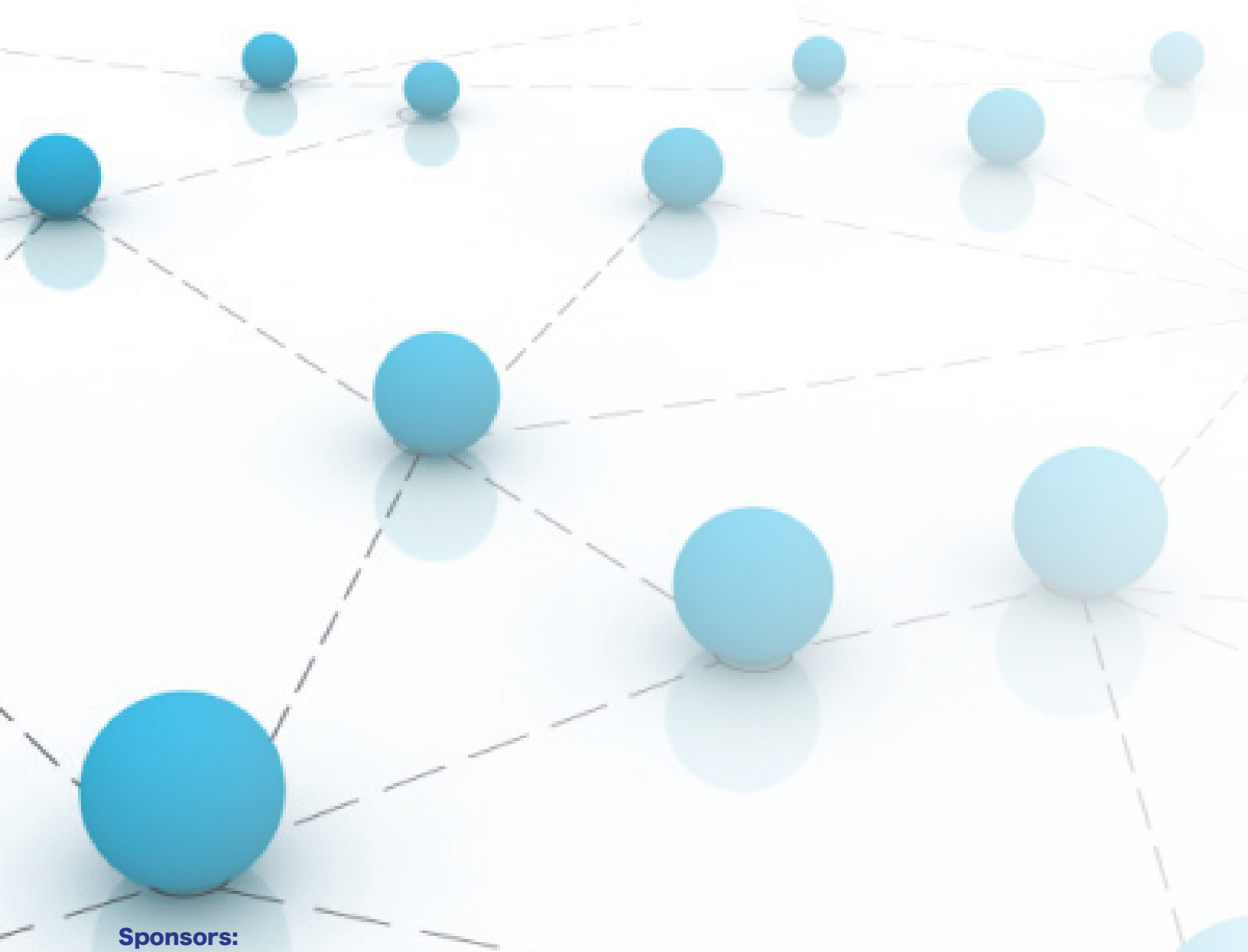
Connecting People and Place: Improving Communities through Integrated Data Systems

BNIA
BALTIMORE NEIGHBORHOOD INDICATORS ALLIANCE
Jacob France Institute

Equity in Weatherization Assistance Programs: Using Integrated Data Systems to Measure Household Access to Housing Investments & Social Safety Net Programs



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Connecting People To Place*: *Improving Communities Through Integrated Data Systems

Equity in Weatherization Assistance Programs: Using Integrated Data Systems to Measure Household Access to Housing Investments & Social Safety Net Programs

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Introduction

In June 2013, National Neighborhood Indicators Partnership (NNIP) launched a cross-site project supported by the Annie E. Casey Foundation (AECF) to building the capacity of local NNIP partners to work with organizations and agencies running integrated data systems (IDS) in order to expand the use of IDS to support better neighborhood-focused policymaking and program development[1]. For the Baltimore Neighborhood Indicators Alliance (BNIA), which has been the Baltimore NNIP partner since 2000, the opportunities raised by this project helped advance two aspects of our core mission. The first reason for BNIA to participate in the project was directly related to the role of housing on positive outcomes for families and children. Since 2000, BNIA has been collecting administrative data tracks the various 'lifespans' of residential properties from sales to code violations to foreclosure filings and recently to weatherization assistance programs that retrofit homes for improved energy efficiency. While BNIA has an excellent understanding of the housing stock in Baltimore, our data only serves as a proxy for the experience of the people living in those houses and how important stable housing choices can be in the lives of vulnerable populations. Based on annual reporting of community-based indicators for Baltimore's neighborhoods, families and children living in Baltimore's distressed neighborhoods are fundamentally impacted by the conditions of not only their own homes but also of the homes in the immediate vicinity. While the indicators clearly show these negative correlations, the predominantly place-based data sets

[1]Leah Hendey, Claudia Coulton, G. Thomas Kingsley "Connecting People To Place: Improving Communities Through Integrated Data Systems"
http://www.neighborhoodindicators.org/sites/default/files/publications/final_concept_paper_nnip_ids.pdf

housed at BNIA cannot alone demonstrate the direct relationship to programs and policies targeting low-income households themselves. Over the course of the planning process for this project, it became evident that linking NNIP place-based data and the IDS at the Jacob France Institute of individuals that interact with social service programs could yield actionable findings to better serve the most distressed neighborhoods in Baltimore.

The second reason to participate was to increase BNIA's staff ability to manage our administrative databases to truly perform longitudinal analysis and link to an IDS. Although a reliable source of secondary data, administrative datasets were not created for the purpose of longitudinal data analysis. Much of the data housed at the BNIA had remained separated as annualized information. Therefore, in order for BNIA to engage with an IDS, we had to ***ourselves become*** an IDS. Partnering with the Jacob France Institute at the University of Baltimore, has allowed BNIA to link datasets from often siloed public agencies to demonstrate the relationship of their programs to place.

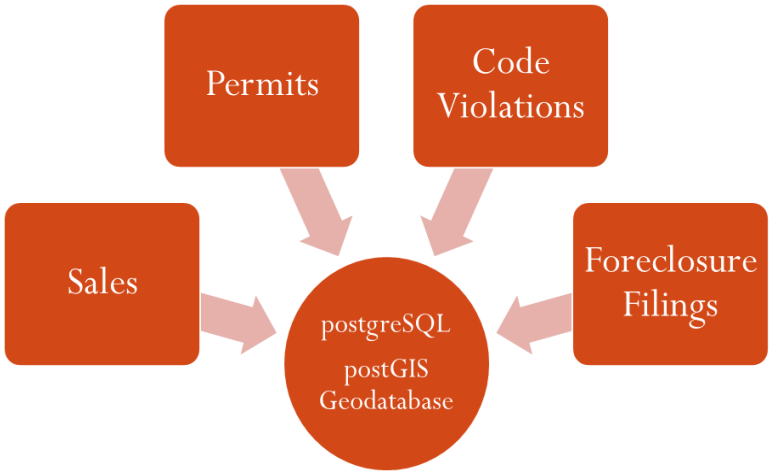

Figure 1 BNIA Datasets span all transactions or elements of the "life cycle" of the housing stock in Balitmore City

Background on Weatherization in Baltimore

In older, depopulating cities like Baltimore, many vulnerable households live in poor housing conditions that are the result of longterm deferred maintenance, and are energy inefficient that impacts the financial stability of the household due to high utility bills. Until significant budget increases were passed as part of the 2009 American Reinvestment and Recovery Act (ARRA)[2], weatherization assistance programs were seen as emergency services and had been a relatively minor part of housing policy in the US. Weatherization services provide physical improvements to homes in order to reduce energy consumption and provide greater safety within homes. Several studies have shown that additional benefits accrue to households in homes that have been weatherized such as greater residential stability and financial security[3]. These studies address the effectiveness of WAP programs themselves. From a housing and community development perspective, however, very few, if any studies[4] examined the selection bias of those that attempt to access WAP services and the impact of weatherization services on households and

[2] Bruce Tonn, et al. "Evaluation of the National Weatherization Assistance Program during Program Years 2009-2011 (American Reinvestment and Recovery Act Period)" ORNL/TM-2011/87

[3] Martin Schweitzer, Bruce Tonn "Nonenergy Benefits from the Weatherization Assistance Program: A Summary of Findings from the Recent Literature" Oak Ridge National Laboratory ORNL/CON-484

[4] Several studies discuss coordination of services with WAP programs such as Rohe, William M et al (2010) "Supporting low-income homeowners: lessons from a program to coordinate weatherization and rehabilitation services" *Housing Policy Debate*, Volume 20:3, pp. 523-46

communities that receive and conversely do not receive them. This project aims to understand the equity of access and provide measures of disparity between those receiving and those denied WAP services.

Applying for Weatherization Assistance Programs in Baltimore City

Until 2009, the Weatherization Assistance Program (WAP) in Baltimore City was limited not only with respect to overall funding but also in terms of the types of energy efficiency improvements that could be made[5]. Since greater funding became available from the American Reinvestment and Recovery Act of 2009, Baltimore City's Housing Department (HCD) developed relationships with partners to increase the number of referrals for weatherization. From 2009 to 2012, most WAP applicants were households who applied directly to HCD, through partner referrals (i.e. Rebuilding Together, Green & Healthy Homes Initiative, Senior Legal Services), based on word-of-mouth inquiries, or were people who were previously denied services. Due to the housing conditions of much of the city's housing stock and lack of staffing to actually audit homes, nearly half of all applicants are initially denied or simply did not receive services.

This project focuses on all individuals who applied for weatherization services in Baltimore City in 2012 and on the specific homes in which they live. Using data at multiple units of analysis including the level of individual residents, properties, and neighborhoods, we sought to answer the following questions:

1. Does access to WAP services co-occur with other social safety net programs?
   The majority of WAP applicants currently receive Energy Assistance (EA) funds, which has become a growing aspect of low-income households supplemental income[6]. In Baltimore City, over 40,000 households received EA funds in 2012. Baltimore City is actively addressing a comprehensive approach to household financial stability through coordination with other benefits, housing retrofits and case management of households with high energy use[7]. This project provides a baseline of the relationship between WAP applicants and other social safety net programs such as termporary cash assistance (TANF).

2. What is the neighborhood effect of WAP-serviced homes?
   Because WAP assistance results in a capital investment in a property, the benefits accrue to various stakeholders beyond the household itself such as lenders, landlords and the broader neighborhood.

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[5] In 2012, "strict" weatherization procedures included such things as sealing of cracks and other openings where air could flow in or out, insulation in roofs and attics, and tuning of heating systems. (See Note 7 below—with the availability of funding since then, weatherization could be augmented to include replacement of heating systems, replacement of roofs, and replacement of knob-and-tube wiring systems that previously inhibited attic insulation.)

[6] The Maryland Office of Home Energy Programs received more than 75,000 applications to the Electrical Universal Service Program and more than 80,000 applications to the Maryland Energy Assistance Program in FY2012, an almost 11% and 7% increase, respectively, since FY2009. The State of Basic Needs in Central Maryland (2013), United Way of Central Maryland http://www.uwcm.org/main/doc/The%20State%20of%20Basic%20Needs%20-%202013.pdf

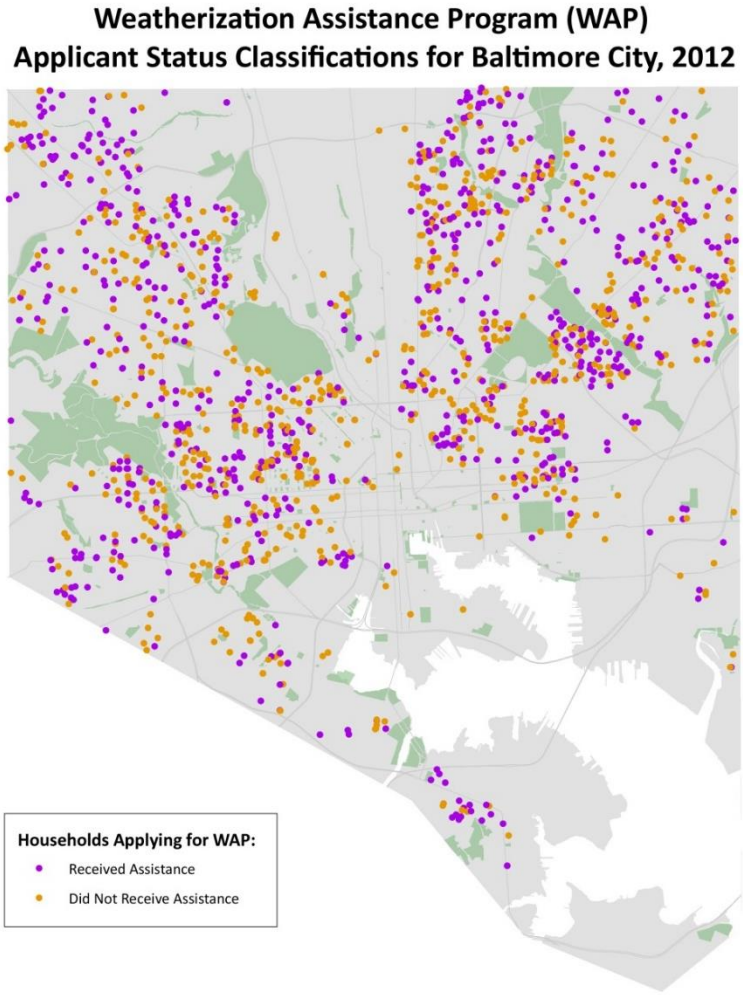
[7] BNIA-JFI is the evaluation partner for the Baltimore Housing's Residential Energy Assistance Challenge Program (REACH) through funds from the US Department of Health and Human Services. The pilot program supported by REACH served as the basis for the City's successful application (Coordinating Resources to Efficiently Align and Transform Energy Services—CREATES) in 2012 to the Maryland Public Service Commission which resulted in an award for $52.8million over three years to establish the Baltimore Energy Initiative.

3. How does access to WAP impact utilization of energy assistance programs and other measures of household stability?
   Household expenditure on energy is significantly dependent on the energy efficiency of the home itself. Although all energy assistance recipients are eligible for WAP programs because the households meet the income eligibility requirements for the program, more than half of the applicants' homes were denied WAP services because of other structural issues in the home. This signifies deferred maintenance on the home, which brings into question the efficacy of EA funding itself, the health and safety of the household, and the value and stability of house within the neighborhood.

Data and Methods

Creating WAP Groups

This research begins with *all* 1,956 applications for weatherization services in 2012 according to the City of Baltimore's Department of Housing and Community Development. The applications were assigned to one of two groups based on the outcome of the application: 1) a group that received weatherization services, and 2) a group that were denied weatherization due to ineligibility of the house itself. Applications denied weatherization for other reasons, such as incomplete application materials, were excluded from the analysis. In some cases, a household submitted more than one application, often after having an incomplete application, so the unduplicated list of records in 2012 includes 1,917 unduplicated applicants.



The group assignment process permited structuring the research project around a quasi-experimental research design in which the applicants serve as subjects and weatherization serves as the "treatment" under investigation. The project includes *all* the applicants in 2012 but treats them as a sample in order to examine not only differences between the two groups in 2012—but between hypothetical future groups should applicant characteristics and application approval criteria remain unchanged.

- **Group 1:** Households who applied for WAP services in 2012 and were eligible to receive assistance (Codes = Completed and In Process)
- **Group 2:** Households who applied for WAP services in 2012 and were ineligible due to house conditions or had not been audited due to staff limitations

The average time between the application date and completion date is 7.2 months, with a range of 1 to 23 months.

Table 1: Count of WAP Applications and Unduplicated Applicants		**Total**	**WAP Group***	**Comment**
Description	WAP Client Completed List	600	1	
	WAP Client Denied List	248	2	
	WAP Client In Process List	207	1	
	WAP Client Ineligible List	69	0	
	WAP Client Waiting List**	665	1 & 2**	11 hhs moved to Group 1, 654 hhs moved to Group 2
	WAP Status Incomplete Applicant List	167	0	
Total Applications		1956		
Total WAP Applicants (unduplicated)		**1917**		
Total in Group 1 (Received)		**795**		
Total in Group 2 (Denied)		**885**		

*0=Household ineligible or Application incomplete, 1= Household Applied and eligible, 2 = Household Applied and Denied because of house conditions

**Connected to Hancock Database to see if waitlisted households had received WAP services up to 2014; only 11 households found.

Neighborhood Context

Although outreach to potential applicants in 2012 was not necessarily neighborhood-based and applicants span most neighborhoods in the city, some neighborhoods did experience high numbers/rates of people applying for WAP services. In 2012, the neighborhood indicators for the areas with the highest concentrations of applicants requesting WAP services show that they were neighborhoods with low median sales prices and high unemployment rates (see Table 2). Neighborhoods with the lowest median sales price had significantly higher percentages of vacant housing (Sandtown-Winchester/Harlem Park and Greater Rosemont).

Table 2: Neighborhoods with Most Applications	**Neighborhood Indicators 2012**		
	Median Sales Price	% Vacant Housing	Unemployment Rate
Sandtown-Winchester/Harlem Park (114)	$34,500	33.1	24.2
Cedonia/Frankford (94)	$94,500	1.1	12.9
Belair-Edison (92)	$60,000	2.0	16.3
Greater Rosemont (80)	$39,900	16.0	22.1
Loch Raven (65)	$98,500	0.1	11.5
Baltimore City	**$135,000**	**8.0**	**13.9**

Neighborhoods with the greatest percent of applications receiving WAP services were close to or above the city average for median sales price and well below the percent of vacant and abandoned housing (See Table 3), implying that the housing stock in these neighborhoods were marketable and occupied. These neighborhoods could be referred to as "middle markets" with respect to the quality of the housing stock and conditions. Brooklyn/Curtis Bay was an exception with extremely low median sales price and relatively high rates of unemployment in 2012.

Table 3: Neighborhoods with Most % Received (with at least 20 applications)	**Neighborhood Indicators 2012**		
	Median Sales Price	% Vacant Housing	Unemployment Rate
Cross-Country/Cheswolde (78.6%)	$111,250	0.1	7.2
Brooklyn/Curtis Bay/Hawkins Point (76.9%)	$47,049	5.0	20.5
Glen-Fallstaff (70.8%)	$127,500	0.9	15.1
Chinquapin Park/Belvedere (67.7%)	$124,000	0.7	11.9
Beechfield/Ten Hills/West Hills (66.7%)	$144,501	0.8	13.3
Baltimore City	**$135,000**	**8.0**	**13.9**

Neighborhoods with the greatest percent of applications not receiving WAP services were well below the city average for median sales price as well as much higher rates of vacant and abandoned housing and unemployment (See Table 4). These neighborhoods can be characterized as "distressed". Morrell Park/Violetville was an exception with extremely low rates of vacant housing and relatively low rates of unemployment in 2012

Table 4: Neighborhoods with Most % Denied (with at least 20 applications)	**Neighborhood Indicators 2012**		
	Median Sales Price	% Vacant Housing	Unemployment Rate
Penn North/Reservoir Hill (83.0%)	$70,000	16.0	19.0
Sandtown-Winchester/Harlem Park (78.9%)	$34,500	33.1	24.2
Morrell Park/Violetville (73.9%)	$80,700	1.8	13.4
Upton/Druid Heights (70.8%)	$50,000	34.3	29.9
Midway/Coldstream (67.6%)	$19,400	17.7	17.5
Baltimore City	**$135,000**	**8.0**	**13.9**

Overview of BNIA Data matching (Address)

Given BNIA's focus on neighborhood-based indicators accurate real property information is generally available since a regulatory or legal transaction is happening to the property. Over the past several years, BNIA has established the following protocols for preparing data to be linked across data sources:

Step 1: Cleaning the address fields from the original data received. Typically, an administrative file is provided with one or more of 4 fields: complete address, city, state, and zipcode. It is helpful to clean the complete address field to facilitate the geocoding process. BNIA has developed address cleaning software

called *TidyAddr* that removes special characters, excess spaces, and unnecessary punctuation often found in the original data and recognizes street names specifically found in Baltimore.

Step 2: Geoprocessing. During this process, a normalized complete address (Match_addr) is yielded, including street, city, state, and zipcode. The output fields from this process is dependent on the address locator used. BNIA follows protocols established by the Maryland State Geographic Information Committee (MSGIC).

Step 3: Linking Files. When two or more files have gone through steps 1 and 2, they are ready to be linked. A relationship between the two files can be created based on the appropriate address field; Match_addr or TidyAddr. Alternately, all geocoded shapefiles created through the geoprocessing are uploaded to BNIA's postgresQL database and can be queried for linked records using a custom SQL statement. BNIA has also developed software called *DBoa* to link files across years through an iterative dynamic querying process to identify other similar fields.

Linking WAP Data to Parcel Information (Place-based)

Among the BNIA databases considered for linking to WAP data included MD Property View, Foreclosure filings; Code Violations; Home Sales; Additional Rehabilitation permits.

MD Property View

In order to employ the linking software *DBoa*, BNIA began to create a longitudinal file of annual MD Property View records. This standardized dataset of Baltimore's real property records provides characteristics such as owner occupancy. Of the 1,680 WAP applicants in either the Completed/In-Process or Denied/Waiting group, only 1,302 matches were found. Despite the large percentage of missing matches, there is a slightly higher proportion of owner occupancy (89.4% vs. 82.8%) among applicants who received WAP services than those that did not (See Table 5).

Table 5: Percent Owner Occupancy for WAP applicants matched to MD Property View (2012)	**Completed / In-Process**	**Denied / Waiting**	**Total Matches**
Owner Occupied	582 89.4%	539 82.8%	1121 86.1%
Non-Owner Occupied	69 10.6%	112 17.2%	181 13.9%
Total	651	651	1302

Foreclosure Filings

One key housing event that potentially signifies household financial stress is a notice to file a mortgage foreclosure which can occur anytime after a property owner is more than 90 days delinquent on a payment. Results of linking WAP records to 5 years of foreclosure filings shows that 217 households (13%) of the applicants in the Completed/In-Process or Denied/Waiting group types experienced at least one filing between 2009 and 2013 (See Table 6).

Table 6: Matching WAP to Foreclosure Filings by Year	Completed / In-Process	Denied / Waiting	Total Matches	All Foreclosure Data
2009	29	41	70	6,245
2010	25	25	50	4,530
2011	4	9	13	2,004
2012	16	15	31	2,814
2013	21	32	53	5,074
Total	95	122	217	20,667

WAP applicants in the Denied/Waiting group were slightly more likely than those in the Completed/In-Process group to have at least one foreclosure filing (56.5% vs. 43.4%) but much more likely to have multiple filings in the 5-year period (See Table 7).

Table 7: Matching WAP to Foreclosure Filings (2009-2013)	Completed / In-Process	Denied / Waiting	Total Matches
No Foreclosures	48.0%	52.0%	1,467
1 Foreclosure	43.5%	56.5%	217
2 Foreclosures	38.0%	62.0%	71
3 Foreclosures	0%	100.0%	3
Total	814	914	1,728

Representativeness of WAP applicants and Energy Assistance recipients

Who is applying for WAP among Energy Assistant recipients?

The purpose of matching the WAP file to data obtained from the Department of Human Resources Office of Home Energy Programs[8] (OHEP) on energy assistance (EA) receipients in Maryland was to 1) understand the representativeness of WAP applicants among EA recipeints overall and 2) use the linking process as a data "bridge" to append individual identification (SSN) for matching to other IDS data.

Although the initial hypothesis was that there would be a 90% match between the 2012 WAP data and EA data, only 1,249 (64%) of all WAP applicants matched and 1,134 (69%) that were either completed or denied WAP services in 2012 matched in the EA records. The reason for the low match rates is due to the fact that the data obtained from OHEP of EA reciepients contained several unstandardized variations of address information including P.O. Boxes, C/O designees, and missing values. As is often the case with social services records, accurate addressing can be a barrier for obtaining services itself as appliants may not have secure housing at the time of the application.

The distribution by race of the 1,134 matched records shows higher proportion of African-Amerian WAP applicants (84.1%) than among EA applicants overall (71.8%) in Baltimore City (See Table 8). There is little variation in the percentage that fall into either WAP group across all racial categories.

[8] Data obtained through a modification and renewal of the Memorandum of Understanding between MD DHR and JFI (signed October 2014)

Table 8: Racial Status of WAP appliants matched to Energy Assistance data	Completed / In-Process	Denied / Waiting	All (N)	All EA Data from 2012*
AFRICAN-AMERICAN	83.9%	84.0%	84.1% (1,051)	71.8%
WHITE	10.8%	9.3%	10.0% (125)	14.7%
MULTI-RACIAL	2.1%	3.0%	2.5%(31)	6.6%
OTHER	1.9%	2.1%	1.9% (24)	5.3%
HISPANIC	0.8%	0.8%	0.7% (9)	0.8%
ASIAN OR PACIFIC ISLANDER	0.2%	0.5%	0.4% (5)	0.6%
NATIVE AMERICAN OR ALASKAN	0.4%	0.3%	0.3% (4)	0.2%
Grand Total	529	605	1,134	**48,769**
*Baltimore Only- zipcodes exist in Baltimore and were used to identify clients residing in Baltimore, with an additional filter based on city name. Some Baltimore County residents may be included in these counts.				

The representativeness of WAP applicants by housing type differs from EA recipents overall (See Table 9). While 39.9% of EA applicants reside in multifamily housing, only 6.9% of WAP applicants do. Because most households in multifamily housing are renters, permission to audit the home must be granted by the landlords of private property. The vast majority of WAP applicants reside in either attached or unattached single family homes; however, applicants in unattached homes were more likely to receive WAP services (31.2% vs 25.3%).

Table 9: Housing Type of WAP appliants matched to Energy Assistance data	Completed / In-Process	Denied / Waiting	All (N)	All EA Data from 2012
ROW/TOWNHOUSE	65.0%	67.1%	65.5% (750)	42.7%
UNATTACHED SINGLE FAMILY	31.2%	25.3%	27.5% (318)	17.1%
APARTMENT/MULTI-FAMILY	3.8%	7.6%	6.9% (66)	39.9%
Grand Total	529	605	1,134	**48,769**

Linking WAP Data to IDS Data (People-based)

The Jacob France Institute (JFI) maintains longitudinal data from the Maryland Departments of Labor, Licensing and Regulations, Human Resources and Higher Education to provide analysis of workforce and social safety net programs and policies using administrative records. To test the matching process with place-based data, we began with the Temporary Asssistance for Needy Families (TANF) dataset that contains all three identifiers: name, address and social security number (SSN).

Joining the WAP and TANF datasets

For the purpose of linking WAP data to IDS data at JFI, all parts of names and addresses were parsed into columns of single attributes in order to link across multiple columns without requiring matches in all columns. In both datasets, first name and last name were separate and address was separated into five components: house number, house unit, street direction, street name, street suffix (street, avenue, etc). The fuzzy match on first name, last name and street name employed SAS's *spedis* function, which

computes the similarity of two words, also called the "spelling distance"[9]. Where available from the WAP-to-EA linking, the last 4 digits of the SSN field was also included. Executing a cross join (Cartesian product) of each WAP record to all TANF records produces multiple combinations of matched with different rankings.

Records were considered a match if a true match was found across last name, house number, street direction, and street name OR if the fuzzy match of first name, last name and street name was strong. For all 1,917 unduplicated WAP records, this process yielded 81 matches.

To determine if the name and address matching process yielded credible results, a separate ranking of the cross join was done using matches on the last 4 digits of the SSN and fuzzy first OR last name. Only 5 more potential matches were found, typically of applicants who moved between applying for WAP and EA and/or changed last names.

Table 10: Results of Name & Address Matching between WAP and TANF	**Last 4 SSN & Partial Name Matching**		**Total**
	No Match w SSN	Match w SSN	
No match no SSN	0	**5**	5
Match no SSN	42	39	81
Total	**42**	**45**	**86**

Analyzing Match Results

The table below summarizes the final match results for the WAP group types with TANF data. Overall, linking by name and address yielded an overall match rate of 4.4% of weatherization applicants in the Completed/In-Process or Denied/Waiting groups found in the TANF dataset. The distribution of the matches was 3.0% for those who received WAP services and 5.6% for those who were denied.

Table 11: Match results of WAP to TANF data	WAP Group Type		Total (N)
	Completed / In-Process	Denied / Waiting	
Not Matched to TANF	96.9%	94.4%	95.5% (1,606)
Matched to TANF	3.0%	5.6%	4.4% (74)
Total	**795**	**885**	**1680**
$\chi^2 = 6.9$ ($p = .009$)			

Although the percentages are not too dissimilar, results of a Pearson's Chi-squared test showed a chi-squared of 6.9 (p=0.009), we therefore *can* reject the null hypothesis that weatherization application results are independent of TANF usage. *A larger proportion of TANF recipients fall into the Denied / Waiting cell than expected (50 actual, 39 expected).*

[9] http://support.sas.com/documentation/cdl/en/lrdict/64316/HTML/default/viewer.htm#a000245949.htm

Conclusions

The focus on equity of access for this project lies in the core belief that reducing disparities at the regional level requires the consideration of ***both*** people and place[10]. There are many lessons to be drawn not only from the results of the data analysis in this report but also from the process of preparing the data for the purpose of analysis. First, from the results of the analysis, three main findings stand out:

1. WAP services tend to be applied in "middle" neighborhoods with low levels vacant housing and moderate median sales prices, but slightly higher than average unemployment levels.
2. WAP applicants living in predominantly owner-occupied housing and those **denied** WAP tend more often to experience **other household distress events** such as foreclosure filings
3. WAP services and other social safety net services such as TANF **co-occur less than expected**

Policy Implications

Many of the issues raised above have begun to be addressed, so that these findings from 2012 can serve as the baseline of findings per the recommendation of city and state agency staff. The Baltimore Energy Initiative, launched in 2013, provides interagency coordination across multiple City agencies and non-profit partners to provide more awareness to energy assistance recipients on the availability of WAP services. Beginning in 2013, all EA recipients had to 'opt-out' of receiving information about weatherization services instead of'opting-in' which was the case in 2012. Additionally, a case management approach has been implemented particularly for very high energy users to proactively audit homes and leverage resource to overcome obstacles to WAP services due to roofing, heating and other structural problems of homes. From a integrated data systems perspective, greater coodination of services should result in an increased match rate from the 4.5% match between WAP and TANF in 2012.

For households denied WAP services due to structural issues in distressed neighborhoods, BEI is conducting targeted outreach and concentrating services particularly energy assistance dollars are most likely paid out for homes that are known to be energy inefficient and/or contribute to unhealthy living. The City of Baltimore is responding by ensuring greater coordination of other sources of funding or services to potentially address those issues. However, until those resources are available potential interventions include the following: 1) households may need access to housing mobility programs to live in adequate housing and 2) the home itself, particularly if the home enables whole-block assembly, may need to be considered as part of the City's Strategic Acquisition/Demolition Initiatives (Vacants to Value).

Technical Issues

Through this project, BNIA was able to create two critical software packages that enable the process of connecting over time and linking across administrative databases. We demonstrated that matching by name and address parsing (when address is available in the IDS records) yielded credible results and can be an algorithm replicated for future analyses. For future linkages across BNIA datasets and IDS agencies, work needs to be done at the front end to ensure standardization of addressing across state agencies responsible for administering social services, ideally in coordination with MSGIC.

[10] Conversation on Regional Equity (CORE), 2006. *Edging Toward Equity: Creating Shared Opportunity in America's Regions* http://cjtc.ucsc.edu/docs/r_CORE_Edging_Toward_Equity_summary.pdf

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Baltimore Housing Weatherization Programs Fact Sheet

Baltimore Housing's Weatherization Assistance Program (WAP) receives funds from five main sources; 1) the Department of Energy's Weatherization Assistance Program (DOE WAP), 2) the EmPOWER Low Income Energy Efficiency Program (LIEEP), 3) the Low Income Home Energy Assistance Program (LIHEAP)/ Maryland Energy Assistance Program (MEAP), 4) the Regional Greenhouse Gas Initiative(RGGI) or MD Strategic Energy Investment Funds (SEIF), and 5) the Community Investment Fund (CIF). Applications for Baltimore's WAP are received through multiple intake processes: Community Action Centers, referral agencies such as Baltimore CASH, walk-ins and website traffic for Baltimore DHCD, and MD agency referrals.

DOE WAP (ARRA) - This a federal source of funding focused on energy-efficient upgrades for low-income families. Money is channeled to MD DHCD, which then passes it on to Baltimore DHCD. The DOE WAP priority classification is households with: 1) high energy use; 2) high energy burden; 3) elderly; 4) handicapped; 5) homeowners; 6) children; 7) incomes below poverty levels. Households that have been weatherized since 1994 are ineligible. WAP funds cannot be leveraged with EmPOWER LIEEP funds.

EmPOWER LIEEP - This is administered by the MD DHCD to help low income households with installation of energy conservation materials. Funding comes from utility companies such as BGE. This funding covers insulation, hot water system improvements, lighting retrofits, furnace cleaning, tuning, and safety repairs, refrigerator retrofits, and health and safety items. It does not cover HVAC replacement. To qualify, households can't have been weatherized in last five years. The LIEEP program prioritizes households with high energy use. LIEEP funds cannot be leveraged with DOE funds but can be used with all other funds.

LIHEAP/MEAP - This federal source of funding is channeled to MD DHR, and it provides money for both energy bill assistance and weatherization (limited assistance is available for replacing broken or inefficient furnaces). From DHR, the money is provided to local agencies such as the Baltimore City DHCD that receives applications from the Community Action Centers. MEAP money can be used with all other funding sources.

RGGI/ SEIF - Funding for RGGI is provided by revenue from the sale of CO2 allowances, which is then held in SEIF administered by the Maryland Energy Administration and then channeled through the MD DHCD. This money is then used to fund EmPower Clean Energy Communities Low-to-Moderate Income Grant Program. RGGI funds can be used with all other fund sources. Funds are primarily used for furnace replacement.

CIF – Funding for CIF comes from the settlement over the merger of Exelon and Constellation. Funds are channeled through the MD Public Service Commission and then to Baltimore's Mayor's Office of Human Services (MOHS) which coordinates the Community Actions Centers. From MOHS, funding is disseminated to DHCD. CIF money focuses on focus on low-income customers, businesses, energy assistance, energy efficiency, and conservation.