

# Evaluating Wisconsin's Low Income Programs—Final Results of the Longitudinal Study and Resulting Changes

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## ABSTRACT

Improve energy payment sustainability, effectively target the most vulnerable populations, improve clients' quality of life, and provide energy and non-energy benefits: these are the performance measures established by the 2000 Wisconsin LIHEAP<sup>1</sup> Working Group that served as the foundation to a multi-year evaluation of two of the State's low-income programs – the Wisconsin Home Energy Assistance Program (WHEAP) and Weatherization Assistance Program (WAP).

It takes rich and varied sources of information to accurately determine how a program is functioning against performance measures. The Wisconsin Department of Administration's Public Benefits program, Focus on Energy<sup>2</sup>, sponsored a three-year evaluation of WHEAP and WAP. This longitudinal approach was unique from many other programs that base their results on a single year review.

At the 2003 International Energy Program Evaluation Conference, we introduced the evaluation by discussing the methodology, research activities, and results from the first year of the evaluation. This paper completes the series, presenting the findings resulting from all three years of the evaluation, and the program changes made as a result of the findings.

The longitudinal evaluation found that the programs have achieved some success in moving toward the goals established by the LIHEAP working group. Furthermore, program administrators responded to evaluation findings and recommendations by reviewing, and in some cases already implementing, changes to policy and program design.

## Introduction

The Wisconsin Department of Administration's (DOA) Public Benefits program, Focus on Energy, sponsored a three-year evaluation of the state's low-income programs-- the Wisconsin Home Energy Assistance Program (WHEAP) and the Weatherization Assistance Program (WAP). From the perspective of DOA management staff, the WHEAP and WAP programs share the common goal of improving the energy sustainability<sup>3</sup> of low-income households. Both programs are

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<sup>1</sup> Low Income Home Energy Assistance Program

<sup>2</sup> Focus on Energy is a public-private partnership offering energy information and services to residential, business, agricultural, and industrial customers throughout Wisconsin. These services are delivered by a group of firms contracted by the Wisconsin Department of Administration's Division of Energy. Focus is funded by the Utility Public Benefits fund created by the Wisconsin State Legislature in 1999 as part of the Reliability 2000 initiative.

<sup>3</sup> Sustainability—the ability of a household to make full and timely payments of energy bills over an extended period of time without resorting to actions that cannot be maintained or are otherwise undesirable. For example, paying energy bills and not purchasing necessary medicine is an example

designed to help low-income households move toward this goal by addressing barriers experienced by households, such as high energy costs and use. The evaluation commenced on July 1, 2001 and concluded on June 30, 2004. This timeframe allowed the authors to evaluate the program administration and the effects of the low-income programs longitudinally over the course of three years. As a result, the evaluators were able to track process issues identified, improvements made, response to program changes, and changes in participants well-being and self-sufficiency as a result of the programs. Our longitudinal approach differs from the majority of evaluations which are funded and designed for a one-year look or snapshot of program process issues and impacts.

The evaluation methodology included assessing the programs' impacts on moving clients more toward self-sustainability through the use of a customer panel study. In each of the three years of the study, the same sample of program participants and non-participants were contacted and asked questions relating to their households' well-being and ability to pay for energy bills. The data from these surveys fed into a modeling exercise that attempted to quantify households' changes in self-sustainability attributed to program benefits.

This paper presents the evaluation components, findings, and DOA activities that result from evaluation findings through the following sections:

- 1) **Program Description:** introduces WHEAP and WAP programs,
- 2) **Evaluation Methodology:** outlines the researchable questions that directed the evaluation and evaluation activities throughout the three-year evaluation,
- 3) **Results of Evaluation Activities:** presents process and impact findings across the entire evaluation period,
- 4) **Program Recommendations and DOA Activities in Reaction to Findings and Recommendations:** outlines areas the evaluations identified for further exploration and consideration, and DOA's response to these recommendations.
- 5) **Conclusion**

This paper presents the evaluation time periods as Year 1 (Contract Year 2001-2002), Year 2 (Contract Year 2002-2003) and Year 3 (Contract Year 2003-2004). WHEAP's program year differs from the contract year (October through September, versus July through June, respectively). Therefore, referrals to WHEAP program years are presented as Federal Fiscal Year (FY).

## Program Description

DOA and local agencies administer the WHEAP and WAP programs. WHEAP and WAP serve the same low-income population; households up to 150% of the federal poverty level<sup>4</sup>. your

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of an action that cannot be maintained for a long period of time without an undesirable consequence. Another way of thinking of sustainability is affordability over time. A bill or bills may be affordable in the short term but not over an extended period of time. Sustainability is meant to add the dimension of time to the concept of affordability.

<sup>4</sup> Wisconsin statute s.16.385 limits eligibility for WHEAP and WAP to households at or below 150 percent of the federal poverty level. Federal eligibility for LIHEAP and weatherization is households at or below 150 percent of federal poverty level or 60 percent of area median income, whichever is higher. In Wisconsin, 150 percent of federal poverty level is lower than 60 percent of area median income; so fewer households meet the Wisconsin income eligibility criterion than are eligible under federal rules. Certain other households may be considered eligible for LIHEAP by federal law and by Wisconsin statute s.16.384. These categorically eligible households amount to less than one percent of all households' eligibility determination in Wisconsin.

edits lost the fact that the agencies providing the services have been doing so for 20 years – my comment was to make it clear that WHEAP was new.

Federal funding for these programs is supplemented by Public Benefits Funds. Participants who receive electric service from utilities who participate, or “opt into” Public Benefits, receive electric-related services offered through this funding source. For example, WHEAP participants benefit from these funds through by receiving assistance toward their non-heating electric costs, and WAP participants benefit through electric measures. The increased funding also allows the program to serve more households.

The WHEAP and WAP programs are briefly summarized below.

**WHEAP:** WHEAP’s primary funding sources includes the federally funded Low Income Home Energy Assistance Program (LIHEAP) and Public Benefits funds. WHEAP provides energy assistance to income-eligible households – those at or below 150% of federal poverty level that exhibit a high energy burden (NOTE: everyone has an energy burden – is there a threshold?). Local county agencies, tribal governments, or their subcontractors oversee client contact, outreach, and the application process for the program. WHEAP offers two main avenues of assistance: direct payment to fuel providers toward households’ energy bills, and crisis assistance. Direct payment is a once a year, lump sum payment toward heating costs and may include a payment for non-heating electric costs for customers whose electric utility opted into the Public Benefits program. Crisis assistance provides aid to households facing “no-heat” situations. Crisis assistance includes both emergency assistance, where a payment is provided to avoid imminent shut-off or disconnects, emergency furnace repair and replacement services, and proactive assistance, which includes services such as utility co-payment arrangements, energy education, and budget counseling. WHEAP also serves as an intake source for WAP.

**WAP:** WAP’s primary funding sources are the federally funded Low-Income Home Energy Assistance Block Grant (15% transferred to weatherization by state law), Weatherization Assistance Program through the US Department of Energy and Public Benefits. DOA contracts with 21 agencies throughout the state to provide weatherization services at no cost to the same low-income population served by WHEAP. The array of energy conservation measures installed is prescriptive in the sense that if a measure is needed, it is selected for installation. All households are eligible to receive baseload services, such as insulation, infiltration reduction, furnace tune-up or replacement, compact fluorescent lamps, and some health and safety measures. The program offers additional measures to households whose electric utility opted into Public Benefits. Examples of additional measures are refrigerators and compact fluorescent light bulbs.

## **Evaluation Methodology**

The four performance measures established by the 2000 Wisconsin LIHEAP Performance Measures Working Group are the foundation of the evaluation research. These performance measures assess the programs’: 1) effectiveness in targeting and servicing those who are vulnerable or have a high energy burden; 2) interactions with other programs; 3) impact on a client’s ability to sustain payment of home energy bills; and 4) impact on clients’ lives, including non-energy benefits

The three-year longitudinal study includes a combination of primary and secondary qualitative and quantitative data collection activities to address these researchable questions on an annual basis.

**Primary Qualitative Data Collection Activities – Process Interviews.** Throughout the three-year evaluation, the evaluation team collected primary qualitative data using in-depth interviews with the following groups of stakeholders: local WHEAP agency staff; local WAP agency staff; subcontractors to local WAP agencies; WAP-DOA field staff, Department of Agriculture, Trade

and Consumer Protection outreach specialists; utility and fuel vendor representatives; landlords of multifamily facilities; and refrigerator replacement experts. Interviews covered a wide array of process issues, such as coordination between programs, funding and administrative limitations, how the programs could be made more effective and efficient, and how Public Benefits affected program delivery.

The third evaluation year also included multi-state in-depth interviews with staff involved in providing energy education and/or baseload measures for low-income weatherization programs. These interviews were part of an initiative to identify energy education ‘best practices’ and what baseload measures are included in other states’ weatherization programs.

**Secondary Qualitative Data Collection Activities– Arrearage Analysis<sup>5</sup>.** Year 3 evaluation activities included an arrearage analysis to characterize the low-income energy programs’ effect on average arrearage amounts and customer bill payment behavior. Although the arrearage analysis includes a large number of records, the results of this study cannot be extrapolated to the participant population because the study did not include a scientific sample of WHEAP participants throughout the state. Therefore, the analysis is considered qualitative.

**Primary Quantitative Data Collection Activities– Participant and Non-participant Surveys.** The evaluation’s quantitative data collection activities consisted of a three-year customer panel study, which surveyed the same customers in Years 1, 2, and 3. This data collection activity is one of the primary strengths of the evaluation plan. The longitudinal approach, as discussed in the introduction, allowed evaluators to review customer living conditions and bill payment behaviors over the course of three years, and identify if any changes in these issues could be attributable to the programs.

The panel study groups consisted of WHEAP and WAP participants and program non-participants. These surveys assessed clients’ experience with, and satisfaction with, the programs; their household and living conditions; their perceived energy use and expenses; and household composition. Survey data fed into a regression analysis that measured program influence on household sustainability over time. To assess program impacts individually and overall, participant samples were grouped by: 1) WAP only participants, 2) WHEAP only participants, and 3) WHEAP and WAP participants. Evaluators also spoke with 4) a sample of WAP wait-listed households, who had applied but not yet received services, and 5) program non-participants, who were identified as income eligible non-participants through a random digit dial sample.

Evaluation Year 3 also included an Internet survey of WAP providers. The survey covered topics such as WAP’s current energy education practices, procurement practices, waiting lists for services, the data management system (WisWAP), and services to multifamily facilities (defined as 5+ units).

**Secondary Quantitative Data Collection Activities– Market Characterization and Consumption Analysis<sup>6</sup>.** The market characterization effort reviewed characteristics of the population that the programs served in comparison to the eligible population as a whole. It provided insight to any differences in percent of the eligible population that the programs served, and any explanatory factors that might affect differences by county.

The consumption analysis used utility and fuel vendor billing records to quantify energy and demand savings attributable to WAP. This analysis examined monthly energy bills of households and program tracking data to produce kWh and therms savings attributable to the programs.

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<sup>5</sup> The arrearage analysis was conducted by Nick Hall and Johna Roth of TecMRKT Works.

<sup>6</sup> The consumption analysis was conducted by Miriam Goldberg, Valy T. Goepfrich, and Lori Boeckeler of KEMA.

## Results

Prior to presenting the evaluation results, a brief summary of the fuel, economic, and program funding across the three years of the evaluation is presented to add context to the findings.

**Fuel Characteristics.** Throughout the evaluation period, both fuel prices and the number of heating degree days increased. Natural gas, propane, and heating oil prices increased from Year 1 to Year 3 (99%, 47%, and 45%, respectively). In addition, Year 3 had 21% more heating degree days than Year 1.<sup>7 8</sup>

**Economic Characteristics.** Coinciding economic indicators for Wisconsin indicate a ‘soft’ economy in Year 1 and Year 2 of the evaluation, with a gradual upturn in Year 3. **Program Funding.** The level of WHEAP funding varied throughout the three years. WAP funding levels increased significantly over the evaluation period to historic levels as a result of Public Benefits. The level of funding from Evaluation Years 1 through 3 is detailed below.

Time Period	WHEAP	WAP
Program year prior to evaluation period (2001-2002)	\$96,612,793	\$15,883,371
Evaluation Year 1	\$76,297,444 <i>(21% decrease from prior year)</i>	\$29,851,703 <i>(88% increase from prior year)</i>
Evaluation Year 2	\$90,795,249 <i>(19% increase from Yr1)</i>	\$40,496,864 <i>(36% increase from Yr1)</i>
Evaluation Year 3	\$80,635,212 <i>(11% decrease from Yr2)</i>	\$46,107,681 <i>(14% increase from Yr2)</i>

### Process Evaluation Findings

In each year of the evaluation, evaluators reported process and impact findings from that year’s evaluation efforts. Below we summarize findings identified and reported in the final report to DOA at the end of Year 3.

**The number of households served through WHEAP and WAP steadily increased throughout the three-year evaluation period.** WHEAP served 15% more households, and WAP weatherized 64% more units in FY2004 than in FY2002.

**Energy education offered to participants, while not formally mandated by the program, increased for both programs.** Customer surveys revealed that energy education efforts increased for both programs across the three years of the evaluation. Additionally, three-quarters (77%) of respondents who received energy education in Year 3 reported they received energy education two or more times during the weatherization process. This was a positive finding, as the multi-state energy education study found that reinforcing concepts throughout the weatherization process is a recommended strategy for increasing the effectiveness of energy education.

**Evaluation efforts in Years 1 and 2 identified two areas for WAP program management improvement. Year 3 showed improvements in these areas.** The low-income energy program’s positive cost-benefit ratio and high customer satisfaction indicate the programs are working efficiently. However, in each year of the evaluation, DOA staff and evaluators identified specific program management issues for the evaluation to explore in more depth. Two

<sup>7</sup> Heating degree days are days in which the temperature falls below 60 degrees.

<sup>8</sup> Heating degree days are days in which the temperature falls below 60 degrees.

areas of WAP's program management that proved to be particularly important to the state were: 1) WAP's targeting of renters, and 2) WAP's management information system, WisWAP.

Targeting renters: The Year 1 Final Low-income Evaluation Report found that WAP was under-serving eligible renters. The population eligible for WAP services is primarily renters (69%); however, only 24% of program participants were renters. DOA responded by establishing WAP rental targets for agencies. The percent of participants that are renters increased throughout the evaluation (24% in Year 1, 29% in Year 2 and 32% in Year 3), indicating that establishing rental targets had an impact. NOTE: but did they meet the targets?

WisWAP: At the time of Year 1 interviews with local WAP providers, a new management information system (WisWAP) had been rolled out. This system was not well received by agencies due to various operative issues. As a result of dissatisfaction with WisWAP, a working group of DOA and WAP agency staff was created in 2002 to provide input and review for a revised WisWAP system rolled out in July 2003. The Year 3 Internet Survey found that WAP providers overwhelmingly believe the revised WisWAP system is an improvement over the previous system and meets the needs of the program more effectively and efficiently.

## Impact Evaluation Findings

The evaluation activities indicate the programs are delivering energy and non-energy benefits to participants. Below we highlight the program impacts.

**There is evidence that WHEAP and WAP have achieved some success in their ultimate program goal of moving low-income households toward energy self-sufficiency.** Evaluators and DOA staff view energy-self sufficiency as a household's ability to maintain continuous energy services without limiting other necessities. A descriptive and regression analysis of sustainability indicators indicate that the low-income energy programs have had some success in improving participants' energy self-sufficiency. These sustainability indicators include: utility or fuel disconnects, energy bill payment behaviors, and subjective assessments of households' abilities to meet basic living expenses.

These analyses indicate that the programs have enjoyed at least partial success in offsetting participants' concern with meeting certain bills, and mitigating the percent of households who experience an energy disconnect or fuel shut-off. Despite the colder winter and higher fuel prices faced in Year 2 and Year 3, participants' level of concern with meeting heating and electric costs did not increase from Year 1 levels, while nonparticipants' concern with meeting heating and electric costs increased over the same time period. The regression analysis also showed marked improvement in participants' concern with meeting household expenses over the three years.

Additionally, analysis revealed a significant reduction in energy disconnects as a result of the program those who began participating in Year 2 and later. No new information from first sentence. ElaboOne of the sustainability indicators, energy bill payment behavior, did not show any improvement over the evaluation period. Qualitative data collected in the evaluation suggests that bill non-payment is rational behavior to meet necessities on the part of households' that face extreme financial constraints. In fact this finding may be part of the reason that participants' concern with meeting a range of necessities improved. Because a household did not have to worry about meeting their energy bill one month, they would then have more money to meet other pressing needs such as rent, food or medicine.

**The low-income energy programs' non-energy benefits are increased through weatherization and more than one year of WHEAP participation.** The customer panel study showed that WAP only participants saw improvements in their quality of life throughout the study, whereas non-participants' quality of life indicators remained fairly stable. Quality of life indicators

include: being uncomfortable in home because they kept the heat lower; limiting purchase of food, medicine or other necessities to pay for energy; not having a telephone; moving in with others because they could not afford mortgage, rent, or utility bills; living in an emergency shelter or similar housing situation and being homeless.

The panel also showed households who participated in both WHEAP and WAP reported greater improvements in quality of life indicators than those who participated only in WHEAP. The arrearage analysis further provides qualitative evidence that WHEAP and WAP participants have lower average arrearage levels than WHEAP-only participants.

Last, the analysis indicates that consistent WHEAP participation and continuing to live in a weatherized home maximize non-energy benefits. WAP participants who moved from their weatherized home and households who participated in WHEAP intermittently during the three-year evaluation period experienced a smaller percent improvement in home comfort and quality of life indicators than other participants.

**The low-income energy programs are delivering energy savings to participants.** The evaluators conducted a consumption analysis using utility billing records to quantify the energy savings resulting from the programs.

WAP electricity savings per participant average 833 kWh/year, and 156 therms/year for participants using natural gas. These per participant annual savings are 11 and 15 percent of average pre-participation annual kWh and therms consumption, respectively. WAP has served 19,564 households over the evaluation period. This results in WAP having delivered energy savings per year of 16,296,812 kWh and 3,051,984 therms to low-income households. The literature review indicates that the electric savings for WAP are strong savings that contribute to making home energy bills more affordable. Electric consumption is now almost half of the average Wisconsin household's total energy consumption.

In addition, WHEAP provides emergency furnace replacement for eligible households. In Years 1-3, WHEAP replaced 2,858 furnaces. Each furnace replacement is estimated to provide an average energy savings of 278 to 405 therms, depending on dwelling type.

## **Program Recommendations and DOA Activities in Reaction to Findings and Recommendations**

The three years of evaluation efforts found that the low-income energy programs are well-functioning, effectively administered programs that benefit participants. This section details areas identified for improvement through the evaluation process, and any program or policy changes DOA may be making in reaction to these findings and recommendations.

**Explore methods to offer and increase the effectiveness of energy education.** As noted earlier in this paper, neither WHEAP nor WAP mandate that energy education be offered to program participants. However, several impact evaluations conducted over the years show that energy education increases the energy savings weatherized households received. One study demonstrated that not only did the savings increase, but they also persisted over time.

Energy education is offered to program participants, but inconsistently. Throughout the first and second year of the evaluation, administering agencies reported that they offered energy education to customers, but the level of energy education offered varied significantly. The customer panel supports this information; the percent of respondents that received energy education varied by agency, as did the level of information provided to them.

In response to these findings, DOA requested that the evaluators review other states' energy education practices and identify energy education "best practices" through primary interviews and a review of other evaluation findings. Evaluation efforts found that while hard numbers about the

cost-effectiveness of energy education remain elusive, there was widespread consensus that if energy education is to be an effective part of a program, it must elicit changed behavior. Evaluators provided DOA with three recommendations in developing an effective energy education policy: 1) clearly define what energy education is, and emphasize that energy education should encompass the weatherization process, installed measures, and customers' energy use behaviors; 2) deliver energy education as an interactive process or partnership with recipients and ensure the process is delivering something *with* them instead of *to* them; and 3) provide resources to those who are charged with delivering energy education, including energy education training and compensation for providing the service.

DOA program managers report placing a high priority on adding an energy education component to their programs, and are in the process of establishing a technical contract with the Wisconsin Energy Conservation Corporation (WECC) to provide these services. At the time of this paper, providing energy education is still at the conceptualization stage and DOA is in the process of developing a planning group to address the issue of energy education this program year.

**Evaluate strategies for WHEAP to improve customer energy bill payment behavior.**

Program managers hypothesized that improved customer energy bill payment behavior would result in improved customer energy self-sufficiency, an ultimate goal of WHEAP and WAP. The Year 3 sustainability analyses found that WHEAP has had a limited impact on customer bill payment behavior, a finding further substantiated in the arrearage analysis. The two most commonly cited recommendations to improve bill payment behavior included more consistent implementation of non-emergency crisis funds for proactive, co-payment arrangements and revising the lump-sum payment.

DOA is responding to this recommendation by reviewing their crisis assistance element of the program. As discussed earlier, crisis assistance includes two components: emergency crisis and proactive crisis. Local agencies currently have discretion in how they distribute crisis assistance. Some agencies provide payments upon imminent shut-off and do not provide any proactive services. Other agencies promote the proactive services in conjunction or instead of the emergency payment. For example, instead of simply providing a payment to the utility for back due energy costs, they will also set the participant up on a co-payment arrangement with the utility. DOA is currently considering different models for crisis benefit distribution.

**Consider methods to increase the persistence of weatherization benefits.** The customer panel study clearly shows that WAP delivers significant home health, safety and comfort benefits to participants. Furthermore, home conditions remain much improved over baseline conditions two to three years after weatherization. At the same time, the customer panel study indicates some erosion in benefits. Studies in this area have shown a variety of issues may affect persistence of program benefits. These issues include program participant attitudinal and behavioral characteristics; measure performance issues as a result of aging, use or settling; the quality of program delivery; and other socioeconomic conditions.

The multi-state energy education study found expert consensus that customer energy education is also important in maintaining a home's health, safety, and comfort. Measure deterioration is often attributable to insufficient equipment maintenance, which energy education should address.

Improving weatherization measure persistence can be improved with energy education. For example, educating participants on how to change the furnace filter and why changing the filter is important, will positively affect furnace performance and its persistence. And as discussed earlier, the department is currently in the process of visiting the issue of energy education.

**Explore program design and delivery options to increase the percent of renters served and WAP multi-family electric savings.** In the first year of the evaluation, PA reported a disparity



between the percent of renters receiving benefits from WAP and percent eligible for services. In Year 1, only 24% of WAP participants were renters, which is particularly low considering that 69% of Wisconsin residents in poverty are renters.

DOA reacted to this finding by strongly encouraging WAP agencies to target and serve more renters – particularly, more multi-unit buildings. The result of this encouragement was evident when characterizing the program participants; in Year 3, 32% percent of applicants were renters, a 33% increase within two years. Interviews with WAP agencies provided additional evidence that DOA communicated the importance of serving renters, particularly multi-unit buildings, effectively to agencies. Eighty percent of agencies interviewed were, at the time, making special efforts to target multi-unit buildings.

Additionally, the billing analysis found that WAP is delivering significantly lower electric savings to multi-family units (facilities with 5+ units) than other types of dwellings. This was not a surprising finding to DOA program managers. In Year 2 interviews, several WAP-DOA field staff expressed that they did not think the program was designed to effectively address the needs of the multi-family sector. The evaluators and DOA program managers concurred that seeking how to best serve multi-family households could be a productive topic for the DOA, and specifically launched the Measurement Review Initiative<sup>9</sup> (MRI), to investigate this.

The MRI is currently planning to implement a multi-family weatherization pilot in the Milwaukee area. The intent of this pilot is to determine which measures should be installed in multi-unit buildings that would yield the greatest cost/benefit. At this point, the pilot is a concept. The MRI plans to start the planning process sometime this calendar year.

**Encourage greater cooperation and coordination between WHEAP and WAP throughout the state.** WHEAP and WAP providers interviewed in evaluation Years 1 and 2 believed there was a lack of coordination and cooperation between the two programs. This was a noteworthy finding, especially since WHEAP serves as the main intake source for WAP. Additionally, the programs often need to coordinate with each other to provide customers with services such as furnace replacements. Last, the application process is similar for WHEAP and WAP.

DOA made three changes in response to these findings. First, DOA required a local coordination plan among WHEAP and WAP agencies. One objective of this requirement was to foster agencies' communication and cooperation by encouraging the programs from each county to communicate with each other. Another objective was to increase understanding of each others' programs. Since this requirement was put into place, agencies have met to discuss their needs and requirements, and have developed joint coordination plans.

Second, DOA hosted an annual conference directed to both WHEAP and WAP agencies. The first conference, *Building Bridges for Tomorrow*, held in March 2003, hosted sessions that educated WHEAP and WAP agencies about each others' program components, and explored options for increasing the coordination between the programs. For example, several local WHEAP and WAP administrators held sessions that presented how their county increased coordination and promoted healthy communication between the programs. Conferences have been held each year since this initial effort, and each year DOA reports the number of weatherization agencies attending the conference has increased.

Last, DOA most recently responded to evaluation findings by marketing the two programs as one – Home Energy Plus. Administratively, the programs still function as they did prior to their

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<sup>9</sup> The Weatherization Program Measures Review Initiative, conducted by the Energy Division, is a systematic review of the weatherization measures completed in homes.

merging. For example, the WHEAP management system is different from the WAP management system, the local administering agencies still remain the same, and reports are generated separately. However, consolidating the marketing of the two programs as one will theoretically alleviate customer confusion about, and further promote greater communication between, the two programs.

## Conclusions

Low-income households face significant affordability issues. The average one-time direct payment for WHEAP was just over \$400 in Years 1 and 2, and \$300 in Year 3. The estimated monetary value of annual energy savings resulting to a home as a result of WAP averages approximately \$264 per year. Therefore, it is unrealistic to expect the low-income energy programs alone to address the varied issues and needs of this population. What was important for the evaluation to ascertain is whether the program established a positive increasing trend in households' living conditions and energy self-sustainability.

A review of the three years' evaluation findings in context of the program goals established by the 2000 LIHEAP working group show that the program is making positive progress toward these goals. Evaluation activities found they are effectively targeting the most vulnerable populations, improving clients' quality of life, and providing energy and non-energy benefits.

Evaluation efforts showed that customers, even with the programs, still have difficulty paying their energy bills fully, or even consistently. DOA is reacting to evaluation findings and attempting to improve households' bill payment behaviors through revision of crisis funding requirements.

Evaluators found that the programs are running efficiently and effectively, and DOA is committed to making program changes to make them even more efficient and effective. By increasing coordination efforts between the programs, reviewing measures installed in multi-unit buildings, reinforcing to agencies the importance of weatherizing rental units, and considering energy education policies, DOA is showing they are giving credence to evaluation findings and are actively looking to improve the programs as a whole.

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