2017 LIHEAP National Training
LIHEAP Performance Management

Webinar Version
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ADMINISTRATION FOR CHILDREN & FAMILIES

LIHEAP Performance Management
Introduction

Welcome and Introduction

- Sharnice Peters, OCS

LIHEAP Performance Management
Training Objectives

By the end of this webinar, grantees will:

- Have a systematic method for interpreting key client and program characteristics within their LIHEAP performance measure data
- Be more comfortable using LIHEAP performance measure data to answer questions, think about their programs, and explore options for improvement
- Know what tools and resources are available to help them implement performance management in their own states

LIHEAP Performance Management
Training Agenda

Agenda

- Walk through systematic process grantees can use to analyze and interpret their performance measure data (using real-life grantee examples)
- Outline tools and resources available to help grantees analyze and use their data to manage programs
- Share key learning from training and work with grantees

LIHEAP Performance Management
Introduction

LIHEAP Performance Measures were developed in response to:

- *Section 2605(b) of the Low Income Home Energy Assistance Act of 1981 (42 U.S.C. §8624(b)) as amended by Sec. 311(b) of the Human Services Amendments of 1994 (Public Law 103-252) requiring* **HHS to develop, in consultation with LIHEAP grantees, model performance goals that measure the success of each State's LIHEAP activities.**

- *Section 2610(b)(2) of the Low Income Home Energy Assistance Act of 1981 (42 U.S.C. §8629(b)(2)) requiring that* **HHS annually report to Congress on the impact LIHEAP is making on recipient and income eligible households.**

- *Section 2605(b)(5) of the Low Income Home Energy Assistance Act of 1981 (42 U.S. C. §8624(b)(5)) requiring* **LIHEAP grantees to provide, in a timely manner, that the highest level of energy assistance will be furnished to those households that have the lowest incomes and the highest energy costs or needs in relation to income, taking into account family size.**

LIHEAP Performance Management
Introduction

As of January 2017:

- **41** grantees submitted Performance Management data for FY 2016.
- Many grantees are actively working with vendors to increase the amount of data included in their Performance Data Forms.
- Grantees are using the LIHEAP Performance Management Website Data Warehouse and the Performance Measures data to update their program designs.
- APPRISE will continue providing training and technical assistance to improve the quantity, accuracy, and reliability of data for FY 2017 LIHEAP reporting.

Performance Management Session I
How LIHEAP Measures Fit Into Performance Management

New Performance Measure data provides LIHEAP grantees with important additions to their “suite” of Performance Management tools.

- **Household characteristics to inform program planning**
  - ✓ Average annual income by household fuel type
  - ✓ Average annual energy costs by household fuel type
- **Indicators to evaluate impact of LIHEAP on households**
  - ✓ Average pre-LIHEAP Energy Burden by fuel type
  - ✓ Average post-LIHEAP Energy Burden by fuel type
  - ✓ Average energy burden reduction as a result of LIHEAP by fuel type
  - ✓ Instances of Home Energy Loss Prevention v. Restoration of Home Energy Service
- **Targeting Indices to evaluate effectiveness of program (compliance with statute)**
  - ✓ Benefit Targeting Index
  - ✓ Burden Reduction Targeting Index

Performance Management Session I
How LIHEAP Measures Fit Into Performance Management

Benefit Targeting Index

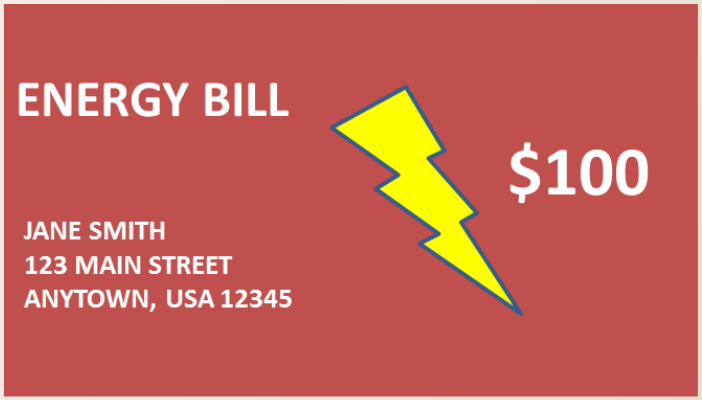
- This measure tells us whether high energy burden households receive higher LIHEAP benefits than average households.

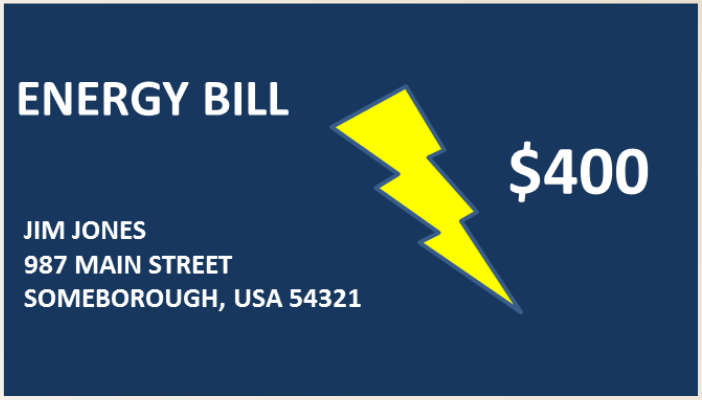
Burden Reduction Targeting Index

- This measure tells us whether high energy burden households have a larger share of their energy bill paid with LIHEAP than average households.

Performance Management Session I

How LIHEAP Measures Fit Into Performance Management





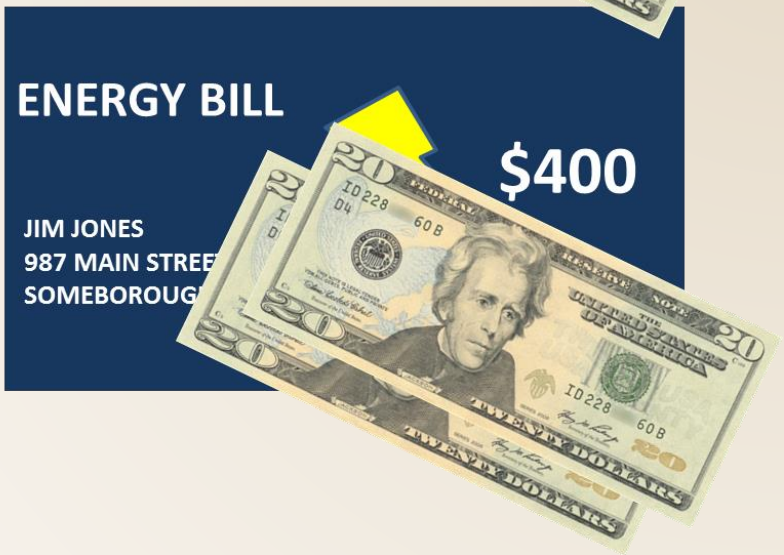
Jane and Jim both live alone, and they have the same income of $15,000 per year.

In this scenario, Jane is considered an “average” household.

Jim is a considered a “high burden” household *because he pays a higher percentage of his income toward his energy bill.*

Performance Management Session I

How LIHEAP Measures Fit Into Performance Management



Both Jane and Jim visit their local LIHEAP offices.

- Jane is awarded a **$20** LIHEAP benefit.
- Jim is awarded a **$40** LIHEAP benefit.

Performance Management Session I

How LIHEAP Measures Fit Into Performance Management

The **Benefit Targeting Index** tells us whether high energy burden households receive higher LIHEAP benefits than average households.

In this case, the LIHEAP program targeted higher benefits to Jim—who pays a higher share of his income toward energy costs than Jane.

Performance Management Session I

How LIHEAP Measures Fit Into Performance Management

The **Burden Reduction Targeting Index** tells us whether high energy burden households have a larger share of their energy bill paid with LIHEAP than average households.

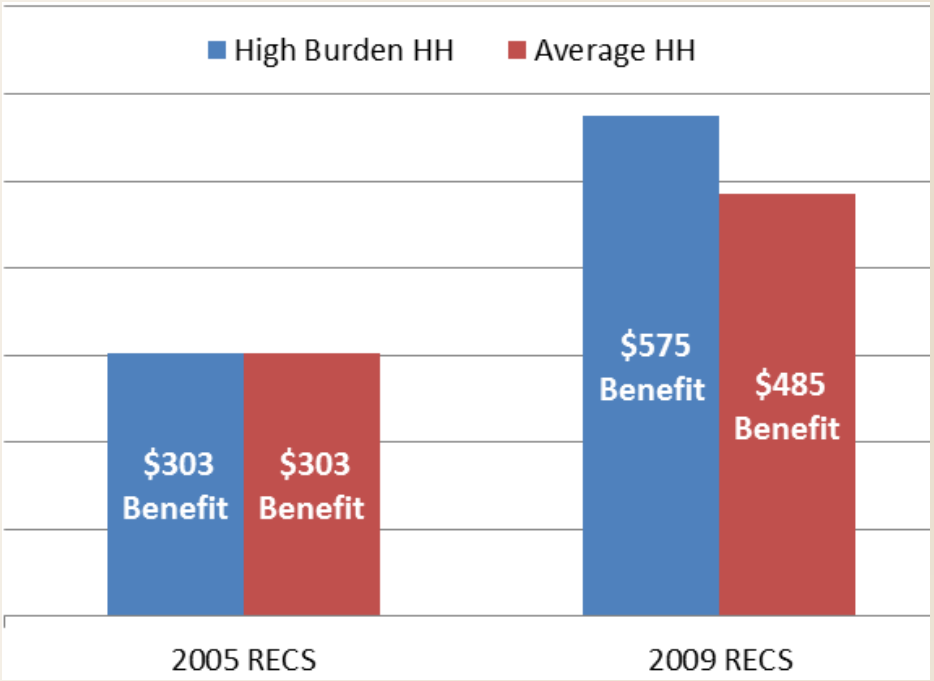
Jane's $20 LIHEAP benefit covered 20% of her energy bill.

However, Jim's $40 LIHEAP benefit only covered 10% of his energy bill.

Even though Jim got twice as much LIHEAP assistance, it still didn't stretch as far as Jane's.

Performance Management Session I
How LIHEAP Measures Fit Into Performance Management

Benefit Targeting Index Example



In 2005, high burden households received **the same** benefit as the average household.

[Index Score: 100]
($303 / $303) * 100 = 100

In 2009, high burden households received a benefit **18.6% higher** than the average household.

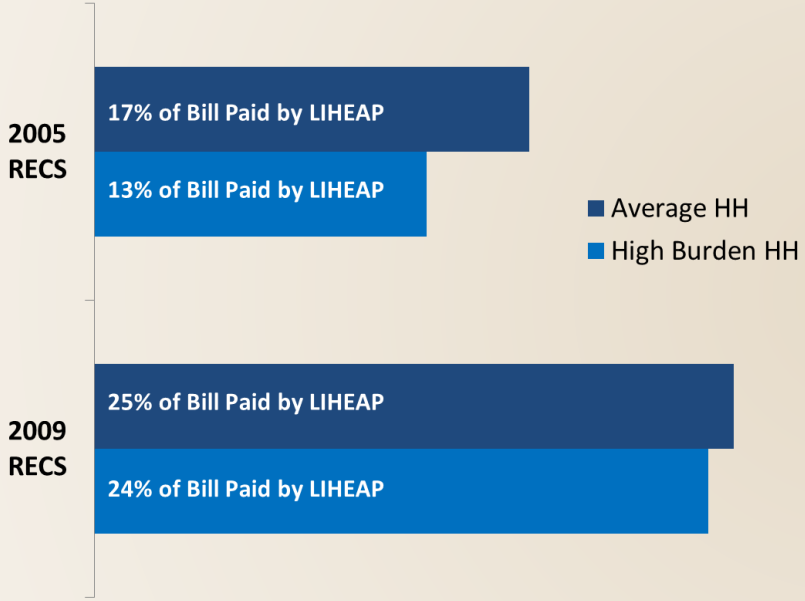
[Index Score: 118.6]
($575 / $485) * 100 = 118.6

Does the LIHEAP program furnish higher benefits to high burden households?

Not in 2005. But, in 2009 the program did pay higher benefits to high burden households.

Performance Management Session I
How LIHEAP Measures Fit Into Performance Management

Burden Reduction Targeting Index Example



In 2005, high burden households had 13% of their annual home energy bill paid, compared to the average of 17%.

[Index Score: 76]

(13/17) * 100 = 76

In 2009, high burden households had 24% of their annual home energy bill paid, compared to the average of 25%.

[Index Score: 96]

(24/25) * 100 = 76

Does LIHEAP pay a larger share of the home energy bill for high burden households?

No. In both 2005 and 2009, high burden households had a lower percentage of their home energy bill paid by the program than the average household. But, the program improved on this measure between 2005 and 2009.

Performance Management Session I

How LIHEAP Measures Fit Into Performance Management

Questions?

Performance Management Session I
Grantee Examples

Analyzing and Interpreting LIHEAP Performance Measure Data

In previous trainings, we have demonstrated how data from existing reports can be used to answer key performance management questions.

In this training session, we will use real-life examples to demonstrate how grantees can systematically analyze LIHEAP Performance Measure data for planning and evaluation.

For each grantee example, we will walk through the following:

- Grantee Benefit Matrix
- Performance Data Form (data for all households, regardless of fuel type)
- Performance Data Form (data for households across all fuel types)
- State Performance Data Snapshot

Performance Management Session I
Grantee Examples

Grantee Benefit Matrix

- What factors are used to vary benefits among households (e.g., income, fuel type)?
- Does the benefit matrix rely upon actual energy expenditures?
- What other assumptions does the benefit matrix make?

Note: *Examples in this training only include matrices for regular assistance. This is important to consider, because "annual LIHEAP benefit" data includes all bill payment assistance (including heating, cooling, crisis, and supplemental benefits).*

Performance Management Session I
Grantee Examples

Data for ALL Households
(Regardless of Fuel Type)

(Sections B & C, Column 2)

#1

	All Households	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052	13,195	54,201	4,464	12,455	1,917
2. Average Annual Household Income	$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
3. Average Annual Total LIHEAP Benefit per Household	$696	$770	$554	$1,176	$1,017	$965
4. Average Annual Main Heating Fuel Bill	$1,159	$2,026	$823	$1,666	$1,490	$1,347
5. Average Annual Electricity Bill	$943	$0	$1,011	$1,234	$1,463	$1,430
6. Average Annual Total Residential Energy Bill	$2,102	$2,026	$1,835	$2,900	$2,953	$2,777
7. Average Annual Burden Before Receiving LIHEAP	11.3%	11.5%	9.6%	16.9%	16.0%	15.0%
8. Average Annual Burden After Receiving LIHEAP	7.6%	7.1%	6.7%	10.0%	10.5%	9.8%
9. Average Percentage Point Change in Energy Burden	3.7%	4.4%	2.9%	6.8%	5.5%	5.2%
10. Average Percentage Reduction in Energy Burden	33.1%	38.0%	30.2%	40.6%	34.4%	34.8%
C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
2. Average Annual Household Income for High Burden Households	$7,950	$7,816	$6,258	$10,456	$10,169	$9,058
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992	$1,127	$740	$1,377	$1,220	$1,151
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468	$2,656	$921	$1,858	$1,634	$1,401
5. Average Annual Electricity Bill for High Burden Households	$1,132	$0	$1,205	$1,314	$1,566	$1,596
6. Average Annual Total Residential Energy Bill for High Burden Households	$2,600	$2,656	$2,127	$3,172	$3,199	$2,997
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	32.7%	34.0%	34.0%	30.3%	31.5%	33.1%
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	20.2%	19.6%	22.2%	17.2%	19.5%	20.4%
9. Average Percentage Point Change in Energy Burden for High Burden Households	12.5%	14.4%	11.8%	13.2%	12.0%	12.7%
10. Average Percentage Reduction in Energy Burden for High Burden Households	38.1%	42.4%	34.8%	43.4%	38.1%	38.4%
D. Benefit Targeting Index for High Burden Households:	143	146	133	117	120	119
E. Burden Reduction Targeting Index for High Burden Households:	115	112	115	107	111	111

- How do income and energy bills compare between average households and high burden households?
- How does the pre-LIHEAP energy burden compare between average households and high burden households?
- What is the difference in the LIHEAP benefit between high burden and average households?
- How does post-LIHEAP burden compare between average households and high burden households?
- What insight does this data give me about the benefit matrix?

Performance Management Session I
Grantee Examples

Data for Households by Main Heating Fuel Type

(Sections B & C, Columns 3-8)

#2

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	All Households	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052	13,195	54,201	4,464	12,455	1,917
3. Average Annual Household Income	$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
4. Average Annual Total LIHEAP Benefit per Household	$696	$770	$554	$1,176	$1,017	$965
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10. Average Percentage Reduction in Energy Burden	33.1%	38.0%	30.2%	40.6%	34.4%	34.8%
C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 33%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
3. Average Annual Household Income for High Burden Households	$7,950	$7,816	$6,258	$10,456	$10,169	$9,058
4. Average Annual Total LIHEAP Benefit per High Burden Household	$992	$1,127	$740	$1,377	$1,220	$1,151
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11. Benefit Targeting Index for High Burden Households	143	146	133	117	120	119
12. Burden Reduction Targeting Index for High Burden Households	115	112	115	107	111	111

For a specific Main Heating Fuel:

- How do income and energy bills compare between average households and high burden households?
- How does the pre-LIHEAP energy burden compare between average households and high burden households?
- What is the difference in the LIHEAP benefit between high burden and average households?
- How does post-LIHEAP burden compare between average households and high burden households?
- What insight does this data provide about the benefit matrix?

Performance Management Session I
Grantee Examples

Data for ALL Households across Main Heating Fuel Types

Section B, All Rows

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)		All Households	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)		86,052	13,195	54,201	4,464	12,455	1,917
2. Average Annual Household Income		$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
3. Average Annual Total LIHEAP Benefit per Household		$696	$770	$554	$1,176	$1,017	$965
4. Average Annual Main Heating Fuel Bill		$1,159	$2,026	$823	$1,666	$1,490	$1,347
5. Average Annual Electricity Bill	#3	$943	$0	$1,011	$1,234	$1,463	$1,430
6. Average Annual Total Residential Energy Bill		$2,102	$2,026	$1,835	$2,900	$2,953	$2,777
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C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
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D. Benefit Targeting Index for High Burden Households:	143	146	133	117	120	119
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- How do income and energy bills vary between main heating fuel types?
- How does the pre-LIHEAP energy burden vary between main heating fuel types?
- What is the difference in the LIHEAP benefit vary between main heating fuel types?
- How does post-LIHEAP burden vary between main heating fuel types?
- What insight does this data provide about the benefit matrix?

Performance Management Session I
Grantee Examples

Example A

Performance Management Session I
Example A—Benefit Matrix

How this matrix works:

1. Find the row with the household size.
2. Find the first column that is ≥ household income.
3. Move up or down that column to household fuel type.
4. Multiply fuel type percentage by last year's fuel costs.

Household Size	3-Month Income Levels				
1	$ 6,135	$ 4,908	$ 4,294	$ 3,681	$ 3,067
2	$ 8,023	$ 6,418	$ 5,616	$ 4,813	$ 4,011
3	$ 9,910	$ 7,928	$ 6,937	$ 5,946	$ 4,955
4	$ 11,798	$ 9,438	$ 8,258	$ 7,079	$ 5,899
5	$ 13,686	$ 10,949	$ 9,580	$ 8,211	$ 6,843
6	$ 15,574	$ 12,459	$ 10,901	$ 9,344	$ 7,787

Oil - Wood Biofuel	80.0%	85.0%	90.0%	95.0%	100%
Propane Municipal Steam	72.0%	76.5%	81.0%	85.5%	90.0%
Natural Gas District Heating	60.0%	63.8%	67.5%	71.3%	75.0%
Electricity	36.0%	38.3%	40.5%	42.8%	45.0%

7	$ 15,928	$ 12,742	$ 11,149	$ 9,556	$ 7,964
8	$ 16,282	$ 13,025	$ 11,397	$ 9,769	$ 8,141
9	$ 16,636	$ 13,308	$ 11,645	$ 9,981	$ 8,318
10	$ 16,989	$ 13,591	$ 11,892	$ 10,193	$ 8,494

What factors are used to vary benefits?

- *Household Size*
- *Income*
- *Fuel Type*

Does the benefit matrix rely on actual energy expenditures?

Yes. *This grantee uses the previous year's energy bills to determine the benefit at time of intake, as well as adjust percentages in the matrix each program year.*

Performance Management Session I
Example A—Income and Energy Costs *(all households)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)

	All Households
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052
2. Average Annual Household Income	**$18,626**
3. Average Annual Total LIHEAP Benefit per Household	$696
4. Average Annual Main Heating Fuel Bill	$1,159
5. Average Annual Electricity Bill	$943
6. Average Annual Total Residential Energy Bill	**$2,102**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**
9. Average Percentage Point Change in Energy Burden	**3.7%**
10. Average Percentage Reduction in Energy Burden	**33.1%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)

1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512
2. Average Annual Household Income for High Burden Households	**$7,950**
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468
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9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**

How does annual income compare between average households and high burden households?

- The average annual income of *all households* is **$18,626.**
- The average annual income of *high burden households* is **$7950.**

In other words, *high burden households* have an average annual income that is **$10,676 or 57% less** than average households.

Performance Management Session I

Example A—Income and Energy Costs *(all households)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052
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9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**

How do annual energy bills compare between average households and high burden households?

- The average annual energy bill of *all households* is **$2102.**
- The average annual energy bill of *high burden households* is **$2600.**

In other words, high burden households have an average energy bill that is **$498 or 24%** greater than average households.

Performance Management Session I

Example A—Income and Energy Costs *(all households)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052
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3. Average Annual Total LIHEAP Benefit per High Burden Household	$992
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468
5. Average Annual Electricity Bill for High Burden Households	$1,132
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**

How does the pre-LIHEAP energy burden compare between average households and high burden households?

- On average, annual energy burden for *all households* before LIHEAP is **11.3%**
- The average annual energy burden of *high burden households* before LIHEAP is **32.7%**

In other words, high burden households are paying **2.9 times** as much of their income toward energy costs than average households.

Performance Management Session I
Example A—LIHEAP Impact *(all households)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052
2. Average Annual Household Income	$18,626
3. Average Annual Total LIHEAP Benefit per Household	**$696**
4. Average Annual Main Heating Fuel Bill	$1,159
5. Average Annual Electricity Bill	$943
6. Average Annual Total Residential Energy Bill	**$2,102**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**
9. Average Percentage Point Change in Energy Burden	**3.7%**
10. Average Percentage Reduction in Energy Burden	**33.1%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512
2. Average Annual Household Income for High Burden Households	$7,950
3. Average Annual Total LIHEAP Benefit per High Burden Household	**$992**
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468
5. Average Annual Electricity Bill for High Burden Households	$1,132
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**

What is the difference in the annual LIHEAP benefit between high burden and average households?

- The average annual LIHEAP benefit for *all households* is **$696.**
- The average annual LIHEAP benefit among *high burden households* is **$992.**

High burden households receive an average annual LIHEAP benefit that is **$296 or 43% higher** than average households.

Performance Management Session I
Example A—LIHEAP Impact *(all households)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052
2. Average Annual Household Income	$18,626
3. Average Annual Total LIHEAP Benefit per Household	$696
4. Average Annual Main Heating Fuel Bill	$1,159
5. Average Annual Electricity Bill	$943
6. Average Annual Total Residential Energy Bill	**$2,102**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**
9. Average Percentage Point Change in Energy Burden	**3.7%**
10. Average Percentage Reduction in Energy Burden	**33.1%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512
2. Average Annual Household Income for High Burden Households	$7,950
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468
5. Average Annual Electricity Bill for High Burden Households	$1,132
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**

How does post-LIHEAP burden compare between average households and high burden households?

- The average percentage burden reduction for *all households* is **33%**
- The average percentage burden reduction for *high burden households* is **38%**

This means that on average, high burden households have **15% more** of their energy burden covered with LIHEAP than average households.

Performance Management Session I
Example A—LIHEAP Impact *(all households)*

The percentage difference in benefits and burden reduction between all households and high burden households are reflected in the targeting index numbers.

Average LIHEAP Benefit	
All Households	$696
High Burden Households	$992
Difference (%)	43%

On average, high burden households receive a 43% greater annual LIHEAP benefit than average households.

D. Benefit Targeting Index for High Burden Households:	143

Average % Burden Reduction	
All Households	33.1%
High Burden Households	38.1%
Difference (%)	15%

On average, high burden households have 15% more of their energy burden covered with LIHEAP than average households.

E. Burden Reduction Targeting Index for High Burden Households:	115

Evaluation

Performance Management Session I
Example A—All Households Summary

	Avg. Annual Energy Bill:	/	Avg. Annual Income:	=	Avg. Annual Energy Burden	→	Annual LIHEAP Benefit	Energy Burden After LIHEAP	Burden Reduction
ALL Households	**$2,102**		**$18,626**		**11.3%**		**$696**	**7.6%**	**33%**
High Burden Households	**$2,600**		**$7,950**		**32.7%**		**$992**	**20.2%**	**38%**
	High Burden HH energy bills are **24% higher** than average households.		High Burden HH income is **57% lower** than average households.		High Burden HH are paying **2.9x more** of their income on home energy than average households.		High Burden HH are receiving a LIHEAP benefit that is **43% greater** than average households.	**After LIHEAP**, High Burden HH are paying **2.7x more** of their income on home energy than average HH.	High Burden HH have a **15% greater share** of their energy burden offset with LIHEAP than average HH.

ALL HOUSEHOLDS Preliminary Observations

Differences in Energy Burden between average and high burden households are the result of **both** higher energy bills and lower income—*although income appears to be a larger factor.*

High Burden households receive higher benefits, and have a greater share of their energy burden offset by LIHEAP. This preliminarily suggests that the benefit matrix is effectively varying benefits based on income and energy costs.

Performance Management Session I
Example A—Step Two (Looking at Data by Fuel Type)

Step #2: Data by Main Heating Fuel Type

#2

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052	13,195	54,201	4,464	12,455	1,917
2. Average Annual Household Income	$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
3. Average Annual Total LIHEAP Benefit per Household	$696	$770	$554	$1,176	$1,017	$965
4. Average Annual Main Heating Fuel Bill	$1,159	$2,026	$823	$1,666	$1,490	$1,347
5. Average Annual Electricity Bill	$943	$0	$1,011	$1,234	$1,463	$1,430
6. Average Annual Total Residential Energy Bill	**$2,102**	**$2,026**	**$1,835**	**$2,900**	**$2,953**	**$2,777**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**	**11.5%**	**9.6%**	**16.9%**	**16.0%**	**15.0%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**	**7.1%**	**6.7%**	**10.0%**	**10.5%**	**9.8%**
9. Average Percentage Point Change in Energy Burden	**3.7%**	**4.4%**	**2.9%**	**6.8%**	**5.5%**	**5.2%**
10. Average Percentage Reduction in Energy Burden	**33.1%**	**38.0%**	**30.2%**	**40.6%**	**34.4%**	**34.8%**
C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
2. Average Annual Household Income for High Burden Households	$7,950	$7,816	$6,258	$10,456	$10,169	$9,058
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992	$1,127	$740	$1,377	$1,220	$1,151
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468	$2,656	$921	$1,858	$1,634	$1,401
5. Average Annual Electricity Bill for High Burden Households	$1,132	$0	$1,205	$1,314	$1,566	$1,596
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**	**$2,656**	**$2,127**	**$3,172**	**$3,199**	**$2,997**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**	**34.0%**	**34.0%**	**30.3%**	**31.5%**	**33.1%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**	**19.6%**	**22.2%**	**17.2%**	**19.5%**	**20.4%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**	**14.4%**	**11.8%**	**13.2%**	**12.0%**	**12.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**	**42.4%**	**34.8%**	**43.4%**	**38.1%**	**38.4%**
D. Benefit Targeting Index for High Burden Households:	**143**	**146**	**133**	**117**	**120**	**119**
E. Burden Reduction Targeting Index for High Burden Households:	**115**	**112**	**115**	**107**	**111**	**111**

Performance Management Session I

Example A—Income and Energy Costs (*Natural Gas Main Heat HH)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021
2. Average Annual Household Income	**$19,022**
3. Average Annual Total LIHEAP Benefit per Household	$554
4. Average Annual Main Heating Fuel Bill	$823
5. Average Annual Electricity Bill	$1,011
6. Average Annual Total Residential Energy Bill	**$1,835**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**
8. Average Annual Burden After Receiving LIHEAP	**6.7%**
9. Average Percentage Point Change in Energy Burden	**2.9%**
10. Average Percentage Reduction in Energy Burden	**30.2%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	10,153
2. Average Annual Household Income for High Burden Households	**$6,258**
3. Average Annual Total LIHEAP Benefit per High Burden Household	$740
4. Average Annual Main Heating Fuel Bill for High Burden Households	$921
5. Average Annual Electricity Bill for High Burden Households	$1,205
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,127**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**34.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**22.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**11.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**34.8%**

How does income compare between average households and high burden households who use *natural gas main heat*?

- The average annual income of *all natural gas households* is **$19,022.**
- The average annual income of *high burden natural gas households* is **$6,258.**

In other words, *high burden households* have an average annual income that is **$12,764 or 67% less** than average households.

Performance Management Session I

Example A—Income and Energy Costs (*Natural Gas Main Heat HH)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021
2. Average Annual Household Income	$19,022
3. Average Annual Total LIHEAP Benefit per Household	$554
4. Average Annual Main Heating Fuel Bill	$823
5. Average Annual Electricity Bill	$1,011
6. Average Annual Total Residential Energy Bill	**$1,835**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**
8. Average Annual Burden After Receiving LIHEAP	**6.7%**
9. Average Percentage Point Change in Energy Burden	**2.9%**
10. Average Percentage Reduction in Energy Burden	**30.2%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	10,153
2. Average Annual Household Income for High Burden Households	$6,258
3. Average Annual Total LIHEAP Benefit per High Burden Household	$740
4. Average Annual Main Heating Fuel Bill for High Burden Households	$921
5. Average Annual Electricity Bill for High Burden Households	$1,205
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,127**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**34.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**22.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**11.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**34.8%**

How do annual energy bills compare between average households and high burden households who use *natural gas main heat*?

- The average annual energy bill of *all natural gas households* is **$1835.**
- The average annual energy bill of *high burden natural gas households* is **$2127.**

In other words, high burden households have an average energy bill that is **$292 or 16%** greater than average households.

Performance Management Session I

Example A—Income and Energy Costs (*Natural Gas Main Heat HH)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021
2. Average Annual Household Income	$19,022
3. Average Annual Total LIHEAP Benefit per Household	$554
4. Average Annual Main Heating Fuel Bill	$823
5. Average Annual Electricity Bill	$1,011
6. Average Annual Total Residential Energy Bill	**$1,835**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**
8. Average Annual Burden After Receiving LIHEAP	**6.7%**
9. Average Percentage Point Change in Energy Burden	**2.9%**
10. Average Percentage Reduction in Energy Burden	**30.2%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	10,153
2. Average Annual Household Income for High Burden Households	$6,258
3. Average Annual Total LIHEAP Benefit per High Burden Household	$740
4. Average Annual Main Heating Fuel Bill for High Burden Households	$921
5. Average Annual Electricity Bill for High Burden Households	$1,205
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,127**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**34.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**22.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**11.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**34.8%**

How does the pre-LIHEAP energy burden compare between average households and high burden households who use *natural gas main heat*?

- On average, annual energy burden for *all natural gas households* before LIHEAP is **9.6%**
- The average annual energy burden of *high burden natural gas households* before LIHEAP is **34.0%**

In other words, high burden households are paying **3.5x** as much of their income toward energy costs than average households.

Performance Management Session I

Example A—LIHEAP Impact (*Natural Gas Main Heat HH)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021
2. Average Annual Household Income	$19,022
3. Average Annual Total LIHEAP Benefit per Household	**$554**
4. Average Annual Main Heating Fuel Bill	$823
5. Average Annual Electricity Bill	$1,011
6. Average Annual Total Residential Energy Bill	**$1,835**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**
8. Average Annual Burden After Receiving LIHEAP	**6.7%**
9. Average Percentage Point Change in Energy Burden	**2.9%**
10. Average Percentage Reduction in Energy Burden	**30.2%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	10,153
2. Average Annual Household Income for High Burden Households	$6,258
3. Average Annual Total LIHEAP Benefit per High Burden Household	**$740**
4. Average Annual Main Heating Fuel Bill for High Burden Households	$921
5. Average Annual Electricity Bill for High Burden Households	$1,205
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,127**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**34.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**22.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**11.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**34.8%**

What is the difference in the annual LIHEAP benefit between high burden and average households who use *natural gas main heat*?

- The average annual LIHEAP benefit for *all natural gas households* is **$554.**
- The average annual LIHEAP benefit among *high burden natural gas households* is **$740.**

High burden households receive an average annual LIHEAP benefit that is **$186 or 33% higher** than average households.

Performance Management Session I

Example A—LIHEAP Impact (*Natural Gas Main Heat HH)*

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021
2. Average Annual Household Income	$19,022
3. Average Annual Total LIHEAP Benefit per Household	$554
4. Average Annual Main Heating Fuel Bill	$823
5. Average Annual Electricity Bill	$1,011
6. Average Annual Total Residential Energy Bill	**$1,835**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**
8. Average Annual Burden After Receiving LIHEAP	**6.7%**
9. Average Percentage Point Change in Energy Burden	**2.9%**
10. Average Percentage Reduction in Energy Burden	**30.2%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	10,153
2. Average Annual Household Income for High Burden Households	$6,258
3. Average Annual Total LIHEAP Benefit per High Burden Household	$740
4. Average Annual Main Heating Fuel Bill for High Burden Households	$921
5. Average Annual Electricity Bill for High Burden Households	$1,205
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,127**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**34.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**22.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**11.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**34.8%**

How does post-LIHEAP burden compare between average households and high burden households who use *natural gas main heat?*

- The average percentage burden reduction for *all natural gas households* is **30.2%**
- The average percentage burden reduction for *high burden natural gas households* is **34.8%**

This means that on average, high burden households have **15% more** of their energy burden covered with LIHEAP than average households.

Performance Management Session I

Example A—LIHEAP Impact (*Natural Gas Main Heat HH)*

These difference in benefits and burden reduction between all households and high burden households are reflected in the targeting index numbers.

Average LIHEAP Benefit	
All Households	$554
High Burden Households	$740
Difference (%)	33%

On average, high burden households receive a 33% greater annual LIHEAP benefit than average households.

D. Benefit Targeting Index for High Burden Households:	133

Average % Burden Reduction	
All Households	30.2%
High Burden Households	34.8%
Difference (%)	15%

On average, high burden households have 15% more of their energy burden covered with LIHEAP than average households.

E. Burden Reduction Targeting Index for High Burden Households:	115

Evaluation

Performance Management Session I
Example A—Natural Gas Households Summary

	Avg. Annual Energy Bill:	/	Avg. Annual Income:	=	Avg. Annual Energy Burden	→	Annual LIHEAP Benefit	Energy Burden After LIHEAP	Burden Reduction
ALL Households	**$1,835**		**$19,022**		**9.6%**		**$554**	**6.7%**	**30.2%**
High Burden Households	**$2,127**		**$6,258**		**34%**		**$740**	**22.2%**	**34.8%**
	High Burden HH energy bills are **16% higher** than average households.		High Burden HH income is **67% lower** than average households.		High Burden HH are paying **3.5x more** of their income on home energy than average households.		High Burden HH are receiving a LIHEAP benefit that is **33% greater** than average households.	**After LIHEAP**, High Burden HH are paying **3.3x more** of their income on home energy than average HH.	High Burden HH have a **15% greater share** of their energy burden offset with LIHEAP than average HH.

NATURAL GAS HOUSEHOLDS
Preliminary Conclusions

Differences in energy burden between average and high burden households who heat with Natural Gas are the result of **both** higher energy bills and lower income—*however income appears to be a much larger factor.*

High Burden households receive Higher benefits, and have a greater share of their energy burden offset by LIHEAP. This suggests that the benefit matrix is effectively varying benefits among Natural Gas households based on income and energy costs.

Performance Management Session I
Example A—Looking at Data across Fuel Type

Step #3: All Household Data Across Fuel Types

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052	13,195	54,201	4,464	12,455	1,917
2. Average Annual Household Income	$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
3. Average Annual Total LIHEAP Benefit per Household	$696	$770	$554	$1,176	$1,017	$965
4. Average Annual Main Heating Fuel Bill	$1,159	$2,026	$823	$1,666	$1,490	$1,347
5. Average Annual Electricity Bill	$943	$0	$1,011	$1,234	$1,463	$1,430
6. Average Annual Total Residential Energy Bill	**$2,102**	**$2,026**	**$1,835**	**$2,900**	**$2,953**	**$2,777**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**	**11.5%**	**9.6%**	**16.9%**	**16.0%**	**15.0%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**	**7.1%**	**6.7%**	**10.0%**	**10.5%**	**9.8%**
9. Average Percentage Point Change in Energy Burden	**3.7%**	**4.4%**	**2.9%**	**6.8%**	**5.5%**	**5.2%**
10. Average Percentage Reduction in Energy Burden	**33.1%**	**38.0%**	**30.2%**	**40.6%**	**34.4%**	**34.8%**

#3

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
2. Average Annual Household Income for High Burden Households	$7,950	$7,816	$6,258	$10,456	$10,169	$9,058
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992	$1,127	$740	$1,377	$1,220	$1,151
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468	$2,656	$921	$1,858	$1,634	$1,401
5. Average Annual Electricity Bill for High Burden Households	$1,132	$0	$1,205	$1,314	$1,566	$1,596
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**	**$2,656**	**$2,127**	**$3,172**	**$3,199**	**$2,997**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**	**34.0%**	**34.0%**	**30.3%**	**31.5%**	**33.1%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**	**19.6%**	**22.2%**	**17.2%**	**19.5%**	**20.4%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**	**14.4%**	**11.8%**	**13.2%**	**12.0%**	**12.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**	**42.4%**	**34.8%**	**43.4%**	**38.1%**	**38.4%**
D. Benefit Targeting Index for High Burden Households:	**143**	**146**	**133**	**117**	**120**	**119**
E. Burden Reduction Targeting Index for High Burden Households:	**115**	**112**	**115**	**107**	**111**	**111**

Performance Management Session I

Example A—Income and Energy Costs *(Across Fuel Types)*

How does average annual income vary between main heating fuel types?

- The average annual income of *natural gas main heat households* is **$19,022.**
- The average annual income of *fuel oil main heat households* is **$17,196.**

In other words, *fuel oil main heat households* have slightly lower average annual income than *natural gas main heat households* - **$1,826 or about 10 percent less**.

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021	4,464
2. Average Annual Household Income	**$19,022**	**$17,196**
3. Average Annual Total LIHEAP Benefit per Household	$554	$1,176
4. Average Annual Main Heating Fuel Bill	$823	$1,666
5. Average Annual Electricity Bill	$1,011	$1,234
6. Average Annual Total Residential Energy Bill	**$1,835**	**$2,900**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**	**16.9%**
8. Average Annual Burden After Receiving LIHEAP	**6.7%**	**10.0%**
9. Average Percentage Point Change in Energy Burden	**2.9%**	**6.8%**
10. Average Percentage Reduction in Energy Burden	**30.2%**	**40.6%**

Performance Management Session I

Example A—Income and Energy Costs *(Across Fuel Types)*

How do average annual energy bills vary between main heating fuel types?

- The average annual energy bill of ***natural gas main heat*** households is **$1,835.**
- The average annual energy bill of ***fuel oil main heat*** households is **$2,900.**

In other words, *fuel oil main heat households* have a higher average energy bill than *natural gas main heat households* - **$1,065 or 58 percent higher**.

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021	4,464
2. Average Annual Household Income	$19,022	$17,196
3. Average Annual Total LIHEAP Benefit per Household	$554	$1,176
4. Average Annual Main Heating Fuel Bill	$823	$1,666
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Performance Management Session I

Example A—Income and Energy Costs *(Across Fuel Types)*

How does pre-LIHEAP energy burden vary between main heating fuel types?

- The average pre-LIHEAP energy burden of ***natural gas main heat*** households is **9.6%**
- The average pre-LIHEAP energy burden of ***fuel oil main heat*** households is **16.9%**

In other words, *fuel oil main heat households* are paying **1.75x more of their income towards energy costs** than *natural gas main heat households*.

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021	4,464
2. Average Annual Household Income	$19,022	$17,196
3. Average Annual Total LIHEAP Benefit per Household	$554	$1,176
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7. Average Annual Burden Before Receiving LIHEAP	**9.6%**	**16.9%**
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10. Average Percentage Reduction in Energy Burden	**30.2%**	**40.6%**

Performance Management Session I

Example A—Income and Energy Costs *(Across Fuel Types)*

How do annual LIHEAP benefits vary between main heating fuel types?

- The average annual LIHEAP benefit for *natural gas main heat households* is **$554.**
- The average annual LIHEAP benefit for *fuel oil main heat households* is **$1,176.**

In other words, *fuel oil main heat households* receive an average annual LIHEAP benefit that is **$622 or over 2x higher** than *natural gas main heat households*.

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021	4,464
2. Average Annual Household Income	$19,022	$17,196
3. Average Annual Total LIHEAP Benefit per Household	$554	$1,176
4. Average Annual Main Heating Fuel Bill	$823	$1,666
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6. Average Annual Total Residential Energy Bill	**$1,835**	**$2,900**
7. Average Annual Burden Before Receiving LIHEAP	**9.6%**	**16.9%**
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9. Average Percentage Point Change in Energy Burden	**2.9%**	**6.8%**
10. Average Percentage Reduction in Energy Burden	**30.2%**	**40.6%**

Performance Management Session I

Example A—Income and Energy Costs *(Across Fuel Types)*

How does post-LIHEAP burden vary between main heating fuel types?

- The average percentage burden reduction for *natural gas main heat households* is **30.2%**
- The average percentage burden reduction for *fuel oil main heat households* is **40.6%**

This means that on average, *fuel oil main heat households* have **34% more** of their energy burden covered with LIHEAP than *natural gas main heat households*.

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	54,021	4,464
2. Average Annual Household Income	$19,022	$17,196
3. Average Annual Total LIHEAP Benefit per Household	$554	$1,176
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9. Average Percentage Point Change in Energy Burden	**2.9%**	**6.8%**
10. Average Percentage Reduction in Energy Burden	**30.2%**	**40.6%**

Evaluation

Performance Management Session I
Example A—Multiple Fuel Types Summary

	Avg. Annual Energy Bill:		Avg. Annual Income:	=	Avg. Annual Energy Burden	→	Annual LIHEAP Benefit	Energy Burden After LIHEAP	Burden Reduction
Natural Gas Households	**$1,835**	/	**$19,022**	=	**9.6%**	→	**$554**	**6.7%**	**30.2%**
Fuel Oil Households	**$2,900**	/	**$17,196**	=	**16.9%**	→	**$1176**	**10%**	**40.6%**
	Fuel Oil HH energy bills are **58% higher** than Natural Gas households.		Fuel Oil HH income is **10% lower** than Natural Gas households.		Fuel Oil HH are paying **1.75x more** of their income on home energy than Natural Gas households.		Fuel Oil HH are receiving a LIHEAP benefit that is **over 2x greater** than Natural Gas households.	After LIHEAP, Fuel Oil HH are paying **1.5x more** of their income on home energy than Natural Gas households.	Fuel Oil HH have a **34% greater share** of their energy burden offset with LIHEAP than Natural Gas HH.

Preliminary Conclusions

Households who heat with fuel oil have energy bills that are **58% higher** than households who heat with Natural Gas.

However, Fuel Oil households are receiving a LIHEAP benefit that is **112% higher** than Natural Gas households.

Because the benefit matrix uses actual energy expenditures, all households, regardless of fuel type, see their energy burden reduced by at least 30% However, the data shows that for some fuel types (e.g., oil)—this reduction is much more significant.

Evaluation

Performance Management Session I
Example A—What Did the Data Tell Us?

How does energy burden reduction compare across fuel types?

- On average, all households, regardless of fuel type, experience at least a 30% energy burden reduction as a result of LIHEAP. However, there is some variation in energy burden reduction among between fuel types. More specifically:

  - ✓ **Fuel Oil** households see the greatest percentage reduction in energy burden as a result of LIHEAP. This is true for all households (40.6%) and high burden households (43.4%)

  - ✓ **Natural Gas** households see the least reduction in energy burden as a result of LIHEAP. This is true for all households (30.2%) and high burden households (34.8%)

Do actual income and energy costs of LIHEAP assisted households align with the benefit matrix?

- The matrix relies on actual energy costs, income, and household size to determine LIHEAP benefits. So all assisted households experience an average minimum 30% energy burden regardless of fuel type. However, as noted above, some fuel types see significantly higher burden reduction.

- The matrix is based on main heating fuel—however the data shows that a significant amount of total home energy costs are related to electric. This could be a reason for variation in burden reduction, and may be an area for further analysis.

Performance Management Session I
Example A—What Did the Data Tell Us?

Is this state targeting high burden households across all fuel types?

- **Yes.** High burden households across all fuel types are receiving higher benefits and having a larger share of their energy burden reduced than average households. However, the extent of this targeting varies between fuel types.

	All	Electric	Natural Gas	Fuel Oil	Propane	Other
D. Benefit Targeting Index	143	146	133	117	120	119
E. Burden Reduction Targeting Index	115	112	115	107	111	111

- In the case of fuel oil, LIHEAP benefits reduce energy burden for the *average* household by over 40% It would therefore be challenging to offer a significantly greater benefit to high burden households without exceeding the grantee's maximum benefit cap.

- As noted in the previous slide, non-electric main heating households are still paying a large share of their home energy costs toward electricity. If the benefit matrix is not adequately accounting for this, there could be inconsistency in energy burden reduction (among all households) and targeting index scores (among high burden households) among non-electric main heating fuel types.

Performance Management Session I
Example A—What Did the Data Tell Us?

Questions

Performance Management Session I
Grantee Examples

Example B

Performance Management Session I
Example B—Benefit Matrix

How this matrix works:

1. Base benefits are determined by fuel type category
2. An additional $25 is given to vulnerable households
3. An additional $25 is given to lowest income households

Energy Source	Base Benefit	Vulnerable Household	≤ 130% FPL	Maximum Total
Electric, Natural Gas	$350	+ $25	+ $25	$400
Wood, Pellets, Coal	$525	+ $25	+ $25	$575
Oil, Propane	$575	+ $25	+ $25	$625

What factors are used to vary benefits?

- *Fuel Type*
- *Income*
- *Vulnerable Status*

Does the benefit matrix rely on actual energy expenditures?

No. *However, non-utility benefits are set higher to reflect greater deliverable fuel costs.*

Performance Management Session I
Example B—Income and Energy Costs *(all households)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. **Unduplicated Number of Households with 12 Months of Bill Data**	42,021
2. Average Annual Household Income	**$22,966**
3. Average Annual Total LIHEAP Benefit per Household	$391
4. Average Annual Main Heating Fuel Bill	$667
5. Average Annual Electricity Bill	$757
6. Average Annual Total Residential Energy Bill	**$1,423**
7. Average Annual Burden Before Receiving LIHEAP	**6.2%**
8. Average Annual Burden After Receiving LIHEAP	**4.5%**
9. Average Percentage Point Change in Energy Burden	**1.7%**
10. Average Percentage Reduction in Energy Burden	**27.4%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. **Unduplicated Number of High Burden Households (Top 25%)**	10,506
2. Average Annual Household Income for High Burden Households	**$15,078**
3. Average Annual Total LIHEAP Benefit per High Burden Household	$417
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,041
5. Average Annual Electricity Bill for High Burden Households	$1,069
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,110**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**14.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.8%**

How does annual income compare between average households and high burden households?

- The average annual income of *all households* is **$22,966.**
- The average annual income of *high burden households* is **$15,078.**

In other words, high burden households have an annual income that is **$7,888 or 34%** **less** than average households.

Performance Management Session I
Example B—Income and Energy Costs *(all households)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. **Unduplicated Number of Households with 12 Months of Bill Data**	42,021
2. Average Annual Household Income	$22,966
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9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.8%**

How do annual energy bills compare between average households and high burden households?

- The average annual energy bill of *all households* is **$1423.**
- The average annual energy bill of *high burden households* is **$2110.**

In other words, high burden households have an average energy bill that is **$687 or 48% greater** than average households.

Performance Management Session I
Example B—Income and Energy Costs *(all households)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. **Unduplicated Number of Households with 12 Months of Bill Data**	42,021
2. Average Annual Household Income	$22,966
3. Average Annual Total LIHEAP Benefit per Household	$391
4. Average Annual Main Heating Fuel Bill	$667
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7. Average Annual Burden Before Receiving LIHEAP	**6.2%**
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C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. **Unduplicated Number of High Burden Households (Top 25%)**	10,506
2. Average Annual Household Income for High Burden Households	$15,078
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4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,041
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6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,110**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**14.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.8%**

How does annual pre-LIHEAP energy burden compare between average households and high burden households?

- On average, annual energy burden for *all households* before LIHEAP is **6.2%**
- The average annual energy burden of *high burden households* before LIHEAP is **14%**

In other words, high burden households are paying **over twice as much** of their income toward energy costs than average households.

Performance Management Session I
Example B—LIHEAP Impact *(all households)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. **Unduplicated Number of Households with 12 Months of Bill Data**	42,021
2. Average Annual Household Income	$22,966
3. Average Annual Total LIHEAP Benefit per Household	$391
4. Average Annual Main Heating Fuel Bill	$667
5. Average Annual Electricity Bill	$757
6. Average Annual Total Residential Energy Bill	**$1,423**
7. Average Annual Burden Before Receiving LIHEAP	**6.2%**
8. Average Annual Burden After Receiving LIHEAP	**4.5%**
9. Average Percentage Point Change in Energy Burden	**1.7%**
10. Average Percentage Reduction in Energy Burden	**27.4%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. **Unduplicated Number of High Burden Households (Top 25%)**	10,506
2. Average Annual Household Income for High Burden Households	$15,078
3. Average Annual Total LIHEAP Benefit per High Burden Household	$417
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6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,110**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**14.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.8%**

What is the difference in the annual LIHEAP benefit between high burden and average households?

- The average annual LIHEAP benefit for *all households* is **$391.**
- The average annual LIHEAP benefit among *high burden households* is **$417.**

High burden households receive an average annual LIHEAP benefit that is **$26 or 7% higher** than average households.

Performance Management Session I
Example B—LIHEAP Impact *(all households)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*
1. **Unduplicated Number of Households with 12 Months of Bill Data**	42,021
2. Average Annual Household Income	$22,966
3. Average Annual Total LIHEAP Benefit per Household	$391
4. Average Annual Main Heating Fuel Bill	$667
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C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. **Unduplicated Number of High Burden Households (Top 25%)**	10,506
2. Average Annual Household Income for High Burden Households	$15,078
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5. Average Annual Electricity Bill for High Burden Households	$1,069
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,110**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**14.0%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.8%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.8%**

How does post-LIHEAP burden compare between average households and high burden households?

- The average percentage burden reduction for *all households* is **27.4%**
- The average percentage burden reduction for *high burden households* is **19.8%**

This means that on average, high burden households have **28% less** of their energy burden covered with LIHEAP than average households.

Performance Management Session I
Example B—LIHEAP Impact *(all households)*

These difference in benefits and burden reduction between all households and high burden households are reflected in the targeting index numbers.

Average LIHEAP Benefit	
All Households	$391
High Burden Households	$417
Difference (%)	7%

On average, high burden households receive a 7% greater annual LIHEAP benefit than average households.

D. Benefit Targeting Index for High Burden Households:	107

Average % Burden Reduction	
All Households	27.4%
High Burden Households	19.8%
Difference (%)	-28%

On average, high burden households have 28% less of their energy burden covered with LIHEAP than average households.

E. Burden Reduction Targeting Index for High Burden Households:	72

Evaluation

Performance Management Session I
Example B—All Households Summary

	Avg. Annual Energy Bill:	/	Avg. Annual Income:	=	Avg. Annual Energy Burden	→	Annual LIHEAP Benefit	Energy Burden After LIHEAP	Burden Reduction
ALL Households	**$1,423**		**$22,966**		**6.2%**		**$391**	**4.5%**	**27.4%**
High Burden Households	**$2,110**		**$15,078**		**14%**		**$417**	**11.2%**	**19.8%**
	High Burden HH energy bills are **48% higher** than average households.		High Burden HH income is **34% lower** than average households.		High Burden HH are paying **2.3x more** of their income on home energy than average households.		High Burden HH are receiving a LIHEAP benefit that is **7% greater** than average households.	**After LIHEAP**, High Burden HH are paying **2.5x more** of their income on home energy than average HH.	High Burden HH have a **28% lesser share** of their energy burden offset with LIHEAP than average HH.

ALL HOUSEHOLDS Preliminary Conclusions

- Differences in Energy Burden are the result of **both** higher energy bills and lower income among high burden HH — with *income as a larger factor.*
- High Burden households have energy bills that are 48% higher than average households, but only receive a 7% greater benefit.

Although the grantee is paying a slightly higher benefit to households with lower incomes, it does not appear to be enough to address the difference between high burden and average households in terms of income and energy costs.

Performance Management Session I
Example B—Step Two (Looking at Data by Fuel Type)

Step #2: Data by Main Heating Fuel Type

#2

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052	13,195	54,201	4,464	12,455	1,917
2. Average Annual Household Income	$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
3. Average Annual Total LIHEAP Benefit per Household	$696	$770	$554	$1,176	$1,017	$965
4. Average Annual Main Heating Fuel Bill	$1,159	$2,026	$823	$1,666	$1,490	$1,347
5. Average Annual Electricity Bill	$943	$0	$1,011	$1,234	$1,463	$1,430
6. Average Annual Total Residential Energy Bill	**$2,102**	**$2,026**	**$1,835**	**$2,900**	**$2,953**	**$2,777**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**	**11.5%**	**9.6%**	**16.9%**	**16.0%**	**15.0%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**	**7.1%**	**6.7%**	**10.0%**	**10.5%**	**9.8%**
9. Average Percentage Point Change in Energy Burden	**3.7%**	**4.4%**	**2.9%**	**6.8%**	**5.5%**	**5.2%**
10. Average Percentage Reduction in Energy Burden	**33.1%**	**38.0%**	**30.2%**	**40.6%**	**34.4%**	**34.8%**
C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
2. Average Annual Household Income for High Burden Households	$7,950	$7,816	$6,258	$10,456	$10,169	$9,058
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992	$1,127	$740	$1,377	$1,220	$1,151
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468	$2,656	$921	$1,858	$1,634	$1,401
5. Average Annual Electricity Bill for High Burden Households	$1,132	$0	$1,205	$1,314	$1,566	$1,596
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**	**$2,656**	**$2,127**	**$3,172**	**$3,199**	**$2,997**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**	**34.0%**	**34.0%**	**30.3%**	**31.5%**	**33.1%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**	**19.6%**	**22.2%**	**17.2%**	**19.5%**	**20.4%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**	**14.4%**	**11.8%**	**13.2%**	**12.0%**	**12.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**	**42.4%**	**34.8%**	**43.4%**	**38.1%**	**38.4%**
D. Benefit Targeting Index for High Burden Households:	**143**	**146**	**133**	**117**	**120**	**119**
E. Burden Reduction Targeting Index for High Burden Households:	**115**	**112**	**115**	**107**	**111**	**111**

Performance Management Session I

Example B—Income and Energy Costs (*Natural Gas Main Heat HH)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906
2. Average Annual Household Income	$23,465
3. Average Annual Total LIHEAP Benefit per Household	$377
4. Average Annual Main Heating Fuel Bill	$534
5. Average Annual Electricity Bill	$875
6. Average Annual Total Residential Energy Bill	**$1,409**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**
9. Average Percentage Point Change in Energy Burden	**1.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	7,630
2. Average Annual Household Income for High Burden Households	$14,347
3. Average Annual Total LIHEAP Benefit per High Burden Household	$385
4. Average Annual Main Heating Fuel Bill for High Burden Households	$787
5. Average Annual Electricity Bill for High Burden Households	$1,209
6. Average Annual Total Residential Energy Bill for High Burden Households	**$1,996**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**13.9%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.3%**

How does income compare between average households and high burden households who use *natural gas main heat*?

- The average annual income of *all natural gas households* is **$23,465.**
- The average annual income of *high burden natural gas households* is **$14,347.**

In other words, *high burden households* have an average annual income that is **$9,117 or 39% less** than average households.

Performance Management Session I

Example B—Income and Energy Costs (*Natural Gas Main Heat HH)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906
2. Average Annual Household Income	$23,465
3. Average Annual Total LIHEAP Benefit per Household	$377
4. Average Annual Main Heating Fuel Bill	$534
5. Average Annual Electricity Bill	$875
6. Average Annual Total Residential Energy Bill	**$1,409**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**
9. Average Percentage Point Change in Energy Burden	**1.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	7,630
2. Average Annual Household Income for High Burden Households	$14,347
3. Average Annual Total LIHEAP Benefit per High Burden Household	$385
4. Average Annual Main Heating Fuel Bill for High Burden Households	$787
5. Average Annual Electricity Bill for High Burden Households	$1,209
6. Average Annual Total Residential Energy Bill for High Burden Households	**$1,996**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**13.9%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.3%**

How do annual energy bills compare between average households and high burden households who use *natural gas main heat*?

- The average annual energy bill of *all natural gas households* is **$1409.**
- The average annual energy bill of *high burden natural gas households* is **$1996.**

In other words, high burden households have an average energy bill that is **$587 or 42%** greater than average households.

Performance Management Session I

Example B—Income and Energy Costs (*Natural Gas Main Heat HH)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. **Unduplicated Number of Households with 12 Months of Bill Data**	32,906
2. Average Annual Household Income	$23,465
3. Average Annual Total LIHEAP Benefit per Household	$377
4. Average Annual Main Heating Fuel Bill	$534
5. Average Annual Electricity Bill	$875
6. Average Annual Total Residential Energy Bill	**$1,409**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**
9. Average Percentage Point Change in Energy Burden	**1.6%**
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C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. **Unduplicated Number of High Burden Households (Top 25%)**	7,630
2. Average Annual Household Income for High Burden Households	$14,347
3. Average Annual Total LIHEAP Benefit per High Burden Household	$385
4. Average Annual Main Heating Fuel Bill for High Burden Households	$787
5. Average Annual Electricity Bill for High Burden Households	$1,209
6. Average Annual Total Residential Energy Bill for High Burden Households	**$1,996**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**13.9%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.3%**

How does the pre-LIHEAP energy burden compare between average households and high burden households who use *natural gas main heat*?

- On average, annual energy burden for *all natural gas households* before LIHEAP is **6%**
- The average annual energy burden of *high burden natural gas households* before LIHEAP is **14%**

In other words, high burden households are paying **2.3x** as much of their income toward energy costs than average households.

Performance Management Session I

Example B—LIHEAP Impact (*Natural Gas Main Heat HH)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. **Unduplicated Number of Households with 12 Months of Bill Data**	32,906
2. Average Annual Household Income	$23,465
3. Average Annual Total LIHEAP Benefit per Household	$377
4. Average Annual Main Heating Fuel Bill	$534
5. Average Annual Electricity Bill	$875
6. Average Annual Total Residential Energy Bill	**$1,409**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**
9. Average Percentage Point Change in Energy Burden	**1.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. **Unduplicated Number of High Burden Households (Top 25%)**	7,630
2. Average Annual Household Income for High Burden Households	$14,347
3. Average Annual Total LIHEAP Benefit per High Burden Household	$385
4. Average Annual Main Heating Fuel Bill for High Burden Households	$787
5. Average Annual Electricity Bill for High Burden Households	$1,209
6. Average Annual Total Residential Energy Bill for High Burden Households	**$1,996**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**13.9%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.3%**

What is the difference in the annual LIHEAP benefit between high burden and average households who use *natural gas main heat*?

- The average annual LIHEAP benefit for *all natural gas households* is **$377.**
- The average annual LIHEAP benefit among *high burden natural gas households* is **$385.**

High burden households receive an average annual LIHEAP benefit that is **$8 or 2% higher** than average households.

Performance Management Session I

Example B—LIHEAP Impact (*Natural Gas Main Heat HH)*

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906
2. Average Annual Household Income	$23,465
3. Average Annual Total LIHEAP Benefit per Household	$377
4. Average Annual Main Heating Fuel Bill	$534
5. Average Annual Electricity Bill	$875
6. Average Annual Total Residential Energy Bill	**$1,409**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**
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9. Average Percentage Point Change in Energy Burden	**1.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	
1. Unduplicated Number of High Burden Households (Top 25%)	7,630
2. Average Annual Household Income for High Burden Households	$14,347
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4. Average Annual Main Heating Fuel Bill for High Burden Households	$787
5. Average Annual Electricity Bill for High Burden Households	$1,209
6. Average Annual Total Residential Energy Bill for High Burden Households	**$1,996**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**13.9%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**11.2%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**2.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**19.3%**

How does post-LIHEAP burden compare between average households and high burden households who use *natural gas main heat?*

- The average percentage burden reduction for *all natural gas households* is **26.8%**
- The average percentage burden reduction for *high burden natural gas households* is **19.3%**

This means that on average, high burden households have **28% less** of their energy burden covered with LIHEAP than average households.

Performance Management Session I

Example B—LIHEAP Impact (*Natural Gas Main Heat HH)*

These difference in benefits and burden reduction between all households and high burden households are reflected in the targeting index numbers.

Average LIHEAP Benefit	
All Households	$377
High Burden Households	$385
Difference (%)	2%

On average, high burden households receive a 2% greater annual LIHEAP benefit than average households.

D. Benefit Targeting Index for High Burden Households:	102

Average % Burden Reduction	
All Households	26.8%
High Burden Households	19.3%
Difference (%)	-28%

On average, high burden households have 28% less of their energy burden covered with LIHEAP than average households.

E. Burden Reduction Targeting Index for High Burden Households:	72

Evaluation

Performance Management Session I

Example B—Natural Gas Households Summary

	Avg. Annual Energy Bill:	/	Avg. Annual Income:	=	Avg. Annual Energy Burden	→	Annual LIHEAP Benefit	Energy Burden After LIHEAP	Burden Reduction
ALL Natural Gas Households	**$1,409**		**$23,465**		**6%**		**$377**	**4.4%**	**26.8%**
Natural Gas High Burden Households	**$1,996**		**$14,347**		**14%**		**$385**	**11%**	**19.3%**
	High Burden HH energy bills are **42% higher** than average households.		High Burden HH income is **39% lower** than average households.		High Burden HH are paying **2.3x more** of their income on home energy than average households.		High Burden HH are receiving a LIHEAP benefit that is **2% greater** than average households.	**After LIHEAP**, High Burden HH are paying **2.6x more** of their income on home energy than average HH.	High Burden HH have a **28% less** of their energy burden offset with LIHEAP than average HH.

NATURAL GAS HOUSEHOLDS
Preliminary Conclusions

High burden Natural Gas households have energy bills that are 42% higher and annual income that is 39% lower than average households.

However, high burden households only receive a 2% greater LIHEAP benefit than average households.

The $25 additional benefit for low-income households 1) does not adequately address disparity of income between high burden and average households, and 2) does not account for higher energy bills among high burden households.

Performance Management Session I
Example B—Looking at Data across Fuel Type

Step #3: All Household Data Across Fuel Types

B. All Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	*All Households*	Electricity	Natural Gas	Fuel Oil	Propane	Other Fuels
1. Unduplicated Number of Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	86,052	13,195	54,201	4,464	12,455	1,917
2. Average Annual Household Income	$18,626	$17,652	$19,022	$17,196	$18,466	$18,541
3. Average Annual Total LIHEAP Benefit per Household	$696	$770	$554	$1,176	$1,017	$965
4. Average Annual Main Heating Fuel Bill	$1,159	$2,026	$823	$1,666	$1,490	$1,347
5. Average Annual Electricity Bill	$943	$0	$1,011	$1,234	$1,463	$1,430
6. Average Annual Total Residential Energy Bill	**$2,102**	**$2,026**	**$1,835**	**$2,900**	**$2,953**	**$2,777**
7. Average Annual Burden Before Receiving LIHEAP	**11.3%**	**11.5%**	**9.6%**	**16.9%**	**16.0%**	**15.0%**
8. Average Annual Burden After Receiving LIHEAP	**7.6%**	**7.1%**	**6.7%**	**10.0%**	**10.5%**	**9.8%**
9. Average Percentage Point Change in Energy Burden	**3.7%**	**4.4%**	**2.9%**	**6.8%**	**5.5%**	**5.2%**
10. Average Percentage Reduction in Energy Burden	**33.1%**	**38.0%**	**30.2%**	**40.6%**	**34.4%**	**34.8%**

#3

C. High Burden Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)						
1. Unduplicated Number of High Burden Households (Top 25%) with 12 Consecutive Months of Bill Data	21,512	3,303	10,153	2,050	5,243	763
2. Average Annual Household Income for High Burden Households	$7,950	$7,816	$6,258	$10,456	$10,169	$9,058
3. Average Annual Total LIHEAP Benefit per High Burden Household	$992	$1,127	$740	$1,377	$1,220	$1,151
4. Average Annual Main Heating Fuel Bill for High Burden Households	$1,468	$2,656	$921	$1,858	$1,634	$1,401
5. Average Annual Electricity Bill for High Burden Households	$1,132	$0	$1,205	$1,314	$1,566	$1,596
6. Average Annual Total Residential Energy Bill for High Burden Households	**$2,600**	**$2,656**	**$2,127**	**$3,172**	**$3,199**	**$2,997**
7. Average Annual Burden Before Receiving LIHEAP for High Burden Households	**32.7%**	**34.0%**	**34.0%**	**30.3%**	**31.5%**	**33.1%**
8. Average Annual Burden After Receiving LIHEAP for High Burden Households	**20.2%**	**19.6%**	**22.2%**	**17.2%**	**19.5%**	**20.4%**
9. Average Percentage Point Change in Energy Burden for High Burden Households	**12.5%**	**14.4%**	**11.8%**	**13.2%**	**12.0%**	**12.7%**
10. Average Percentage Reduction in Energy Burden for High Burden Households	**38.1%**	**42.4%**	**34.8%**	**43.4%**	**38.1%**	**38.4%**
D. Benefit Targeting Index for High Burden Households:	**143**	**146**	**133**	**117**	**120**	**119**
E. Burden Reduction Targeting Index for High Burden Households:	**115**	**112**	**115**	**107**	**111**	**111**

Performance Management Session I

Example B—Income and Energy Costs *(Across Fuel Types)*

How does average annual income vary between main heating fuel types?

- The average annual income of ***natural gas main heat*** *households* is **$23,645.**
- The average annual income of ***fuel oil main heat*** *households* is **$23,430.**

In other words, the difference between the average income of households using these two fuels is negligible.

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906	1,267
2. Average Annual Household Income	$23,465	$23,430
3. Average Annual Total LIHEAP Benefit per Household	$377	$603
4. Average Annual Main Heating Fuel Bill	$534	$1,382
5. Average Annual Electricity Bill	$875	$1,333
6. Average Annual Total Residential Energy Bill	**$1,409**	**$2,715**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**	**11.6%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**	**9.0%**
9. Average Percentage Point Change in Energy Burden	**1.6%**	**2.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**	**22.2%**

Performance Management Session I

Example B—Income and Energy Costs *(Across Fuel Types)*

How do average annual energy bills vary between main heating fuel types?

- The average annual energy bill of ***natural gas main heat*** households is **$1,409.**
- The average annual energy bill of ***fuel oil main heat*** households is **$2,715.**

In other words, *fuel oil main heat households* have a higher average energy bill than *natural gas main heat households* - **$1,306 or 93% higher**.

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906	1,267
2. Average Annual Household Income	$23,465	$23,430
3. Average Annual Total LIHEAP Benefit per Household	$377	$603
4. Average Annual Main Heating Fuel Bill	$534	$1,382
5. Average Annual Electricity Bill	$875	$1,333
6. Average Annual Total Residential Energy Bill	**$1,409**	**$2,715**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**	**11.6%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**	**9.0%**
9. Average Percentage Point Change in Energy Burden	**1.6%**	**2.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**	**22.2%**

Performance Management Session I

Example B—Income and Energy Costs *(Across Fuel Types)*

How does pre-LIHEAP energy burden vary between main heating fuel types?

- The average pre-LIHEAP energy burden of ***natural gas main heat*** households is **6%**
- The average pre-LIHEAP energy burden of ***fuel oil main heat*** households is **11.6%**

In other words, *fuel oil main heat households* are paying **1.9x more of their income towards energy costs** than *natural gas main heat households*.

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906	1,267
2. Average Annual Household Income	$23,465	$23,430
3. Average Annual Total LIHEAP Benefit per Household	$377	$603
4. Average Annual Main Heating Fuel Bill	$534	$1,382
5. Average Annual Electricity Bill	$875	$1,333
6. Average Annual Total Residential Energy Bill	**$1,409**	**$2,715**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**	**11.6%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**	**9.0%**
9. Average Percentage Point Change in Energy Burden	**1.6%**	**2.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**	**22.2%**

Performance Management Session I

Example B—Income and Energy Costs *(Across Fuel Types)*

How do annual LIHEAP benefits vary between main heating fuel types?

- The average annual LIHEAP benefit for *natural gas main heat households* is **$377.**
- The average annual LIHEAP benefit for *fuel oil main heat households* is **$603.**

In other words, *fuel oil main heat households* receive an average annual LIHEAP benefit that is **$226 or over 60% higher** than *natural gas main heat households*.

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906	1,267
2. Average Annual Household Income	$23,465	$23,430
3. Average Annual Total LIHEAP Benefit per Household	$377	$603
4. Average Annual Main Heating Fuel Bill	$534	$1,382
5. Average Annual Electricity Bill	$875	$1,333
6. Average Annual Total Residential Energy Bill	**$1,409**	**$2,715**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**	**11.6%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**	**9.0%**
9. Average Percentage Point Change in Energy Burden	**1.6%**	**2.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**	**22.2%**

Performance Management Session I

Example B—Income and Energy Costs *(Across Fuel Types)*

How does post-LIHEAP burden vary between main heating fuel types?

- The average percentage burden reduction for *natural gas main heat households* is **26.8%**
- The average percentage burden reduction for *fuel oil main heat households* is **22.2%**

This means that on average, *fuel oil main heat households* have **17% less** of their energy burden covered with LIHEAP than *natural gas main heat households*.

B. Households with 12 Consecutive Months of Bill Data (Main Fuel and Electric)	Natural Gas	Fuel Oil
1. Unduplicated Number of Households with 12 Months of Bill Data	32,906	1,267
2. Average Annual Household Income	$23,465	$23,430
3. Average Annual Total LIHEAP Benefit per Household	$377	$603
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6. Average Annual Total Residential Energy Bill	**$1,409**	**$2,715**
7. Average Annual Burden Before Receiving LIHEAP	**6.0%**	**11.6%**
8. Average Annual Burden After Receiving LIHEAP	**4.4%**	**9.0%**
9. Average Percentage Point Change in Energy Burden	**1.6%**	**2.6%**
10. Average Percentage Reduction in Energy Burden	**26.8%**	**22.2%**

Evaluation

Performance Management Session I

Example B—Multiple Fuel Types Summary

	Avg. Annual Energy Bill:	/	Avg. Annual Income:	=	Avg. Annual Energy Burden	→	Annual LIHEAP Benefit	Energy Burden After LIHEAP	Burden Reduction
ALL Natural Gas Households	**$1,409**		**$23,465**		**6%**		**$377**	**4.4%**	**26.8%**
ALL Fuel Oil Households	**$2,715**		**$23,430**		**11.6%**		**$603**	**11%**	**22.2%**
	Fuel Oil HH energy bills are **93% higher** than Natural Gas households.		Fuel Oil HH income is **<1% lower** than Natural Gas households.		Fuel Oil HH are paying **1.9x more** of their income on home energy than Natural Gas households.		Fuel Oil HH are receiving a LIHEAP benefit that is **60% greater** than Natural Gas HH.	**After LIHEAP**, Fuel Oil HH are paying **over 2x more** of their income on home energy than Natural Gas households.	Fuel Oil HH have a **17% less** of their energy burden offset with LIHEAP than Natural Gas households.

Preliminary Conclusions

Fuel Oil households have energy bills that are 93% higher than Natural Gas households.

However, Fuel Oil households only receive a 60% greater LIHEAP benefit than average households.

The matrix grants higher benefits to households with deliverable fuels—but the difference in benefit $ is not proportionate to actual cost differences. Therefore, although Natural Gas households get 60% lower benefits, they still have more of their energy burden reduced than Fuel Oil households.

Evaluation

Performance Management Session I
Example B—What Did the Data Tell Us?

How does energy burden reduction compare across fuel types?

- Average energy burden reduction among all households as a result of LIHEAP ranged from 22% to 35% depending on fuel type.

Do actual income and energy costs of LIHEAP assisted households align with the benefit matrix?

- It is true that annual oil and propane costs are higher than other fuel types. Therefore, higher benefits for these households make sense.
- Although the grantee is paying a slightly higher benefit ($25) to households with lower incomes, it is not nearly enough to address the difference between high burden and average households in terms of income and energy costs.
- Additionally, there is no variation in the low-income "add-on" benefit between fuel types. For instance, high burden electric households experience 79% higher energy bills than average electric households, while high burden fuel oil households experience only 10% higher energy bills than average fuel oil households. However in both cases, the lowest income households receive the same $25 add-on to their base benefit.

Performance Management Session I
Example B—What Did the Data Tell Us?

Is this state targeting high burden households across all fuel types?

In this example, high burden households are receiving benefits that are equal to or just slightly higher than the average household.

	All	Electric	Natural Gas	Fuel Oil	Propane	Other
D. Benefit Targeting Index	107	101	102	100	101	101
E. Burden Reduction Targeting Index	72	57	72	91	90	91

High burden households had a lower percentage of their home energy bill paid by the program than the average household. This is especially true for electric and natural gas households.

Performance Management Session I
Example B

Questions

Performance Management Session I
Tools and Resources

There are a number of resources available to help grantees with Performance Management. These include, but are not limited to:

- Performance Management Integration Guide
- Performance Management Website
- State Plans (LIHEAP Clearinghouse)
- State Program Manuals (LIHEAP Clearinghouse)
- Webinars and Presentations (ACF Training Website)
- Individualized Training and Technical Assistance

Performance Management Session I
Tools and Resources

Performance Management Integration Guide

The PMIWG Process Team is currently working with APPRISE to develop the ***Performance Management Integration Guide.*** The intent of this guide is to help grantees analyze, interpret, and use their data for program management.

Currently, the Performance Management Integration Guide contains the following resources:

- **Field Level Definitions** *are currently available on the Performance Management website.*
- **Customized State Snapshots** *will be prepared for each state once their Performance Measure data has been corrected and finalized.*
- **Customized What-If Scenario Tool** *will be prepared for each state once their Performance Measure data has been corrected and finalized.*

Other Tools and Resources

LIHEAP Performance Management Website
https://liheappm.acf.hhs.gov/

Includes grantee resources, data warehouse, and reporting tools. Also includes newsletters and updates from the Performance Management Implementation Work Group.

LIHEAP Virtual Library
https://liheappm.acf.hhs.gov/assessment/#nbb

Provides an easy to use interface that guides grantees to resources associated with different areas of program administration.

Performance Management Session I
Tools and Resources

LIHEAP Clearinghouse
https://liheapch.acf.hhs.gov/stateplans.htm

Contains state model plans, state program manuals, and descriptions of various state program components.

ACF Training Resources Website
https://www.acf.hhs.gov/ocs/resource/liheap-trainings

Archived webinars, regional training, and national training sessions.

Individual Training and Technical Assistance
melissa@verveassociates.net, Kevin-McGrath@appriseinc.org

APPRISE will work with grantees to assist with data collection, reporting, vendor data exchanges, IT systems, and more.

Performance Management Session I
What We Have Learned

As grantees continue analyzing their data, they've had some important "a-ha" moments.

Performance Management Session I
What We Have Learned

The targeting indices are necessary but not sufficient.

- The Benefit and Burden Reduction Targeting Indices compare average LIHEAP benefits and average burden reduction between *all households* and *high burden* households.
- However, these indices are blind to how well grantees are addressing energy burden *in general*.
- In other words, grantees could be providing benefits that do very little to address energy burden, and still have a decent targeting index score.
- Conversely, grantees could be providing benefits that significantly reduce energy burden for all households. But if there is little difference in burden reduction between average and high burden household, their burden reduction targeting index could be low.

Performance Management Session I
What We Have Learned

Not all solutions lie in the benefit matrix.

- In some cases, issues that arise in the Performance Data Form may be a result of program design or delivery.
- Variation in “average LIHEAP benefit” may be the result of crisis or supplemental benefits that fall outside of the standard benefit matrix.
- Some LIHEAP programs use state or ratepayer funding to supplement LIHEAP. Therefore, burden reduction impacts may not be fully realized in the Performance Data Form (since only LIHEAP funds are represented).

Performance Management Session I
What We Have Learned

Tools won't do all of the work for you.

The Process Team of the PMIWG is actively developing a "What-If" scenario tool that will help grantees identify how they can raise or lower benefits for particular households to reach targeting goals.

- However, the tool cannot tell grantees how to change their matrix to achieve target benefit amounts. For example, a grantee may determine that electric households should receive higher benefits. However, they will need to figure out whether this requires adjusting the *income* or *fuel type* factor in their benefit matrix. In other words, deciding ***how*** to implement change will require grantees to understand ***why*** they need the change in the first place.

- LIHEAP Performance Measures provide grantees with a powerful set of information. However this data isn't useful without context. Knowledge of what is happening on the ground is necessary to fully understand the data, and to determine what program changes are feasible to improve outcomes.

Performance Management Session I
What We Have Learned

Using data isn't always intuitive, clean, or easy.

- Sometimes it takes talking with others, additional learning, or several reviews before a pattern or solution emerges.

- Sometimes stories hide between the numbers instead of jumping off the page. If you cannot find your story, it is time to ask for help.

Performance Management Session I
Tools and Resources

Questions?

Performance Management Session I
Contact Information

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