds to pay their home heating bills. Nearly one quarter (23%) of all households in the study included a child or children under six years of age.

When children are not provided with enough calorie intake, they become susceptible to malnutrition, a complex condition that can involve multiple, overlapping deficiencies of protein, energy, and micro-nutrients. A child may become malnourished because of illness in combination with inadequate food intake. A lack of access to proper food is one of the underlying causes of malnutrition leading to a reduction in productivity, hampering economic growth and the effectiveness of investments in health and education, and deepening poverty.

Table 3: "Yes" Responses to Question 2: When I Can't Afford to Pay the Heating Bill, I*

Item	Total Sample	% Yes Households Including:			
	Valid % YES	Senior	Child	Disabled	Wage earner
Seek fuel assistance from community	42.1	36.1	47.4	45.7	51.1
Ask utility company for payment plan	38.8	24.4	58.4	40.4	53.3
Don't pay other bills	28.6	16.5	43.5	31.2	41.9
Borrow from friends/relatives	26.7	12.5	46.6	27.5	35.6
Go without medical care	20.9	19.1	16.7	24.6	27.2
Go to bed early with lots of blankets	19.0	22.2	11.4	24.0	15.3
Go without food	12.3	10.5	9.1	18.4	11.5
Other (written in)	11.9	14.7	7.7	13.7	9.5
Don't pay heating bill	9.7	4.2	16.8	10.3	16.1
Don't pay rent/house payment	7.4	3.1	10.9	6.7	12.9
Use credit cards to buy food, etc.	6.7	6.2	7.0	8.0	9.1
Leave home for the day	4.7	3.7	4.6	6.0	4.4
Move in with others	1.7	1.3	1.9	1.9	1.4
Change bill to another's name	1.2	.6	1.8	1.1	.9

*Each item was coded 1=Yes, 0=No. N=3661. No missing cases.

What occurs in the child's early life affects his/her growth and development. A hungry child cannot concentrate in school and is more vulnerable to sickness and poor health than a child with an adequate diet. The result of malnutrition in children is increased school absenteeism, fatigue, and an inability to learn.

Families with young children are particularly susceptible to inadequate nutrition. School-age children are probably eligible for the National School Lunch Program which provides free meals if the household income is below 130 percent of FPL (federal poverty level) and reduced-price meals if income is between 130 percent and 185 percent FPL (Kenney, Haley, & Ullman, 1999). So some of the older children may be getting a nutritious meal at school; there are no similar programs to reach children age six and under. This poses particular problems. Children under the age of six need good nutrition for the growth and development that is occurring at this stage. Malnutrition could have severe negative lifelong effects.

Some children are also in households that are eligible for food stamps. In 1999, in Iowa when the income is negligible or zero after deductions, the monthly food stamp allotment was \$234 for a household with two persons, \$335 for three person households, and \$426 for four person households (Legislative Fiscal Bureau, 1999).

Persons over the age of 65: Elderly people in the *Iowa LIHEAP Energy*

Survey who say they don't have enough money to buy the food they need (10.5%) are also at risk of malnutrition. Elderly malnutrition is directly linked to disability, dysfunction, and morbidity, as well as loss of quality of life and independent living.

Thousands of malnourished elderly are being hospitalized and institutionalized for high-cost treatment of nutrition-related conditions that could have been prevented or alleviated (Cope, 1996). Eating fewer than two meals per day puts elderly persons at high nutritional risk (Cope, 1996). Over 45 percent of respondents to this survey had seniors in the household who are at risk of dementia, exacerbation of age-related diseases and hip fractures when they reduce food expenditures to keep heat on. As with children adjusting to low energy inputs, older adults, indeed adults of any age, can (within limits) "adapt" to low calorie intake through a reduction in work output to reduce energy use, but that results in limiting productivity and earning capacity and can only serve to perpetuate their poverty (Gopalan, 1992).

Lack of food and adequate nutrition is fueling a health crisis for older persons. From 35 percent to 55 percent of older patients in acute care settings are malnourished (Aspelund, Axeleson, & Norberg, et al., 1991; Bennet, 1995; Cope, 1996; Mowe & Behmer, 1991). Further, two in five elderly in long-term care facilities are undernourished (Cope, 1996; Keller, 1993;). Twenty percent of elderly are skipping at least one meal a day (Cope, 1996; Sullivan, 1992; White, 1994). The relationship between skipping meals and increased medical needs is clearly shown since a poor diet or lack of adequate nutrition significantly increases hospital stays and direct medical costs (Bernstein, 1995; Bernstein & Jordan, 1995, Gallagher-Allred & McCamish, 1993).

The disabled: Almost one of every five low-income Iowa households with a disabled person (18.4%) reported in the *Iowa LIHEAP Energy Survey* that they were going without food when they were unable to pay their energy bills. This is greater than the percentages for any of the other groups. The disabled, like other groups, need food to provide the energy to be productive and to manage their lives.

Lack of food will make disabled persons weak and less able to function. Nationwide, about nine million people of all ages have disabilities so severe that they require personal assistance to carry out everyday activities (Bureau of the Census, 1997). Disabilities occur at any age, any race, or either sex. When the statistics are examined in this study, we need to remember that categories used to differentiate between groups of participants, i.e., seniors, child or children under six, disabled, or wage earner are not mutually exclusive. It is highly likely that many of the disabled are elderly because the likelihood of having a disability increases with age - half of seniors 65 years old and older have a disability (Bureau of the Census, 1997).

Wage earners: Some wage earners in the sample (11.5%) went without food to pay energy bills. The disabled and the wage earner households cut back

somewhat more on food to pay their heat bills than did the households with children or elderly in them. All of the households cutting back on the food bills in order to pay for their heat are at risk of illness, school problems, longer hospitalizations, higher medical bills, life-long physical and mental impairments and premature deaths.

Many Low-Income Iowans Go without Medicine and Medical Care So They Can Pay their Home Heating Bills.

More than one of every five respondents to the *Iowa LIHEAP Energy Survey* (20.9%) reported going without medical care to pay for heating bills. Going without medical care may include not seeking medical assistance when it is needed, not filling prescriptions for medicine when the doctor has prescribed them, and/or not taking prescription medicines in the dosage ordered by the doctor.

Survey Respondent Comments

- Not enough money to pay all bills because of medication (needs).
- I can't meet all of other bills without help. Medicines are so high (expensive).
- Husband not in good health needs medical assistance.
- When we pay our medical bills, not enough money.
- It is hard to live on my pension and buy medicine when I need it.
- My medical expenses cause me to run very low on funds monthly. I take four different medications (prescribed by a physician).
- Social Security doesn't stretch when both of us need several medications- Insulin, high blood pressure, heart meds (4), thyroid and several for renal failure.
- We live off of Social Security and have a lot of medications we have to buy out of our [own pocket] Medications was between 8 and \$900 last year.
- I cannot pay my prescription bills, glasses bill or have dental care.

Buying medicine is an avoidable expense, but the long-term effects may be disastrous to the person who has deferred that expense. Failure to obtain medical treatment for an illness may lead to increased poor health, increased medical bills later on, and loss of wages from not being able to go to work. It is also possible that failure to obtain medical treatment for an illness will lead to problems later on.

Going without medical care as a strategy to ensure the heating bill gets paid has serious implications for particularly vulnerable groups of Iowans. As with the lack of food, children, the elderly, and the disabled will be particularly affected.

Households with children under age six: More than one-in-six households with children under age six (16.7%) went without medical care to pay their heat bills. This percentage is smaller than for any other group, but is still a significant number of

households. Several indicators of health status and health care utilization indicated that children from lower income families had worse health status and more risk factors for poor health while having less-than-adequate access to and utilization of health services.

The first steps towards having healthy children are receiving prenatal care and maintaining good health behaviors (eating nutritional diets, taking vitamins, etc.) during pregnancy. Less educated mothers were less likely than more educated mothers (those with 16 or more years of education) to obtain early prenatal care. Teen-age pregnancy occurs more frequently in young women with less education. In Iowa, in 1998, teen births accounted for 10.6 percent of all births, and out-of-wedlock teen births were 32.1 percent of all out-of-wedlock births (Goudy, Charvat-Burke, and Hanson, 1999). Teen-age pregnancy leads to low birth-weight babies and higher rates of infant mortality. (In Iowa, the proportion of Iowa newborns weighing 5 1/2 pounds or less stabilized at 6.4 percent after about 15 years of growth. Infant mortality rates and birth to 16 and 17 year olds dropped slightly) (Okamoto, 2000).

Paying heating bills instead of receiving medical care increases the potential for harmful effects for infants of these teen-agers. Furthermore, children under age six who are from poor and near-poor families were less likely than those from higher income families to have seen a physician in the past year, and had lower rates of outpatient visits compared to higher income families as well (Pamuk et al., 1998).

Persons over the age of 65: Nearly one-in-five low-income Iowa seniors in the *Iowa LIHEAP Energy Survey* (19.1%) went without medical care to pay their heating bills. Placing the availability of medical care at risk carries particular problems for older persons. Seniors use medical care at high rates. Forty-five percent use multiple prescription drugs (Berg & Cassells, 1990; Blumberg & Suter, 1991; Livingston & Reeves, 1993). As a group, they consume 25 percent of all prescription medication (Blumberg & Suter, 1991; Codispoti & Bartlett, 1994) and use 40 to 90 percent of over-the-counter drugs (non-prescription) (Cook & Taren, 1990).

Unmet need for health care increases sharply as income declines among elderly. In 1994-95, 22 percent of persons 65 years and over that were poor reported unmet need for health care, ten times the rate for older persons with high incomes. Twelve percent of near-poor older persons reported unmet health-care needs, five times the rate for those with high incomes. Delaying or not receiving timely and appropriate care for chronic conditions and other health problems may lead to the development of more serious health conditions requiring hospitalization. Hospital stays for specific conditions have been identified as potentially avoidable in the presence of appropriate medical care (Pamuk, Makuc, Heck, Reuben, & Lochner, 1998).

Although insurance should be able to assist these persons, many persons are not covered by any type of medical plan. Private insurance is too costly for the low

-income. Of those persons receiving Supplemental Security Income in 1999, 72.8 percent of them received Medicaid benefits. That still leaves more than a quarter of that eligible population not receiving Medicaid benefits.

The disabled: Almost a quarter of the respondents (24.6%) who were disabled stated that they sometimes went without medical care to pay their home energy bills. As with the children and the elderly, the disabled are subject to the same problems when they don't have access to needed medical care.

There is little information available on the utilization of medical care among the disabled, but one might speculate that not accessing the medications and care that they need can be very detrimental. With so many needing personal care assistance to carry out activities of daily living, lack of medical care can further compromise their health and functioning. About 10 percent (9.8%) disabled who are under 65 were Medicare beneficiaries in Iowa in 1998 compared to 12.8 percent in the U.S. population (AARP, 1999). In Iowa in 1998, 7.3 percent of the population was eligible for Title XIX Assistance (Medicaid) and more than \$1.3 billion was paid in Title XIX benefits in Iowa in 1998 (Goudy, et al., 1999). The programs help some but not all.

Wage earners: More than one-quarter (27.2%) of the wage earner households indicated they went without medical care at times in order to pay their heating bill. The wage earner, as with other households in the study, were making tradeoffs. In the long run and probably sooner than that, not getting prescriptions they need and using them and not seeking medical care when needed will cause absenteeism and lack of productivity at work. If they are ill, they cannot work. If they cannot work, they do not bring home a paycheck and may lose their jobs and have even less income with which to pay heat and other bills. Of the eligible under 65 population in poverty in Iowa in 1995-97, 33.4 percent were covered by Medicaid as compared to 45.6 percent of that population in the U.S (AARP, 1999).

Many Low-Income Iowans Go without Paying Housing Costs So They Can Pay their Home Heating Bills.

Almost one of every ten respondents to the *Energy Survey* (7.4%) reported being unable to pay their rent or house payments if they paid for their heating energy.

- Wage earner households (12.9%) were most likely to not pay their rent or house payment.
- The household with a child or children under the age of six was the next most likely (10.9%).
- For seniors in the household, only 3.1 percent were unlikely to pay their rent or house payment. This is probably because seniors are far more likely than the

rest of the groups to own their home mortgage free. The problem for seniors is often paying their taxes and/or the maintenance needed on the house to keep it livable.

- For the disabled group, 6.7 percent paid their heat bills in lieu of rent or house payments.

Survey Respondent Comments

- I own my home and can barely keep up with expenses and ownership already have property taxes deferred.
- Low-income, high rent.
- I would like to stay in (my) home as long as I can.
- I'm 85 years old and very little money and trying to stay in my home alone.
- Too many bills to pay - expanding taxes on house.
- I can't pay my bills.
- My rent is quite high and medicine is out of sight.

Nonpayment of rent or house payments means increased numbers of foreclosures for homeowners or evictions for tenants. For the elderly, it may mean having to leave their own home and move into a nursing home facility (on Medicaid, if eligible) or in with relatives. For the remaining groups, it might mean homelessness. A study in Philadelphia (Robinson, 1991) found that utility terminations were a small but consistent contributor to homelessness, given as a cause 7.9 percent of the time. It is difficult to quantify social costs involved in foreclosure and eviction proceedings, but emotional and psychological impacts of such actions need to be taken into account.

This finding is consistent with prior research on bill payment priorities. A 1989 Washington Natural Gas study utilized a survey undertaken for the Washington Utility Group. The purpose of the study was to "develop a mutually acceptable understanding of the ability of delinquent utility customers to pay their energy bills. Is it that most can pay these bills on time, but choose not to, or is it that they truly are unable to pay (Baker, 1989)?" This study found that payment of utility bills was high on the list of bill payment priorities. Most households (82%) said they would pay their rent or mortgage payment first with 13 percent saying they would pay their heating bill first. Nearly six of ten persons (56%) said they would pay their heating bill as the second bill while only 21 percent said they would pay it as the third bill. An additional 10 percent said they would pay their heating bill as the fourth bill. In general, most customers said they would pay their utility bills after their rent or house payment but before medical bills and car payments.

Many Low-Income Iowans Go without Paying Other Bills So They Can Pay their Home Heating Bills.

Almost 30 percent of the survey respondents (28.6%) reported that they did not pay other bills, but did not elaborate as to which bills they were not paying.

- Among households with seniors, 16.5 percent stated they didn't pay other bills. This was the lowest of all households who sometimes didn't pay their bills.
- The highest percentage of respondents not paying their other bills was among households with young children under age six: 46.6 percent claimed that they didn't pay other bills when their heating bills were too high.
- The next highest percentage was among wage earners, 41.9 percent didn't pay other bills when their heating bills were too high.
- Almost one-third of the households with disabled members (31.2%) didn't pay their other bills when the heating bill was too high.

Some of the comments from these groups pointed out the problems and dilemmas that unaffordable heating bills caused relative to other bills the respondents had.

Survey Respondent Comments

- My income doesn't cover all the bills.
- I can't meet all of other bills without help. Medicines are so high.
- I am paralyzed and need more heat to keep warm.
- I have three children in the home. One is a baby 7 months old and we need to keep her warm so she doesn't get sick.
- I have three small children I want to keep them safe and warm this winter.
- I have two kinds of arthritis - when I'm cold I have more pain and use a cane.
- Husband has cancer since July and needs more heat.

In addition to *not* paying other bills, many low-income households incurred debt in order to pay both their home heating bills and other basic necessities. In these cases, as a general rule, people borrowed from friends and or neighbors to get through the worst months. For the total sample, 26.7 percent borrowed from friends or neighbors including 12.5 percent of households with seniors, 46.6 percent of households with children under age six, 27.5 percent of households with a disabled member, and 35.6 percent of the households with a wage earner. Seniors were least likely to borrow from friends and/or neighbors than the other groups at risk.

In addition to these friends and family loans, using credit cards to buy food, etc. was the solution for 6.7 percent of the total sample.

In contrast to these decisions not to pay other bills, not paying the heating bill was the outcome for 9.7 percent of the total population.

Energy Assistance and Weatherization Programs are Needed Because. . .

In an open-ended question, the respondents were asked, "I need the Energy Assistance and/or Weatherization Programs because:

Some responses to these questions have been used verbatim throughout this report to highlight personal dilemmas survey respondents are facing in trying to heat their homes through the winter months in Iowa. All of the written responses to this question have been categorized in Table 4.

The written responses to this question tell an important story about the respondents in this study. They all have to meet the guidelines described earlier for participating in LIHEAP, which means that they live with annual incomes at or below 150 percent of the Federal Poverty Level (FPL). Still, over 60 percent (60.7%) of Iowa LIHEAP recipients had incomes at or below 100 percent of FPL in the 1999-2000 winter season.

By far the greatest number of respondents' explanations regarding why they need Energy Assistance and/or the Weatherization Program is that of low income. All the reasons relate to lack of income in some way and the effect that this lack has on their lives and their families' lives. Respondents in the study are the unemployed, the under-employed, the disabled, the elderly, and single parents. They include people in poor health and with high medical costs, the working poor, as well as those unable to work for whatever reason. They cannot make ends meet. In the 1999-2000 winter season, LIHEAP assisted 30 percent of all households in Iowa that had annual incomes at or below 150 percent of the Federal Poverty Level. The average heating cost was 19 percent of their income and they received an average heating assistance benefit of \$209 in 1999-2000. They need the assistance they are given. It helps them get through the winter months and for some, the summer months.

Table 4: Open-ended Responses, Question 6¹, "I need the energy assistance and/or weatherization because. . ." Grouped by General Category.*

Item	Frequency	Valid % YES
Can't afford (make ends meet, financial, etc.)	867	27.7
Low/Limited income	602	19.2
Winter cost high/need help in winter	353	11.3
Social Security (some, SS is only income)	292	9.3
Help pay energy bill	279	8.9
Other (off topic or indecipherable or unique)	276	8.8
Energy prices high/going up	204	6.5
Child/Children in home ²	197	6.3
Repairs/weatherization needed	193	6.2
Fixed income	171	5.5
Afford other bills, stretch income	155	5.0
Disabled	143	4.6
Gave amount of income	122	3.9
Unemployed	113	3.6
Medicine cost	99	3.2
Poor Health	95	3.0
Elderly	91	2.9
Single parent ²	83	2.7
Thanks for the help	74	2.4
Medical bills	68	2.2
Under-employed (seasonal, part time need full time)	67	2.1
Supplemental Security Income	61	1.9
Unable to work	52	1.7
Poor (self-defined)	34	1.1
Widowed	35	1.1
Live alone	29	.9
Below poverty line	18	.6
Summer cost high/need help in summer	14	.4

*For each item: N=3661, n=3129, Missing=532.

Note 1: More than one item possible for each respondent. Percentages are for percent of times item was mentioned in response to the question.

Note 2: If person wrote "single parent", child in home was coded "yes" even if not written.

PART 4: THE AFFORDABILITY IMPACTS ON PARTICULAR GROUPS OF LOW-INCOME IOWANS

The *Iowa LIHEAP Energy Survey* reveals that low-income Iowa households cannot afford to pay their energy bills and meet their basic needs. They are not *making choices*, but are being *forced* to decide what they will give up to keep their heat on during the Iowa winter months and to survive through the hot, humid summer months in Iowa. None of these households who are receiving LIHEAP assistance had enough income to afford all of their basic necessities. If they do not have heat in the winter, they cannot survive in their homes.

Regardless of who is in the household, low-income Iowans must examine all the basic necessities needed to function and available resources and prioritize what is most important for them to get through the winter. Persons make different decisions depending upon household makeup. The following sections will discuss the types of households analyzed in this study. The rankings will be discussed for those who answered yes to using certain types of practices and making certain decisions.

How the cost of energy affects low-income Iowa households with seniors.

To make heating bills more affordable during winter, households with seniors were most likely to wear layers of clothing to keep warm; about three-fourths of them did this (Table 5). The next most frequent practice was to close off rooms. Putting plastic on the windows was the third ranked practice among the seniors. Over 40 percent of the seniors turned their thermostats under 65 when they were at home. The least used practice among the seniors was turning the hot water heater off.

Table 5. "Yes" Responses by Households with Senior(s) to Question 1. "To Make My Heating Bills More Affordable During the Winter I. . ."

Item	Senior
Wear layers of clothing	70.5
Close off rooms	61.1
Plastic on windows	46.6
Thermostat < 65 when home	42.0
Other (written in)	11.9
Turn hot water heater off	2.6

**Each item was coded 1=Yes, 0=No. N=1658.*

In ranked order, seniors chose the following strategies when they could not afford to pay their heating bills (Table 6):

Senior Strategies

- Seek fuel assistance from the community.
- Ask utility company for payment plan.
- Go to bed early with lots of blankets.
- Go without medical care.
- Don't pay other bills.
- Borrow from friends/relatives.
- Go without food.
- Use credit cards to buy food, etc..
- Don't pay heating bill.
- Leave home for the day.
- Don't pay rent/house payment.
- Move in with others.
- Change bill to another's name.

Table 6. "Yes" Responses to Question 2, "When I Can't Afford to Pay the Heating Bill, I . . ." Ranked Responses by Households with Senior(s).*

Item	Seniors
Seek fuel assistance from community	36.1
Ask utility company for payment plan	24.4
Go to bed early with lots of blankets	22.2
Go without medical care	19.1
Don't pay other bills	16.5
Other (written in)	14.7
Borrow from friends/relatives	12.5
Go without food	10.5
Use credit cards to buy food, etc.	6.2
Don't pay heating bill	4.2
Leave home for the day	3.7
Don't pay rent/house payment	3.1
Move in with others	1.3
Change bill to another's name	.6

*Each item was coded 1=Yes, 0=No. N=1658.

Households with seniors were least likely to seek fuel assistance from the community (see Table 1), ask the utility company for help, borrow from friends or relatives, not pay the heating bill, use credit cards to buy food, etc., to leave home for the day, move in with others, or change their heating bill to another person's name and least likely of any household type to put plastic on the windows. They were most likely to wear extra

layers of clothing (tied with wage earner) and to close off rooms to save heat.

How cost of energy affects low-income households with a child or children under age six

Households with a child or children less than six years of age had slightly different priorities than households with seniors. They were most likely to put plastic on windows to make heating bills more affordable (Table 7). Second, more than half indicated they wore layers of clothing to keep warm. Third, they closed off rooms. About one-third turned the thermostat to below 65 when home. And finally, a very few chose to turn the hot water heater off (less than 1%).

Table 7: "Yes" Responses to Question 1: "To Make My Heating Bills More Affordable During the Winter I:" Responses by Households, at least one Child Under Age Six.*

Item	Child
Plastic on windows	77.0
Wear layers of clothing	58.7
Close off rooms	46.0
Thermostat < 65 when home	33.5
Other (written in)	8.7
Turn hot water heater off	.8

*Each item was coded 1=Yes, 0=No. N=843.

These households were more likely to do the following (in ranked order, Table 8):

Strategies of Households with at Least One Child Less Than Six

- Ask utility company for a payment plan.
- Seek fuel assistance from the community.
- Borrow from friends/relatives.
- Don't pay other bills.
- Don't pay heating bill.
- Go without medical care.
- Go to bed early with lots of blankets.
- Don't pay rent/house payment.
- Go without food.
- Use credit cards to buy food, etc.
- Leave home for the day.
- Move in with others.
- Change bill to another's name.

Table 8: "Yes" Responses to Question 2: "When I Can't Afford to Pay the Heating Bill, I . . ." Ranked Responses by Households, at Least One Child Under Age Six.*

Item	Child
Ask utility company for payment plan	58.4
Seek fuel assistance from community	47.4
Borrow from friends/relatives	46.6
Don't pay other bills	43.5
Don't pay heating bill	16.8
Go without medical care	16.7
Go to bed early with lots of blankets	11.4
Don't pay rent/house payment	10.9
Go without food	9.1
Other (written in)	7.7
Use credit cards to buy food, etc.	7.0
Leave home for the day	4.6
Move in with others	1.9
Change bill to another's name	1.8

*Each item was coded 1=Yes, 0=No. N=843.

Households with children in them were least likely to go without medical care of any of the household types (see Table 3). They were least likely to go to bed early with lots of blankets, to wear layers of clothing, to close off rooms, to turn the thermostat under 65 degrees, or to turn the hot water heater off (see Table 1).

On the other hand, households with small children were most likely to ask for a payment plan, for fuel assistance, to borrow from friends or relatives, not to pay the heating bill, to move in with others (tied with disabled), to change the bill to another person's name (a very small %), and to put plastic on the windows (Tables 1 and 3).

How the cost of energy affects low-income disabled households

Priorities for the households with a disabled person are very similar to those of the households with seniors in them (Table 9). The first thing the households with a disabled family member do is to wear layers of clothing to keep warm. Next, they put plastic on the windows, and third they close off rooms that they are not using. Between 50 percent and 70 percent of the households with disabled members use these strategies. Over 40 percent set the thermostat below 65 degrees when they are home, and a small minority turn the hot water heater off.

Table 9. "Yes" Responses to Question 1: "To Make My Heating Bills More Affordable During the Winter I. " Responses by Households with a Disabled Person.*

Item	Disabled
Wear layers of clothing	69.8
Plastic on windows	59.1
Close off rooms	56.1
Thermostat < 65 when home	44.1
Other (written in)	12.2
Turn hot water heater off	3.3

*Each item was coded 1=Yes, 0=No. N=117.

Households with a disabled member are likely to do the following in ranked order (Table 10):

Strategies of Households with a Disabled Member

- Seek fuel assistance from the community.
- Ask utility company for a payment plan.
- Don't pay other bills.
- Borrow from friends/relatives.
- Go without medical care.
- Go to bed early with lots of blankets.
- Go without food.
- Don't pay heating bill.
- Don't pay rent/house payment.
- Use credit cards to buy food, etc..
- Leave home for the day.
- Move in with others.
- Change bill to another's name

Interestingly enough, in looking at all the family types, the households with disabled members were never the least likely to select a given strategy. They were most likely of all the types, however, to do the following: go to bed early with lots of blankets, go without food, leave home for the day, move in with others, to set the thermostat under 65 when they are at home, and to turn the hot water heater off (see Table 1).

Table 10. "Yes" Responses to Question 2: "When I Can't Afford to Pay the Heating Bill, I . . ." Responses by Households with a Disabled Person*

Item	Disabled
Seek fuel assistance from community	45.7
Ask utility company for payment plan	40.4
Don't pay other bills	31.2
Borrow from friends/relatives	27.5
Go without medical care	24.6
Go to bed early with lots of blankets	24.0
Go without food	18.4
Other (written in)	13.7
Don't pay heating bill	10.3
Don't pay rent/house payment	6.7
Use credit cards to buy food, etc.	8.0
Leave home for the day	6.0
Move in with others	1.9
Change bill to another's name	1.1

*Each item was coded 1=Yes, 0=No. N=117.

How the cost of energy affects households with a low-income wage earner

Three-fourths of the households with low-income wage earners will put plastic on the windows of their home to make their heating bills more affordable first. Second, they will wear extra layers of clothing to keep warm, and third, they will close off rooms that they aren't using. Over 40 percent of them will turn the thermostat to under 65 degrees when they are home, and a very small percentage will turn the hot water heater off (1.6%).

Table 11. "Yes" Responses to Question 1: "To Make My Heating Bills More Affordable During the Winter I . . ." Responses by Households with a Wage Earner.*

Item	Wage earner
Plastic on windows	74.3
Wear layers of clothing	70.5
Close off rooms	48.8
Thermostat < 65 when home	41.1
Other (written in)	10.7
Turn hot water heater off	1.6

*Each item was coded 1=Yes, 0=No. N=859.

In ranked order, households with wage earners in them will (Table 12):

Strategies of Households with a Wage Earner

- Seek fuel assistance from the community.
- Ask utility company for a payment plan.
- Don't pay other bills.
- Borrow from friends/relatives.
- Go without medical care.
- Don't pay heating bill.
- Go to bed early with lots of blankets.
- Go without food.
- Use credit cards to buy food, etc.
- Leave home for the day.
- Move in with others.
- Change bill to another's name

Table 12. "Yes" Responses to Question 2: "When I Can't Afford to Pay the Heating Bill, I . . ." Responses by Households with a Wage Earner.*

Item	Wage earner
Ask utility company for payment plan	53.3
Seek fuel assistance from community	51.1
Don't pay other bills	41.9
Borrow from friends/relatives	35.6
Go without medical care	27.2
Don't pay heating bill	16.1
Go to bed early with lots of blankets	15.3
Don't pay rent/house payment	12.9
Go without food	11.5
Other (written in)	9.5
Use credit cards to buy food, etc.	9.1
Leave home for the day	4.4
Move in with others	1.4
Change bill to another's name	.9

*Each item was coded 1=Yes, 0=No. N=859.

In an examination of which of the household types is least likely to take definite action, the low-income household with a wage earner was not least likely to use any of the strategies. On the other hand, low-income households with wage earners were most likely of all types to seek fuel assistance from the community, to go without medical care, to not pay the rent or make the housing payment, to use credit cards to buy food, etc., to wear extra layers of clothing (see Tables 1&2).

Summary

Households with seniors are much less likely to use any of the strategies discussed in response to the question about what they do when they can't afford to pay their heating bills. The highest percentage of households with seniors using any of those strategies was only 36 percent while for two other household types, both the households with children under six and the households of wage earners, the highest percentage was more than 50 percent. More than half the households with children under six and more than half the households with a wage earner indicated ways they tried to manage when they couldn't pay their heating bill. For the households with the disabled member within it, the highest percentage was almost 46 percent, again almost half of that group of households. For all of the low-income households, however, the two top strategies for them to use were to seek fuel assistance from the community and/or to ask the utility company for a payment plan, the most positive of the strategies that have been discussed.

Performing tasks such as putting plastic on windows, closing off rooms, wearing extra layers of clothing, and turning the thermostat below 65 degrees were much more common for all the household types compared to those strategies that placed the households at some kind of risk. The first item for all of these households was chosen by at least 70 percent of those households. This study shows that high percentages of all the household types analyzed performed several tasks to try to reduce energy usage. Wearing extra layers of clothing was more likely to be chosen by seniors and disabled, but putting plastic on windows dropped lower for seniors than for the disabled. Putting plastic on windows was the first choice for those households with children under six. That practice is intended to keep cold air from coming in but putting the plastic on the windows may be more difficult to accomplish for households with seniors in them. For them closing off rooms was a much more likely choice than for the households with children and the households with wage earners who probably needed the room for their larger households.

Turning the thermostat to below 65 degrees was the fourth strategy used in all the households. Yet more than 40 percent of all the low-income households used this strategy with the exception of the households with children who utilized this strategy a third of the time. For all of these people, living in a household with a low temperature on the inside and poor quality weatherization (as indicated by the comments of the participants) can make health more precarious.

Going without medical care is a situation that 27 percent of the households with low-income wage earners were in and slightly less than one quarter of the households of the disabled, one fifth of the households with seniors and somewhat less for the households with children. All the household types, with the exception of the households with wage earners, are likely to qualify for some type of health care: Medicare or Medicaid for the households with seniors and the disabled, and the

Hawk-I program among others, for the households with children under six. It is important to note, however, that qualifying for an available program is not synonymous with participating in that same program. Needing and being qualified for, being aware of, and knowing how to access a program, are very different propositions. With wages coming in, it is difficult to say where the wage earner household might fit into some of these programs.

Not paying other bills is very high for households with children and of the wage earner. For the households with children, the prospects of going without food or not paying the rent are much lower. These are tradeoffs these households are making. Not paying other bills is not as risky to the health and well being of the children as lack of food, medical care, and the prospect of homelessness would be to these households. Similar reasoning works for the wage earner as well. They may believe that some bills can be put off but heating, food, and medical care cannot because they will affect the person's ability to work.

The households with a wage earner and the households with a child or children under the age of six appear to be making choices based on their circumstances that are different from those of the households with seniors and disabled within them. The fact that there is a wage earner in the household may put that household above the level for receiving government benefits such as partial public assistance payments, food-stamps or subsidized medical care (Energy Cents Coalition, 1998). It may also mean work-related expenses such as child care, transportation or tools and uniforms that are necessary if that person is to work outside the home for pay (Energy Cents Coalition, 1998). Having a wage earner in the household may actually result in the disposable income of that household being less than that of the other low-income LIHEAP participants. Households with children under six in them also have other considerations. As indicated in the comments, the decision-makers in the household want to keep their child or children from becoming ill. They tend to use the strategies with that in mind.

PART 5

IMPLICATIONS and RECOMMENDATIONS

All the participants in this study have unaffordable winter heating bills that result in large energy burdens relative to their household income. Sheehan (1994) noted in his state-by-state analysis of low-income natural gas winter heating bills that “the ceiling of affordability” should not exceed 10% of total household income. Currently, Iowa LIHEAP recipients pay an average of 19% of their incomes on their winter heating bills alone. This does not include their cost for base load electricity used for non-heating purposes. On average, 60% of a low-income household’s total energy bill is for non-heating base load electric uses such as lights, appliances, etc. Iowa currently has no resources directed towards the energy burdens created by non-heating electric consumption. Many low-income Iowa households have total energy burdens (heat and electricity combined) in excess of 40% of total household income.

The large energy burdens experienced by Iowa’s low-income households represent an *affordability crisis*. Low-income families are struggling to pay their energy bills while often unable to pay for other basic needs such as food, rent, and medicine. The costs associated with deferring or going without basic necessities in order to heat their homes during winter months are considerable. These costs are borne by the household in terms of health and safety, and absenteeism from work and school. Although not as easily quantifiable, societal costs associated with health care, nursing home care, emergency shelter, nutrition, education, and productivity loss, also increase due to the effects of this *affordability crisis*.

From the comments of respondents to this survey, it is apparent that their homes are not energy efficient; i.e., poor insulation, drafty windows and doors, faulty furnaces, etc. Additional weatherization assistance would lower energy consumption and reduce energy bills. Lower energy bills would leave more money for food, medical care, and other necessities needed by these households.

It should be noted that households surveyed are those who are receiving some level of assistance. Currently, the Iowa LIHEAP Program serves about 30% of all eligible households. The average Iowa LIHEAP benefit for 1999-2000 was \$209.00. This represents approximately 20% of a household’s heating bill. In turn, the portion of the bill representing heating expense is only 40% of the total household energy bill. Although the LIHEAP Program targets the most vulnerable households, a significant portion of the un-served population is at least no better off in relative terms than those served. The implications are staggering.

It should be apparent to even the most casual observer that the LIHEAP Program is critically essential and grossly under-funded.

The Low Income Home Energy Assistance Program (LIHEAP) is one of the most critical components of the social safety net. During extreme weather conditions, the elderly, disabled, families with young children, and working poor, should not have to choose between buying fuel to heat their homes and buying food and medicine for themselves and their families.

Recommendations

- Funding for LIHEAP and Low-Income Weatherization must be increased. Federal funding for LIHEAP was decreased 32% from 1993 to 1998. Funding for the Weatherization Program was decreased 43% from 1996 to 1999. At the same time, the number of households federally eligible for LIHEAP and Low-Income Weatherization actually increased by 11% nationally. All LIHEAP eligible households should be made aware of the program and those desiring assistance should be served.
- Increased inter-agency coordination needs to occur at the local, state and federal level to help address both the causes and consequences of unaffordable home energy bills. Unaffordable home energy is more than simply an energy problem. As shown above, it is a public health problem, a housing problem, a nutrition problem, and a child welfare problem. A range of agencies should be able to collaborate to address issues such as the identification of, outreach to, and intake for eligible households. A multi-agency, multi-disciplinary, coordinated approach is appropriate.
- 50,000 Iowa low-income households spend 25% of their total household income on non-heating base-load electricity uses. In light of possible energy industry deregulation, policy makers should take the opportunity to create a low-income affordability fund, through a mechanism commonly referred to as a Systems Benefit Charge, as part of any restructuring legislation.
- An electricity lifeline low-income rate could be adopted by the Iowa Utilities Board, similar to what was recently adopted in Utah, a low-cost state without restructuring legislation.
- A more intensive case management approach where the needs of the whole household are considered and coordinated so that one service supplements another would reduce a household's dependence on energy assistance. The LIHEAP Program allows 5% of program funds to be used for this type of activity.
- Outreach should be directed towards the most vulnerable, highest burdened households. The Iowa LIHEAP Program is currently implementing performance-based measurements focusing on targeted outreach strategies.

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APPENDIX A

The Questionnaire

THE IOWA ENERGY STUDY

We are conducting a survey to gather information about how you pay for your home heating bills and what you do to make them more affordable. Please take a moment to complete the following survey, then fold it and return it in the mail.

1. To make my heating bills more affordable in the winter months, I (check all that apply):

- ☐ close off the rooms
- ☐ put plastic on the windows
- ☐ turn the thermostat below 65 degrees when at home
- ☐ wear layers of clothing
- ☐ turn the hot water heater off

2. When I can't afford to pay the heating bill, I (check all that apply):

- ☐ don't pay the full rent/house payment
- ☐ don't pay other bills
- ☐ go without food for at least one day
- ☐ go without needed medical/dental care and/or medicine
- ☐ use credit cards to buy fuel, food, or medicine
- ☐ borrow money from friends or family
- ☐ move in with friends or family
- ☐ seek fuel assistance from the community (church, local community action agency, etc.)
- ☐ go to bed early with lots of blankets
- ☐ leave home for the day
- ☐ request a payment plan from the utility company
- ☐ change the bill into another person's name
- ☐ don't pay the heating bill

Other: _____

3. Did you apply for energy assistance (LIHEAP) last winter? ☐ YES ☐ NO

If not, why not? _____

4. My household includes (check all that apply):

- ☐ a senior citizen (anyone over 60 years old)
- ☐ a child or children (anyone under 6 years old)
- ☐ a disabled citizen
- ☐ a wage earner
- ☐ a veteran
- ☐ an unemployed worker
- ☐ a public assistance recipient
- ☐ a food stamp recipient

5. I learned about the energy assistance program (LIHEAP) from (check all that apply):

- ☐ a relative or family member
- ☐ a friend or acquaintance
- ☐ a caseworker
- ☐ a flyer that came with my utility bill
- ☐ the newspaper
- ☐ a radio or television announcement
- ☐ a poster

6. I need the Energy Assistance and/or Weatherization Programs because:

APPENDIX B

RESPONDENT DEMOGRAPHICS

RESPONDENT DEMOGRAPHICS

The demographic makeup of respondents to the survey generally appears to match the makeup of the general population of assistance recipients in the state, according to the Iowa director of LIHEAP. The sample consisted of 3,661 applicants to LIHEAP during the 1999-2000 fiscal year. Eighty percent of the sample had applied for energy assistance the previous winter. For reasons why the remaining persons had not applied in the previous year, see Appendix C, Table C-4.

The sample for this study was made up of households that included:

- (1) Senior citizens (anyone over 60 years of age)=1,658 (45.3%).
- (2) A child or children under six=843 (23.0%).
- (3) A disabled person=1,171 (32.0%);
- (4) A wage earner=859 (23.5%);
- (5) A veteran=356 (9.9%);
- (6) An unemployed worker=449 (12.9%);
- (7) A Public Assistance Recipient=670 (19.0%); and
- (8) A Food Stamp Recipient=1,233 (34.8%).

Survey analysis focused on four household groups of the respondents:

- (1) Those with senior citizens (anyone over 60 years of age) in the household;
- (2) Those with a child or children (anyone under 6 years old) in the household;
- (3) Those with disabled citizens in the household; and
- (4) Those with wage earners in the household.

These four categories are not mutually exclusive because the response format indicated to the participant to mark all that apply.

APPENDIX C

Table C-1: Question 1 "Other" Written Responses to Question "To Make My Heating Bills More Affordable I:"*

Write-in Response Categories	Valid Percent
Block drafts	27.3
Adjust thermostat when home/night	27.1
Adjust thermostat when away	7.0
Cover up at home	6.0
Other ¹	5.5
Burn wood	3.9
Conserve energy use	3.4
Ceiling Fans/Electric space heaters	3.1
Live in apartment ²	2.9
Shut off rooms	2.6
Adjust water heater	2.3
Use sun	2.3
Ask for payment assistance.	1.8
Repairs have been made	1.3
Storm windows/doors	1.0
Use oven more	1.0
Always pay	.8
Use cold water	.5

*N=384, respondents who answered Question 1 "Other", out of total sample of N=3661.

Percent calculations based on n=384 sub-sample only.

Note 1: Single items, off topic or irrelevant to question.

Note 2: Not clear if what all respondents mean is that utilities are paid.

Eligible Households

The Census Project Survey (1996 thru 1998) indicated that there were 1,113,147 total households and 2,806,555 individuals in Iowa at that time. Of Iowa's population in 1997, 205,464 households (18.5% of total households) were at or below 150% of federal poverty guidelines. Federal poverty guidelines (from November 1, 1999 through February 29, 2000 for annual gross income are provided in Table C-2.

Table C-2: Federal poverty Guidelines – FY 2000

Size of Household *	90 day Gross Income (\$)	Annual Gross Income (\$)
1	3,090.00	12,360
2	4,147.50	16,590
3	5,205.00	20,820
4*	6,262.50	25,050

*For households with more than 4 members, add \$1,057.50 to the 90 day Gross Income or \$4230 to the Annual Gross Income for each additional member.

Eligibility Guidelines

A household applying for LIHEAP is required to report total household income for all persons age 18 or older and has the option of reporting either annual income or income received in the past 90 days. Total household income of the applicant must be at or below 150 percent of the federal poverty guidelines, which varies according to household size. These guidelines are listed above for the 1999-2000 heating season.

Actual awards are made using a formula, utilizing a combination of income eligibility (based on poverty level), targeting factors, and fuel type used in the home. A summary of the payment matrix is shown below in Table C-3, with point allocations for each factor.

The major source of financial support for home energy costs in Iowa is the federally funded LIHEAP. LIHEAP in Iowa currently serves households at or below 150 percent of poverty (a maximum of \$25,050 annually for a family of four). Of the Iowa households income eligible to receive assistance, only 62,006 households (147,643 individuals) received funds in FY 2000 (the 1999-2000 heating season) through April of 2000, about 30 percent of those eligible.

Table C-3: Eligibility guidelines for LIHEAP energy grants.

Income (% of Poverty Level)	Pts	Targeting Factors	Pts	Fuel Type	Pts
0 – 50	6	Fixed income only	1	Natural gas	3
51 – 80	5	Elderly	1	Electric	4
81 – 110	4	Disabled	1	Liquid Petroleum	6
111 – 150	3	Working Poor	3	Fuel oil	6
		Children under 6	1	Wood/coal	2
		Detached dwelling	1		
		Subsidized housing	-3		
		4-plexes or more	-1		
		Heat included in rent	-1		
		Over \$10,000 savings	-2		

Note: Awards are made based on a household's total points.

Table C-4: Question 3b: If respondent did not apply for LIHEAP last year, why not?
(Written replies by respondents failing to apply.)*

Write-in Response Categories	Valid Percent
Didn't need it	23.4
Didn't know about it	15.6
Another person/income in household	10.0
Had a job	8.5
Living elsewhere	8.3
Other ¹	6.6
Wasn't sure if qualified	5.1
Missed application deadline	3.9
Utilities included in rent	3.7
Didn't qualify	3.4
Income too high to qualify	3.2
Forgot to apply	2.7
Illness in household	2.2
Could not take off work to apply	2.0
No transportation to application place	1.2

*N=410, respondents who answered q3b, out of total sample, N=3661. Percent calculations based on n=410 subsample only.

¹ Single items, off topic or irrelevant to question.