

An Ounce of Prevention

A Data Warehouse Solution –
Understanding the relationship
between state services and
homelessness.

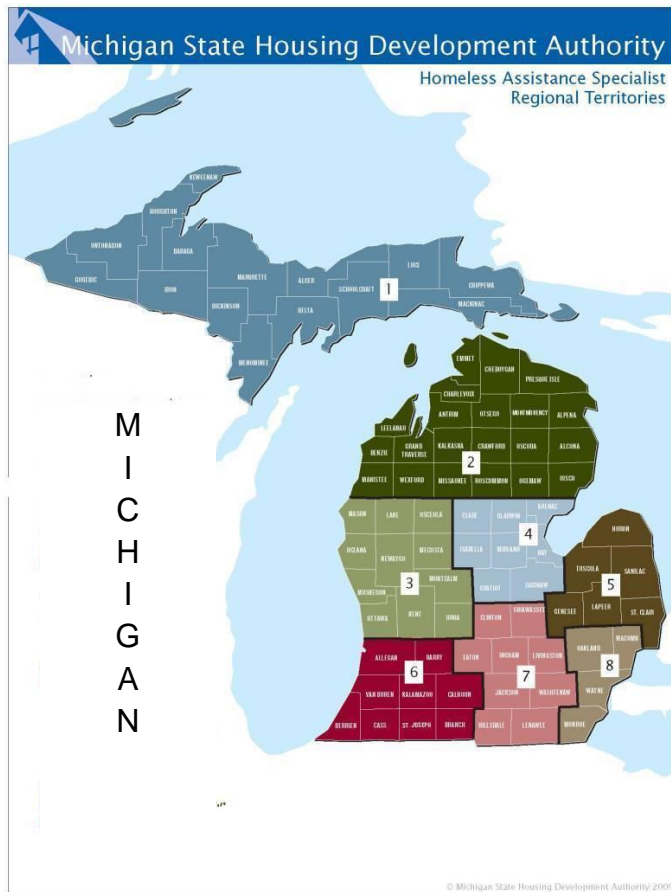
New England Region Homeless Management Information System



What is Michigan's SHADoW?

- The Statewide Homeless Assistance Data online Warehouse (SHADoW) collaboratively creates and maintains an inter-organizational data warehouse enabling direct analysis of de-identified client-level information regarding homeless persons and families from both state/public sector and private/non-profit services.
- The technology supports the merging of homeless assistance data from the Michigan Statewide Homeless Management Information System (MSHMIS) and State of Michigan human service databases (DHS and DCH) enabling both policy and practice professionals to create analytical queries and reports on homeless populations, services delivery, and homeless needs

SHADoW



- **Source Data:** Statewide HMIS and Michigan Human Services Data Warehouse
- **Objective:** Examine homeless use of state mainstream systems to help determine: cost of homelessness, impact of state program changes, patterns of state service usage relating to homelessness, and extent homeless are benefiting from state services
- **Key Planning Group:** SHADoW Leadership Board

About Michigan's Statewide HMIS

- Capturing data on a shared platform from over 600 organizations located across 83 Michigan counties enabling cross jurisdictional counting and tracking.
- Includes the safety-net: Emergency Shelters, Transitional Housing, emergency services agencies (CAAs, Red Cross, VOA, Salvation Armies) mental health and drug tx organizations, youth programs, health care, churches and missions, food pantries, and even a Laundromat.
- Coverage Beyond DV- 80% for ES Singles, 85% for ES for families, 80% for TH Singles, 96% for TH Families, 90% for PSH Singles, and 88% for PSH Families.

The SHADoW Build

- For over 350,000 persons recorded in the HMIS, SHADoW is composed of about 7.5 million transactions from Departments of Human Services (DHS), Community Health (DCH), and the MSHMIS.
- Discovered a high degree of overlap.
 - 80% match with DCH
 - 72% match with DHS
 - At least 1 match was made for 96% of HMIS records
 - HMIS draw accounted for 6% of the persons on the state side.

Cause / Effect Analysis Analytical Tool

1. Allows the policy maker to select a group of services for a sample period. The Tool provides a count of matches +/- 12 months across 19 poverty abatement state funding sources.
2. Allows for the analysis of demographics to better understand who is impacted.
3. Provides a graph of the impact of 2 sequential services on a 3rd service.
4. More to come

What happens when an “ounce of homeless prevention” dollars are used?

We selected all persons (1144) who had received State Homeless Prevention (SER) funds between 6/1/2008 and 7/31/2008 and found:

1. In the 12 months following aid, a very low percentage (46/4%) entered into a shelter. 38 were in ongoing shelters and 8 in overnight shelters.
2. Nearly all of those with SER payments (1078/94%) received rental assistance.
3. Nearly all (1125/98%) received other forms of state aid throughout the 2 year sample -most commonly food assistance (1102/96%) or Medicaid (947/84%).
4. However, the percent who connected to the private sector agencies dropped by almost half pre to post (59% to 31%).
5. The total cost of State services increased slightly - \$634,521.

SHADOW CAUSE / EFFECT INTERACTIVE ANALYTICAL TOOL

Number of Qualifying People :	1144
Prompt Date Range :	6/1/2008 - 7/31/2008
12 Months Prior / After Date :	7/31/2008
Study Event of Interest :	SER - Rent to Prevent Eviction Pymt; SER - Security Deposit Pymt; SER - Mortgage / Land Contract Pymt; SER - Property Taxes Pymt; SER - Mobile Home Lot Rent Pymt

PRIOR EVENT (CAUSE) :	TOTAL		61,618		\$12,539,526
Event Description	Transaction Type	Data Source	Event Count	Number of People	Cost
FFS	30	DCH	8,658	737	\$1,390,035
Enc	31		14,601	756	\$1,777,925
CAP	32		6,919	705	\$3,249,873
DCH - TOTAL			30,178	953	\$6,417,739
Medicaid Episode	20	DHS	1,360	680	\$0
State SSI Supplement Episode	21		14	14	\$0
Child Day Care Episode	22		201	233	\$0
Food Assistance Episode	23		788	624	\$0
Cash Assistance Episode	24		696	428	\$0
State Disability Cash Pymt	50		475	43	\$64,966
Food Assistance Pymt	53		11,702	1,109	\$3,351,520
FIP - TANF Funded Pymt	54		6,945	475	\$1,386,847
FIP - State Funded Pymt	55		1,582	129	\$332,363
EFIP - TANF Funded Pymt	56		509	70	\$12,724
EFIP - State Funded Pymt	57		91	10	\$961
SER - Rent to Prevent Eviction Pymt	60		1,261	1,078	\$680,130
SER - Mortgage / Land Contract Pymt	62		60	49	\$5,415
SER - Property Taxes Pymt	63		4	3	\$3,407
SER - Mobile Home Lot Rent Pymt	64		32	26	\$21,583
SER - Other SER Pymt	65		1,157	518	\$232,753
DHS - TOTAL			25,907	1,144	\$9,121,790
Emergency shelter (e.g., facility or you	Entry & Exits	SHADoW	114	85	\$0
Homeless prevention (e.g., security depo	Entry & Exits		7	15	\$0
Other (HUD)	Entry & Exits		10	15	\$0
Permanent supportive housing (HUD)	Entry & Exits		18	10	\$0
Services only type of program (HUD)	Entry & Exits		36	32	\$0
Street outreaches (HUD)	Entry & Exits		2	2	\$0
Transitional housing (HUD)	Entry & Exits		12	12	\$0
Unknown	Entry & Exits		4	4	\$0
Basic Needs	Service		657	123	\$0
Building Codes / Environmental Services	Service		29	18	\$0
Case Management	Service		304	190	\$0
Consumer Advocacy	Service		1	1	\$0
Credit or Debt Counseling	Service		80	78	\$0
Criminal Justice / Legal Services	Service		123	109	\$0
Education Services / Programs	Service		48	3	\$0
Employment Referrals / Services	Service		25	20	\$0
Family Support Recruitment	Service		2	2	\$0
Food and Meals	Service		409	118	\$0
Health Care Referrals / Services	Service		17	14	\$0
Home Improvement / Accessibility	Service		1	1	\$0
Household Goods	Service		68	38	\$0
Housing and Shelter	Service		38	33	\$0
Housing Counseling	Service		29	20	\$0
Housing Expense Assistance	Service		113	62	\$0
Housing Subsidies	Service		188	140	\$0
Identification Support	Service		6	6	\$0
Individual / Family Supports	Service		10	6	\$0
Information Services	Service		107	133	\$0
Life Skills	Service		12	8	\$0
Mental Health / Counseling / Referrals o	Service		20	13	\$0
Moving Assistance	Service		24	13	\$0
Organization / Community Services	Service		41	25	\$0
Parenting Skills	Service		3	3	\$0
Permanent Supportive Housing	Service		11	5	\$0
Personal Goods / Grooming	Service		185	62	\$0
PIT Homeless	Service		8	8	\$0
Public Assistance / Employment Referrals	Service		29	25	\$0
Rental Assistance	Service		19	19	\$0
Repair (Auto, Appliance, etc)	Service		4	4	\$0
Services to support families	Service		78	40	\$0
Shelter	Service		1,201	145	\$0
Street Outreach	Service		4	4	\$0
Substance Abuse Referrals / Services	Service		15	12	\$0
Target Population Labels	Service		10	8	\$0
Temporary Financial Assistance	Service		2	2	\$0
Tools / Equipment	Service		1	1	\$0
Transitional Housing	Service		29	24	\$0
Transportation Services	Service		216	65	\$0
Utility Assistance	Service		45	39	\$0
SHADoW - TOTAL			4,533	677	\$0
PRIOR EVENT (CAUSE) :	TOTAL		61,618		\$12,539,526

AFTER EVENTS (EFFECT) :	TOTAL		61,559		\$13,174,047
Event Description	Transaction Type	Data Source	Event Count	Number of People	Cost
FFS	30	DCH	8,646	698	\$1,080,373
Enc	31		16,640	775	\$1,793,992
CAP	32		7,739	774	\$3,854,833
DCH - TOTAL			32,325	947	\$6,699,198
Medicaid Episode	20	DHS	1,868	917	\$0
State SSI Supplement Episode	21		14	14	\$0
Child Day Care Episode	22		362	258	\$0
Food Assistance Episode	23		1,356	950	\$0
Cash Assistance Episode	24		702	445	\$0
State Disability Cash Pymt	50		603	51	\$76,368
Food Assistance Pymt	53		12,371	1,102	\$4,206,519
FIP - TANF Funded Pymt	54		6,877	412	\$1,410,842
FIP - State Funded Pymt	55		1,854	154	\$402,812
EFIP - TANF Funded Pymt	56		302	47	\$8,830
EFIP - State Funded Pymt	57		107	17	\$2,033
SER - Rent to Prevent Eviction Pymt	60		166	145	\$96,717
SER - Security Deposit Pymt	61		6	5	\$2,508
SER - Mortgage / Land Contract Pymt	62		2	2	\$2,176
SER - Mobile Home Lot Rent Pymt	64		5	4	\$3,540
SER - Other SER Pymt	65		1,201	498	\$273,399
DHS - TOTAL			27,904	1,125	\$6,474,849
Emergency shelter (e.g., facility or you	Entry & Exits	SHADoW	54	36	\$0
Homeless prevention (e.g., security depo	Entry & Exits		4	27	\$0
Other (HUD)	Entry & Exits		12	12	\$0
Permanent supportive housing (HUD)	Entry & Exits		10	10	\$0
Services only type of program (HUD)	Entry & Exits		24	20	\$0
Street outreaches (HUD)	Entry & Exits		2	2	\$0
Transitional housing (HUD)	Entry & Exits		7	7	\$0
Unknown	Entry & Exits		4	4	\$0
Basic Needs	Service		88	52	\$0
Building Codes / Environmental Services	Service		4	4	\$0
Case Management	Service		130	54	\$0
Credit or Debt Counseling	Service		23	22	\$0
Criminal Justice / Legal Services	Service		32	30	\$0
Employment Referrals / Services	Service		8	4	\$0
Food and Meals	Service		137	68	\$0
Health Care Referrals / Services	Service		11	8	\$0
Household Goods	Service		13	10	\$0
Housing and Shelter	Service		6	5	\$0
Housing Counseling	Service		19	17	\$0
Housing Expense Assistance	Service		12	11	\$0
Housing Subsidies	Service		126	42	\$0
Individual / Family Supports	Service		1	1	\$0
Information Services	Service		92	63	\$0
In Home Assistance	Service		5	4	\$0
Life Skills	Service		22	3	\$0
Mental Health / Counseling / Referrals o	Service		18	8	\$0
Moving Assistance	Service		4	3	\$0
Organization / Community Services	Service		18	18	\$0
Permanent Supportive Housing	Service		2	2	\$0
Personal Goods / Grooming	Service		63	29	\$0
PIT Homeless	Service		4	4	\$0
Public Assistance / Employment Referrals	Service		7	5	\$0
Rental Assistance	Service		7	7	\$0
Services to support families	Service		19	11	\$0
Shelter	Service		212	46	\$0
Street Outreach	Service		11	2	\$0
Substance Abuse Referrals / Services	Service		12	6	\$0
Support Groups	Service		1	1	\$0
Target Population Labels	Service		4	1	\$0
Temporary Financial Assistance	Service		1	1	\$0
Transitional Housing	Service		10	6	\$0
Transportation Services	Service		43	28	\$0
Utility Assistance	Service		19	19	\$0
SHADoW - TOTAL			1,330	351	\$0
AFTER EVENTS (EFFECT) :	TOTAL		61,559		\$13,174,047

WHY AN HMIS DATA WAREHOUSE?

- An effective tool for decision-making support
- Designed for ease of data retrieval, analysis, and reporting across large data sets
- HMIS on the other hand are often designed for ease of day-to-day client data transactions
- The potential uses of HMIS data warehouses are many, e.g.:
 - Evaluating the impact of changes in state services on safety-net organizations. Are there state services that impact the need for emergency services? How do changes in state programs impact communities?
 - Assessing homeless use of mainstream services
 - Calculating the cost homelessness
 - Determining what interventions work to prevent and end homelessness
 - Informing the development of regional or state 10-Year Plans to End Homelessness.

SHADoW Cast

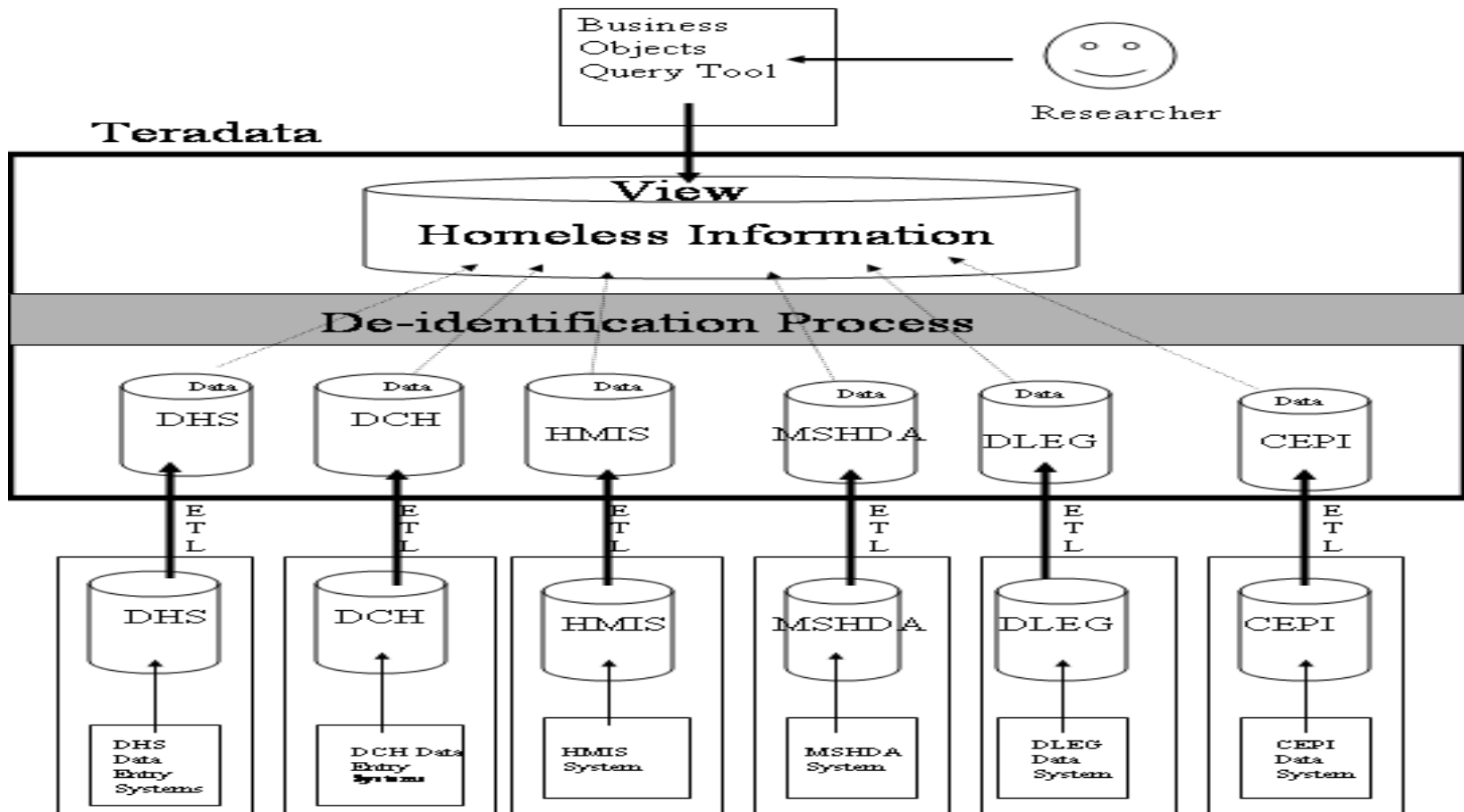
- **Michigan Cast:**

- Michigan State Housing Development Authority (MSHDA)
- Michigan Department of Information Technology (MDIT)
- Michigan Department of Human Services (MDHS)
- Michigan Department of Community Health (MDCH)
- Michigan Department of Corrections (MDOC)
- Michigan Coalition Against Homelessness (MCAH)
- DYNs Services Inc., Project Management
- Bull Services and Bowman Internet Systems

- **National Recognition:**

- Proof of Concept was one of two data warehouse projects funded nationally by HUD
- TA is available through Cloudburst

SHADoW Process



About the Data Warehouse:

- Leveraged existing State Data Warehouse technology.
- Added value to the Data Warehouse providing a protocol for sharing data that did not previously exist.
- Uses a very simple data structure allows for new fields to be added with minimal cost:
 - Person
 - Characteristics
 - Event
 - Age
 - Date
 - Type (transaction or characteristics that changes over time e.g. “Homelessness”)
 - Cost (if appropriate)

Privacy and Sharing:

- Advantages of De-identification:
 - Allows the use of administrative data bases with restricted data sets to be used for planning and research.
 - Builds upon the State Housing Authority access to private data.
- All data is de-identified with the following characteristics:
 - All personal and location information is omitted from the resulting warehouse
 - Agency data is omitted from the data warehouse build.
 - Users do not have the ability to “re-identify” anyone.
 - Geographic information is limited to 8 Regions.
 - Random “person identifiers” are assigned to each record. Data used to generate matches is permanently removed as part of the build process.
 - Test privacy behind the State firewall.
- Queries will bring back only “counts” of people based on selection criteria provided the count is 5 or greater. A specific IRB is required for data sets smaller than a Region. Michigan is divided into 8 multi-county regions.

Preparing the HMIS

- Made sure that de-identified research was included under “Uses of Data” in our Privacy Notices and our Participation Agreement further defines the process.
- All agencies sign an Administrative QSOBAA (privacy agreement) which includes all parties that can use data from multiple agencies:
Signatories are: the agency, the local SAI agency, MCAH and MSHDA. (This provides transparency for the matching process which uses the Warehouses existing UCI tool and is done by MSHDA prior to the striping the records of identifiers).
A second option is to conduct the match using an algorithm which reduces the information handled by your “trusted” party.
- Publish all research protocols and agencies may elect to opt-out if they do not wish to participate.

The Future / Challenges / Assets

- Biggest Challenge:

- Our largest challenge is finding funding for adding new fields (expansion of the tool).
- Turnover / reassignment of technical staff at both the state and the vendor presents a challenge.

- Biggest Asset:

- State leaders who understand why homeless data is important to them – people become homeless when systems fail.
- The Project actually added value to the Warehouse by pioneering de-identified data sets. Overall data sharing between departments has increased.
- Have permission to add housing voucher data as well as Corrections data. DHS and DCH have also both identified additional fields that they would like to add.