Rethinking the Homelessness Response Framework

Presented by Matt Simmonds, Simtech Solutions Inc.

Increasing Capacity & Building Connections: **Bridging to the Future**

A bit of background…

- President and founder of Simtech Solutions
- Developer of the first HMIS data warehouse in the US
- Author of HUD CSV Data Exchange Format (V3) and the HUD Annual Performance Report (APR) Programming Specifications
- Developer of the HUD HMIS Report Generation Tool
- Oversee the ongoing development and management of a HMIS data warehouse that currently supports over 3100 projects that serve the homeless.
- Oversee the ongoing development and management of a mobile app to automate the point in time count that was used by 47 regions in 2019.
- Family guy who loves snowboarding, craft beer, coaching sports, golf, fishing, and attempting to solve complex problems.

What are we trying to accomplish?

- Help people by connecting them to services they need
- Measure our progress
- Demonstrate results
- Improve our case management practices
- Better understand the people we are serving
- Improve how we allocate limited resources
- Increase our efficiency
- End homelessness
- Other thoughts??

Align the Desire Paths with System Design

Align System Design to Operations

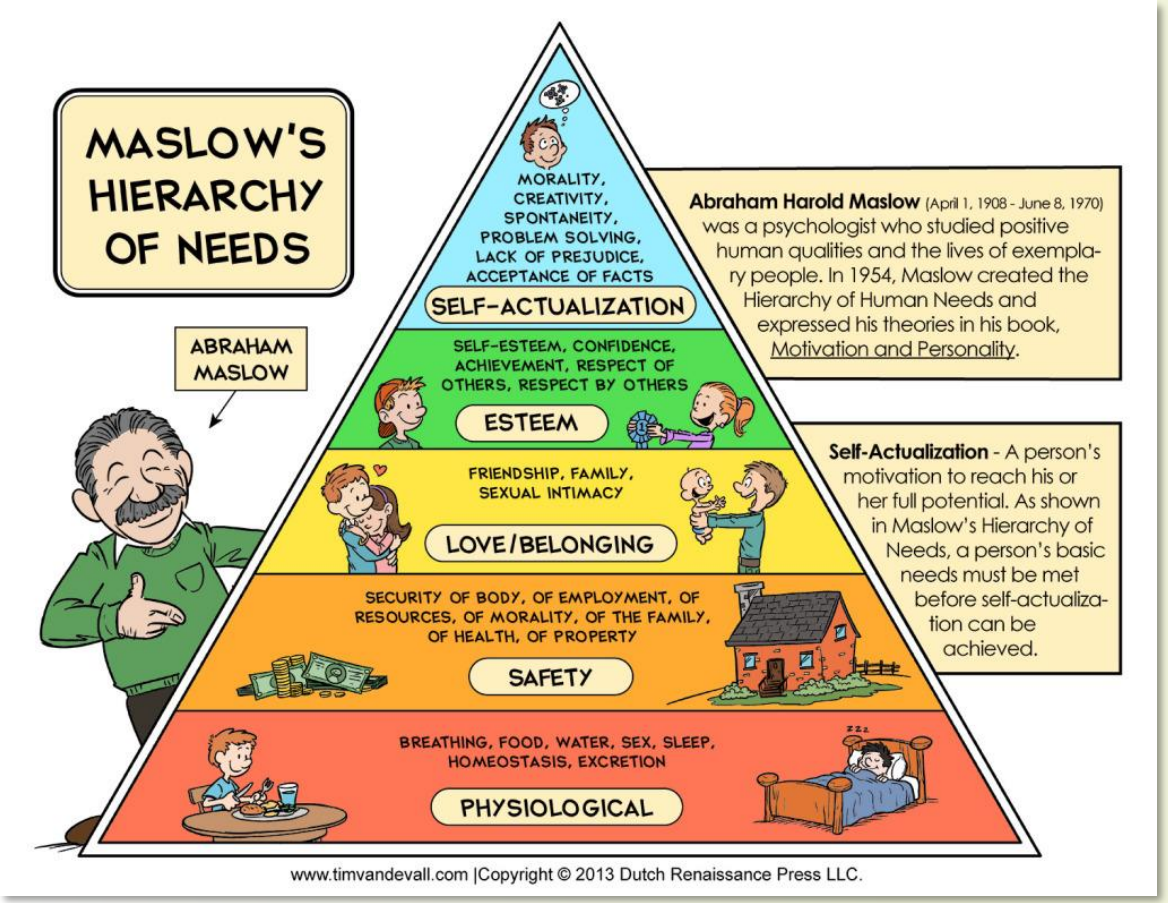
Examples of misalignment…

- High turnover emergency shelters cannot keep up with enrollments and exits (so staff never exit anyone)
- Street outreach workers constantly lag in their data entry (so they don't enter everything)
- Projects with multiple locations or multiple grantees are split into multiple projects
- Admin locations are used as the operating location for scattered site projects
- Jane and John Doe are used for holding names of people who don't want to share info
- Project names in HMIS often don't match with the project name used in the grant from HUD.
- Finance is another system. Projects either spend their $ too fast or leave it on the table.

Survival Needs

Instead of asking “What do you need?”, we tend to assess first and then tell people what they need based on the assessment.

DV victims in Massachusetts family shelters present their survival need first. 13% indicated domestic violence as the reason for entering shelter whereas 60% later indicate experience with DV.



Address Survival Needs, Assess, or Both?

Condition	Veterans homeless less than 2 years	Veterans Homeless 2 years or more
Frostbite	5.4%	12.5%
Liver Disease	6.8%	11.4%
Heart Disease	15.8%	18.8%
HIV/AIDS*	3.6%	2.5%
Emphysema	6.1%	9.6%
Hepatitis C	10.6%	18%
Tuberculosis	4.4%	8%
Mobility Limitations	26.3%	36.2%

Findings within the *National Survey of Homeless Veterans in 100,000 Homes Campaign Communities** suggest that individuals who remain homeless for longer periods of time are more likely to develop serious health conditions.

Length of homelessness is the greatest determinant of vulnerability, not the conditions resulting from the long duration.

Source: Community Solutions

“Every System is Perfectly Designed for the Outcome it Gets”

- Dr. W. Edwards Deming

Resources and assistance to support HUD's community partners

HUD EXCHANGE
Secretary Ben Carson

HMIS Requirements

The U.S. Department of Housing and Urban Development (HUD) and other planners and policymakers use aggregate HMIS data to better inform homeless policy and decision making at the federal, state, and local levels. HMIS enables HUD to collect national-level data on the extent and nature of homelessness over time. Specifically, an HMIS can be used to produce an unduplicated count of homeless persons, understand patterns of service use, and measure the effectiveness of homeless programs. Data on homeless persons is collected and maintained at the local level. HMIS implementations can encompass geographic areas ranging from a single county to an entire state.

The HEARTH Act, enacted into law on May 20, 2009, requires that all communities have an HMIS with the capacity to collect unduplicated counts of individuals and families experiencing homelessness. Through their HMIS, a community should be able to collect information from projects serving homeless families and individuals to use as part of their needs analyses and to establish funding priorities. The Act also codifies into law certain data collection requirements integral to HMIS. With enactment of the HEARTH Act, HMIS participation became a statutory requirement for recipients and subrecipients of CoC Program and Emergency Solutions Grants (ESG) funds.

An HMIS can be used to:

- Produce an unduplicated count of persons experiencing homelessness for each CoC
- Describe the extent and nature of homelessness locally, regionally, and nationally
- Identify patterns of service use
- Measure program effectiveness

Common Challenges faced by HMIS-Centric Regions

- Not all homeless providers receive HUD funding;
- Different funding providers have different requirements;
- Systems, and the standards they are being built to adhere to, are often too focused on mandated reporting rather than the work of helping people;
- Some providers operate in multiple regions that use different HMIS systems;
- Different organizations have different operational needs. Systems face scope creep and try do everything, which impede their ability to do a discreet set of functions well;
- Finding and accessing services is a cumbersome process;
- Data is fragmented between providers, systems, and regions;
- Coordinated Entry Systems tend to exclude the most vulnerable and service-resistant;
- First responders, such as police and medical personnel, are disconnected from coordinated entry systems;
- Data entry is overly burdensome on staff; and
- Different Federal partners have different geographic boundaries for the regions they support

Limitations of the Current HUD HMIS Standards

- Heavy reliance on self-reported information;
- Clients are enrolled into a project, not into a project at a location;
- Consent is not tracked in a consistent manner;
- Vulnerability is not assessed in a consistent manner;
- Intake and exit assessment data needs to be repeated for each enrollment, even if there are no changes, and can conflict with data from other overlapping enrollments at the same time.

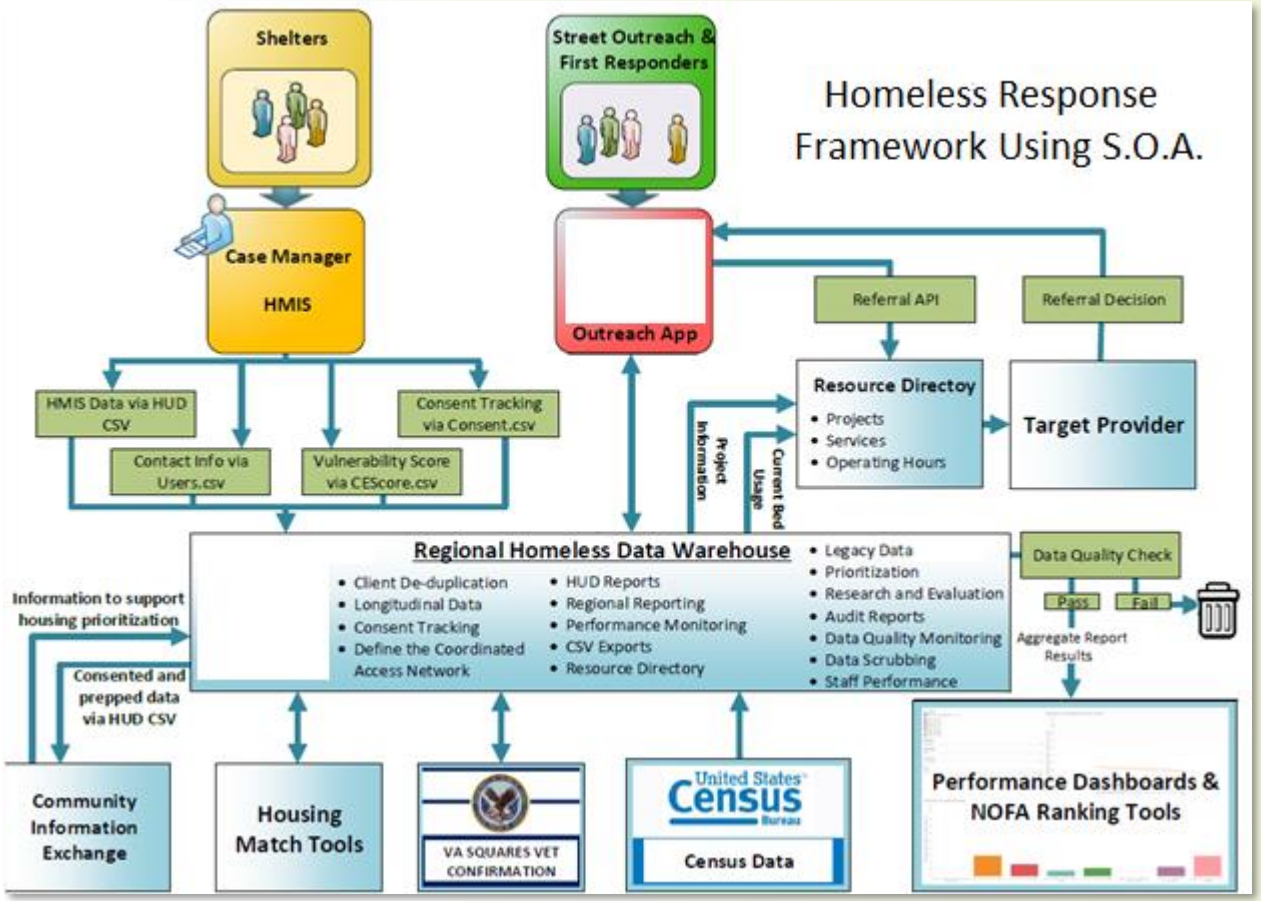
Reduce Self-Reported Data w/ Internal Controls

There are opportunities to avoid missing data altogether by enhancing the internal controls within the HMIS systems. Examples include…

HMIS Data Element	Potential Data Source
• Prior Living Situation	Project Type of the Referring Project
• Exit Destination	Project Type of the Target Project
• CoC Code	Location Address + HUD CoC Shape Files
• Income	Check payment systems (see Community Partnerships)
• Exit Date	Last service date if no activity in 30 days, or entry into another residential project

Service-oriented architecture (**SOA**) is a style of software design where services are provided to the other components by application components, through a communication protocol.

Each service provides a discrete function.


Homeless Response Framework Using S.O.A.
Shelters
Street Outreach & First Responders
Case Manager
HMIS
Outreach App
Referral API
Referral Decision
Resource Directoy
• Projects
• Services
• Operating Hours
Target Provider
HMIS Data via HUD CSV
Contact Info via Users.csv
Vulnerability Score via CEScore.csv
Consent Tracking via Consent.csv
Project Information
Current Bed Usage
Regional Homeless Data Warehouse
• Client De-duplication
• Longitudinal Data
• Consent Tracking
• Define the Coordinated Access Network
• HUD Reports
• Regional Reporting
• Performance Monitoring
• CSV Exports
• Resource Directory
• Legacy Data
• Prioritization
• Research and Evaluation
• Audit Reports
• Data Quality Monitoring
• Data Scrubbing
• Staff Performance
Data Quality Check
Pass
Fail
Aggregate Report Results
Information to support housing prioritization
Consented and prepped data via HUD CSV
Community Information Exchange
Housing Match Tools
VA SQUARES VET CONFIRMATION
United States Census Bureau
Census Data
Performance Dashboards & NOFA Ranking Tools

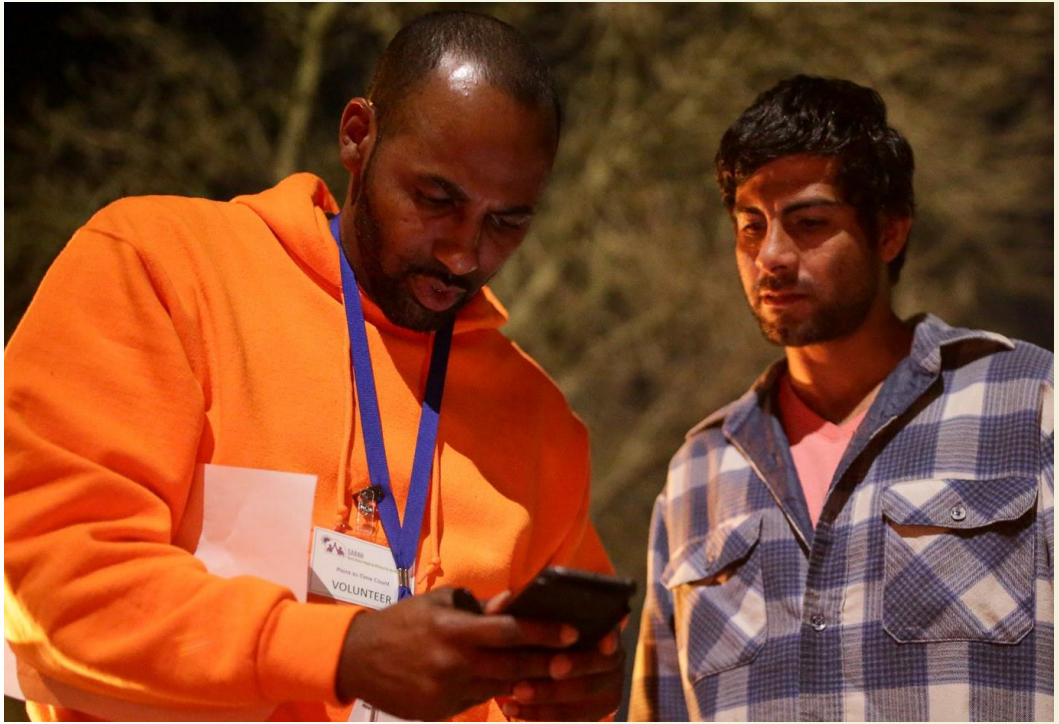
Key Components of a SOA Framework

Key technical assets, or "services", to be considered within a region's framework include:

- HMIS
- Non-HMIS data sets (systems of record)
- Mobile tech to support street outreach
- Data Warehouse to aggregate and analyze the information
- Community Resource Directories
- Housing Management Tools to match people with available housing resources
- Research Dashboards

Key Service: Mobile Tech for Outreach

- Address the survival needs first;
- Build up a relationship, and the HMIS record, over time;
- Track the service encounters to support chronic homeless determination;
- Alert outreach workers if someone is trying to reach the person.

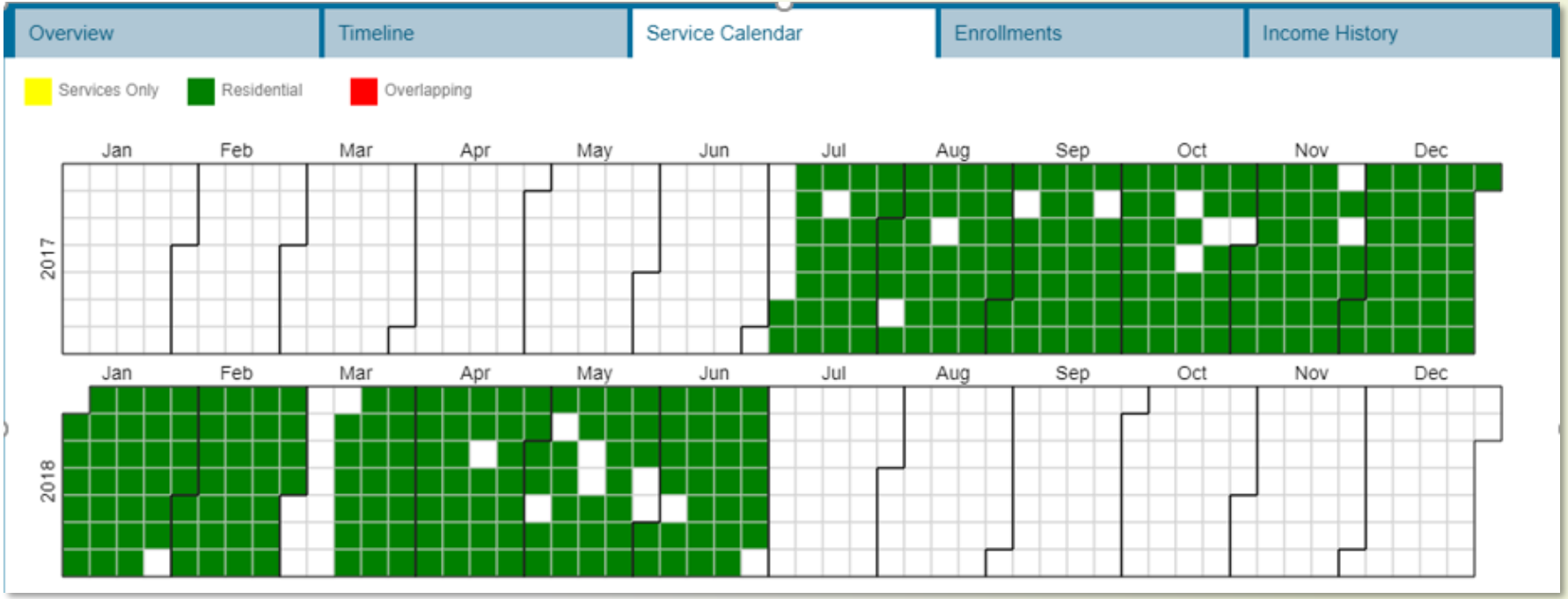


Key Service: Data Warehouse

A Data Warehouse can extend a region's framework to include…

- Data quality monitoring tools to improve data quality and support HMIS conversions;
- Data scrubbing tools to clean up years of bad data;
- Integration with other key data sets that can help inform the work;
- HUD reports that can be generated off of multiple sources;
- Geospatial reporting capabilities;
- Client profiles to determine chronic homelessness status off of empirical data;
- Dashboards and reports that are focused on key target populations (young adults, chronic, vets, etc.);
- "By-Name Lists" that are prioritized based on community guidelines;
- Project and System Performance Measurement Dashboards;
- NOFA Rating and Ranking Tools

Longitudinal Client Data



Longitudinal Client Data – By Name Lists

Clients

Filter Clients | Somerville CoC | Last Updated On: Jan 11, 2018 7:57:08 AM | Total Clie

.S.	Temp. L.o.S.	Days Since First Homeless	Days Homeless w/ Self Report	Enrollme…	Disabled?	Chronic at Entry?	Current Chronic	Last Organization	Last Project	Last Entry
	1032	2492	2901	2	Yes	Yes	Yes	Catholic Charities Arch …	105 - St Patricks Wome…	04/26/2016
	1849	1849	2093	1	Yes	No	No	CASPAR Inc.	First Step Street Outreach	12/19/2012
	985	985	2080	1	Yes	Yes	Yes	CASPAR Inc.	First Step Street Outreach	05/02/2015
	344	1045	1942	1	Yes	Yes	Yes	Catholic Charities Arch …	105 - St Patricks Wome…	03/03/2015
	34	1809	1910	2	Yes	Yes	Yes	Catholic Charities Arch …	105 - St Patricks Wome…	03/17/2016
	691	728	1830	2	Yes	Yes	Yes	CASPAR Inc.	First Step Street Outreach	03/05/2016

HMIS Vs Self Reported Info

- Prioritization can be driven off of empirical data, vulnerability assessment, or a weighted score using both;
- A warehouse can integrate data collected from both HMIS and outreach apps;
- Data can be used to meet third-party documentation requirements of chronic homeless status (see the HMIS Data Standards Manual, Page 56

Geospatial Reporting

2.8 Site Information (Optional)

Rationale: To identify the geocode associated with the principal project site for HIC reporting.

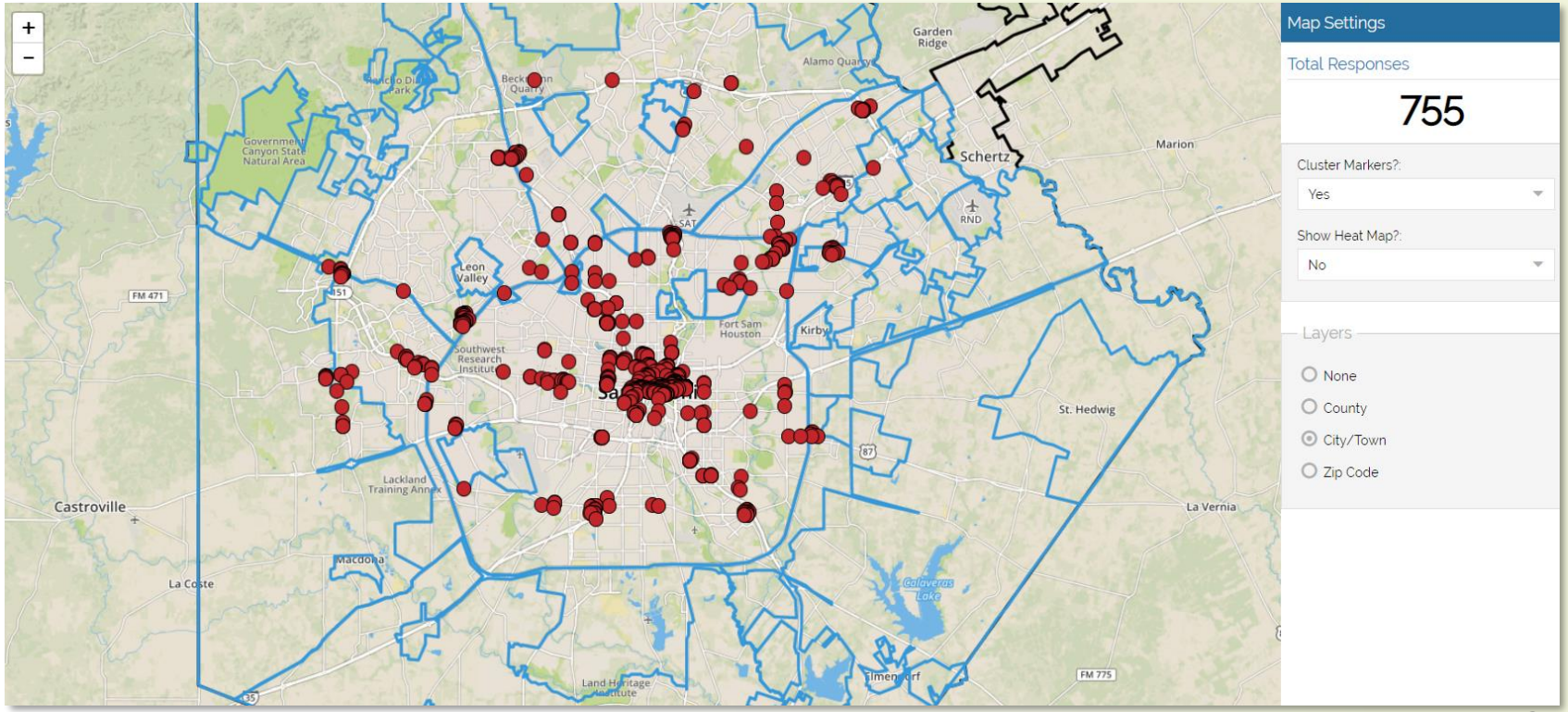
Data Source: Project staff with HMIS Lead review.

Collection Point(s): Initial HMIS project setup, reviewed/updated no less than annually.

Applicability: All lodging continuum projects.

Data Collection Instructions: This data element is required only for continuums that generate HIC data from HMIS. For each continuum project, record the Geocode associated with the geographic location of the project's principal site and the address of the principal site. The principal project site is where the largest amount of bed / unit inventory is located. HUD provides a list of geocodes as part of the annual CoC Program competition. Geocodes must be updated annually. Scattered-site housing projects should record the Geocode for the area where the greatest number of beds are located or where most beds are located as of the last inventory update.

Determine the Region Based on the Location



HUD Reports and Performance Dashboards

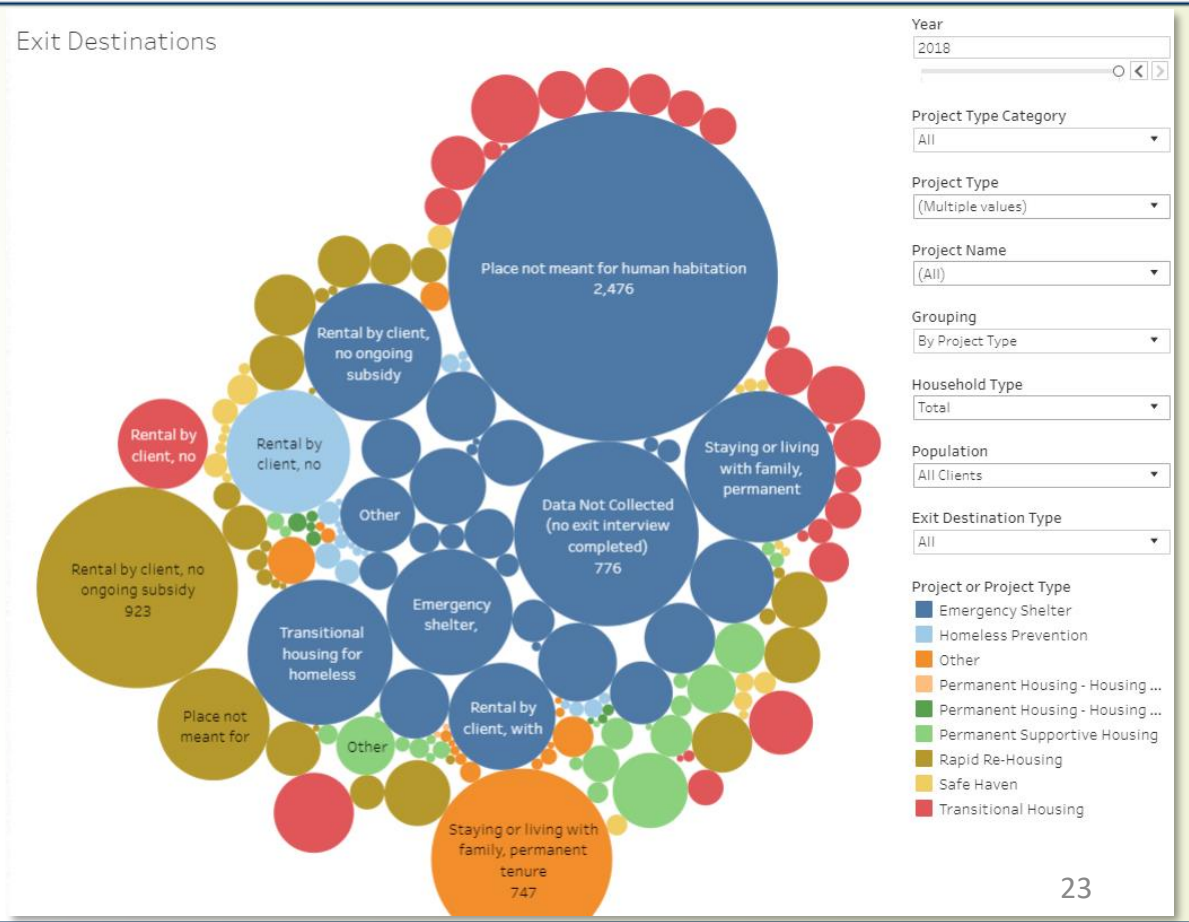
APR

Q23. Exit Destination

Other Destinations					
Residential project or halfway house with no homeless criteria	0	0	0	0	0
Deceased	0	0	0	0	0
Other	0	0	0	0	0
Client Doesn't Know/Client Refused	0	0	0	0	0
Data Not Collected (no exit interview completed)	2	2	0	0	0
Subtotal	2	2	0	0	0
Total	4	4	0	0	0
Total persons exiting to positive destinations	2	2	0	0	0
Total persons whose destinations excluded them from the calculation	0	0	0	0	0
Percentage	50%	50%	-	-	-

Tableau

Performance Dashboards



NOFA Rating and Ranking Tools

Scoring Group: HUD Rating and Ranking

Scoring Categories | Scoring Criteria | Scoring Projects | Project Performance

Select Project

Scoring Project Name
- AGIF NVOP RRH 2
- TSA Scattered Sites PSH
- TSA Stepping Forward TH

Project Performance List

Category	Criteria	Score Threshold	Score Actual	Points Possible	Points Earned	Source Type	Report ID
CoC Thresholds	Documented, secured minimum match	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Acceptable organization audit/financial review	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Housing First and/or Low Barrier Implementation	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Project is financially feasible	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Bed/unit utilization rate at or above 90%	>= 90 %	0 %	5	0	HMIS Report	
CoC Thresholds	Documented organization financial stability	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Application is complete and data are consistent	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Data quality at or above 90%	>= 90 %	0 %	5	0	HMIS Report	
CoC Thresholds	Applicant is active CoC Participant	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Project has reasonable costs per permanent housing exit as…	Yes	Manual Entry…	5	0	Manual Entry	
CoC Thresholds	Coordinated Entry Participation	Yes	Manual Entry…	5	0	Manual Entry	
Exits to Permanent Housing	TH - Minimum percent move to permanent housing	>= 90 %	0 %	25	0	HMIS Report	
Length of Stay	TH - On average, participants stay in project XX days	<= 180 Day(s)	154 Day(s)	20	20	HMIS Report	276369438
New or Increased Income and…	TH - Minimum new or increased non-employment income for…	>= 8 %	0 %	5	0	HMIS Report	
New or Increased Income and…	TH - Minimum new or increased earned income for project st…	>= 8 %	0 %	5	0	HMIS Report	

Scoring criteria is set by committee, then applied within the warehouse to automate the creation of scorecards.

"We must accept that human error is inevitable – and design around that fact"

Paul Batalden, MD

Key Service: Non-HMIS Data Sets

The Social Security Administration conducted *a study of homeless people, and their self-reported SSI/SSDI status,* and found that *"Fully 41 percent (934/2257) of clients who reported receiving SSI/DI benefits did not receive them according to SSA."*

Key Service: Non-HMIS Data Sets

Benefits of integrating with a “system of record”, and not relying upon self-reported information include:

- Less assessment / intake fatigue for clients;
- Less admin burden on staff;
- Less risk of people gaming the system;
- Improved data completion rates;
- Less risk of data conflicts;
- Each element is captured from a trusted source

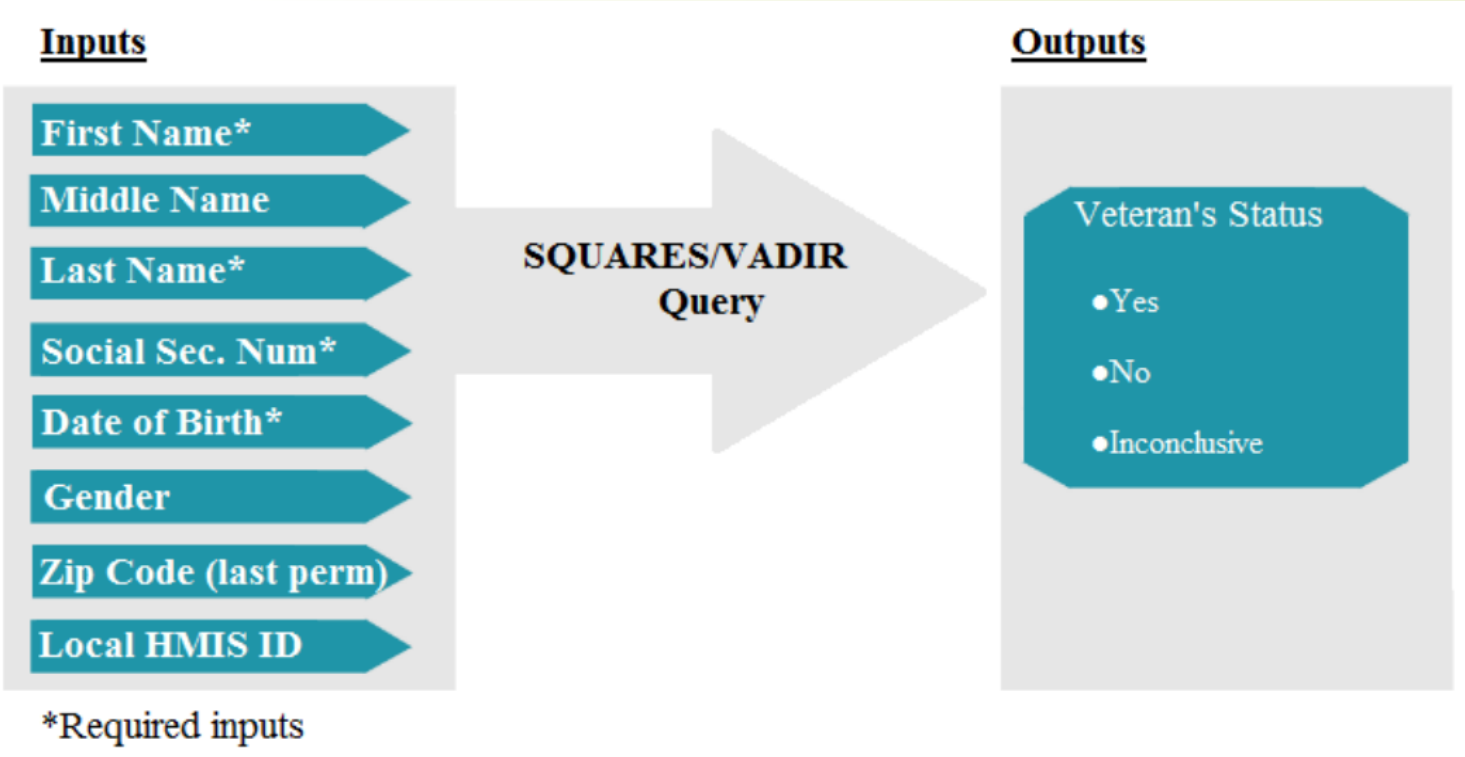
3. Federal government coordinates to receive and use data to make informed decisions in coordination with other data sets, across and within agencies.

Key Service: Non-HMIS Data Sets

"Systems of record" that can be used either as a source of information or as a DQ check of what is captured in HMIS. Examples of HMIS Data Elements, and potential sources for these, include…

HMIS Data Element	Potential Data Source
• Veteran Status	SQUARES
• Mental Health Status	PATH Project Enrollment
• Substance Abuse	Bureau of Substance Abuse Services (BSAS)
• Disabling Condition	Social Security Administration
• Income	Check payment systems (see Community Partnerships)
• Vulnerability Criteria	Community Information Exchange

Key Service: Non-HMIS Data Sets



Key Service: Non-HMIS Data Sets

Manual match with the VA's SQUARES System

Estimated time to log in, manually enter the four required elements, and record the results = 60 seconds per client.

Total estimated staff time to verify 195 clients = **3 hours and 15 minutes.**

Automated match with the VA's SQUARE System

On Friday September 14, 2018 at 10:08 AM EST, 195 records of people who were enrolled within rapid rehousing projects in San Antonio, and who self-reported as veterans, were automatically matched to the VA using an automated script.

Total run-time = 4 minutes (by a computer). **Total staff time = 0 minutes.**

Reduce Self-Reported Data w/ Data Integration

Clients

Filter Clients | San Antonio/Bexar County CoC | Last Updated On: Sep 14, 2018 10:25:35 AM | Total Clients: 592

Client ID	Age	Gender	Veteran?	VA Vet Status Verified?	HH Status	Temp. L.o.S.	TH L.o.S.	Perm. L.o.S.
767271567	58	Male	Yes	Yes	IND	0	0	143
206595237	51	Male	Yes	Yes	IND	0	0	288
165208167	61	Female	Yes	Yes	FAM	0	0	207
984721011	37	Female	Yes	Yes	FAM	0	0	367
560215169	73	Female	Yes	Yes	IND	0	0	206
45158563	59	Male	Yes	Yes	IND	0	0	150
463782743	59	Male	Yes	Yes	IND	0	0	216
832642249	38	Female	Yes	Yes	IND	0	0	172
704272057	40	Male	Yes	Yes	IND	60	49	185
874000226	66	Male	Yes	Yes	IND	1	189	718
623841105	29	Male	Yes	Yes	IND	0	0	321
949136256	56	Female	Yes	Yes	IND	22	0	372
519222872	67	Male	Yes	Yes	IND	0	0	335
799415161	32	Male	Yes	Yes	FAM	0	0	348
116746463	37	Male	Yes	Yes	IND	0	0	225
82057430	47	Male	Yes	Yes	IND	0	0	456

AUTOMATED SQUARES RESULTS

Matched Records = 177
Unmatched Records = 18

Key Services: Non-HMIS Data Sets

Other non-HMIS data sets to consider adding to the framework:

- Medicaid Expenditures
- Grant Inventory Worksheets
- Fair Market Rents
- US Census Data
- Weather Data from the NOAA
- Unclaimed Property Divisions
- HIC and PIT data
- SPM results
- LOCCS?

LOCCS Integration to Calculate Cost Per Outcome

Applicant and Project Information					Current Budget Line Item Amounts					
Applicant Name	Project Name	Grant Number	Expiration Year	Project Component	Leasing	Rental Assistance	Supportive Services	Operating Costs	HMIS	Admin
City of Lowell, Massach	Alternative House,	MA0146L1T081811	2020	TH	$0	$0	$133,198	$25,451	$0	$11,105
City of Lowell, Massach	Pathfinder Consolid	MA0150L1T081811	2020	PH	$0	$0	$248,726	$71,269	$0	$18,026
City of Lowell, Massach	City of Lowell HMIS,	MA0567L1T081802	2020	HMIS	$0	$0	$0	$0	$61,892	$4,332
City of Lowell, Massach	CTI Youth Reallocati	MA0606L1T081801	2020	int TH & PH-R	$51,288	$22,920	$100,618	$6,948	$0	$12,926

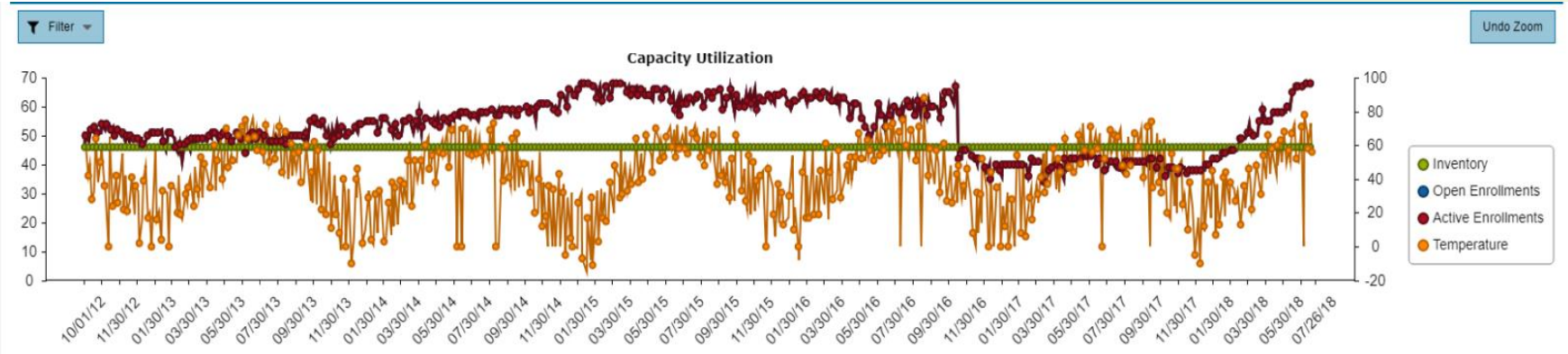
Key Steps

- Collect Grant Identifier and Grant Start and End Dates
- Enable LOCCS data to be exported with the same grant ID #s (HUD??)

Benefits

- Able to calculate cost per outcome (useful for NOFA rating and ranking)
- Track spend down reporting

NOAA Weather Data and Bed Utilization

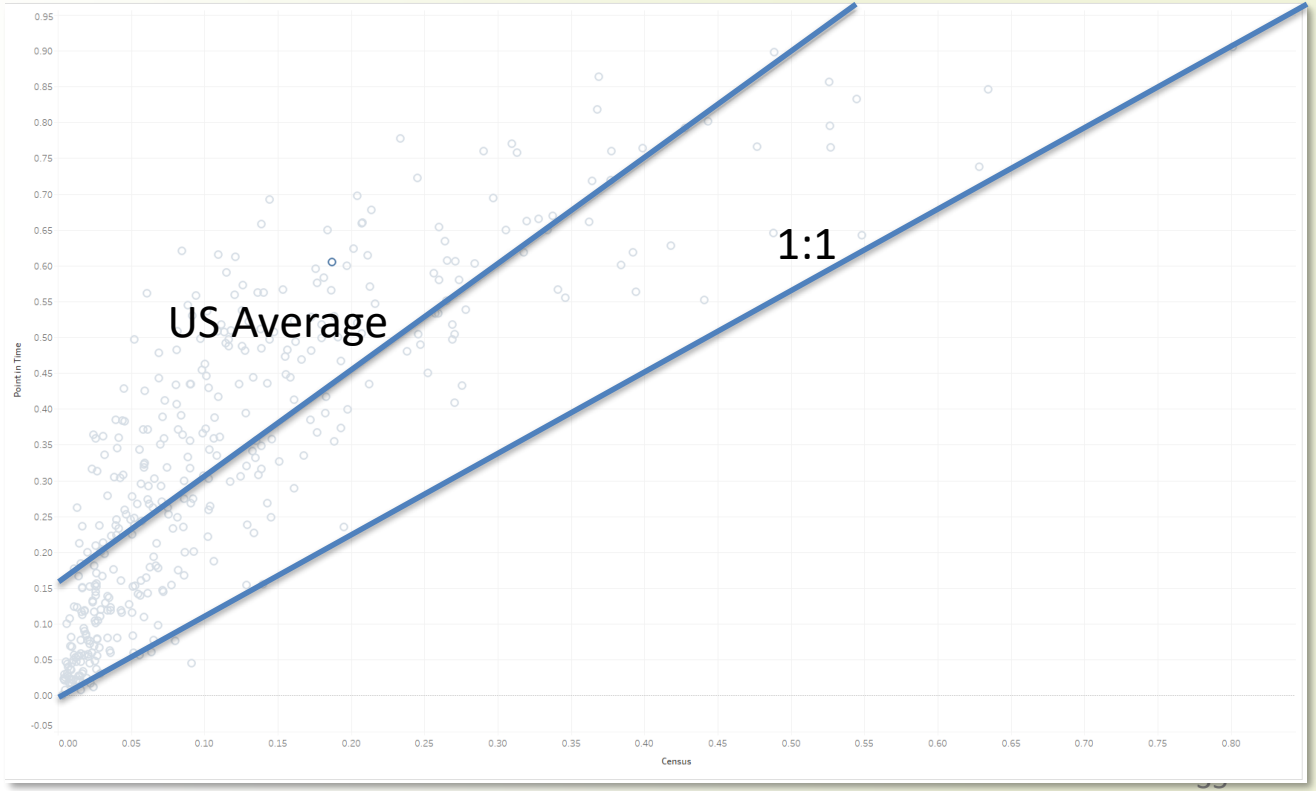


- Used to determine if there are weather induced fluctuations in bed utilization.

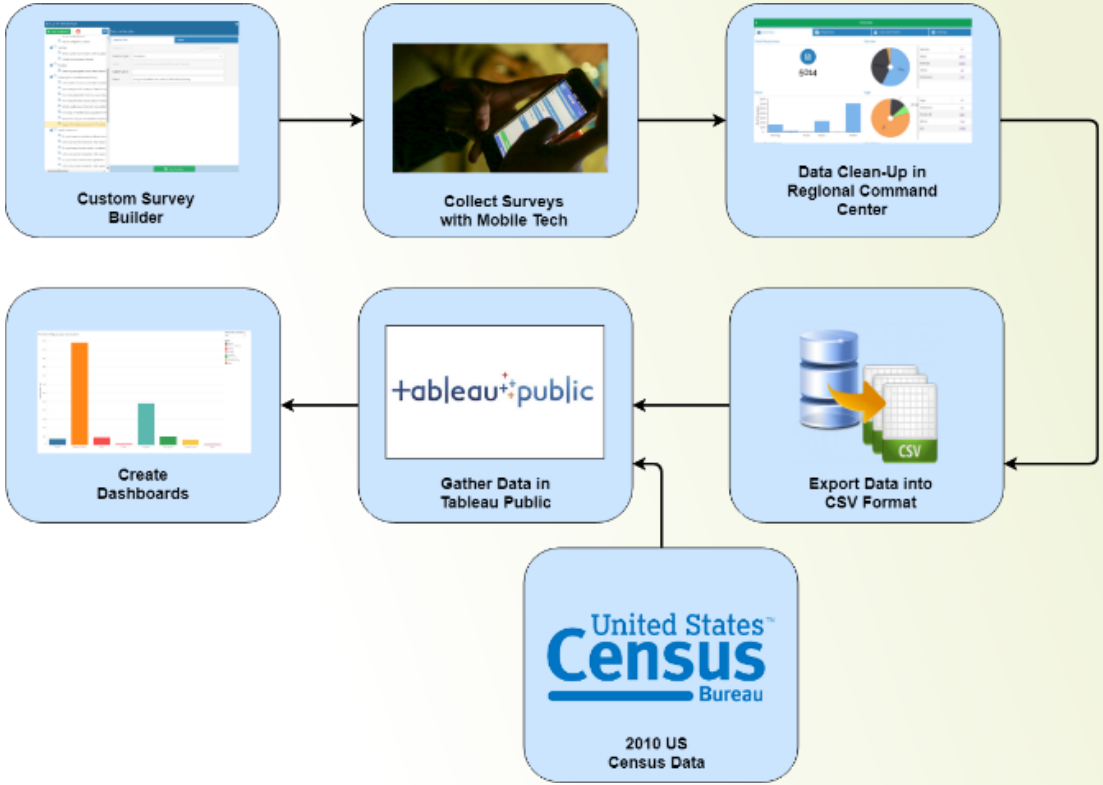
US Census and PIT Data – Racial Disparities

Percentage of African Americans experiencing homelessness versus the percentage in the general population.

http://www.simtechsolutions.com/race



Using SOA to Measure the Impact of Disasters



Measuring the Impact

Questions added for the PIT:

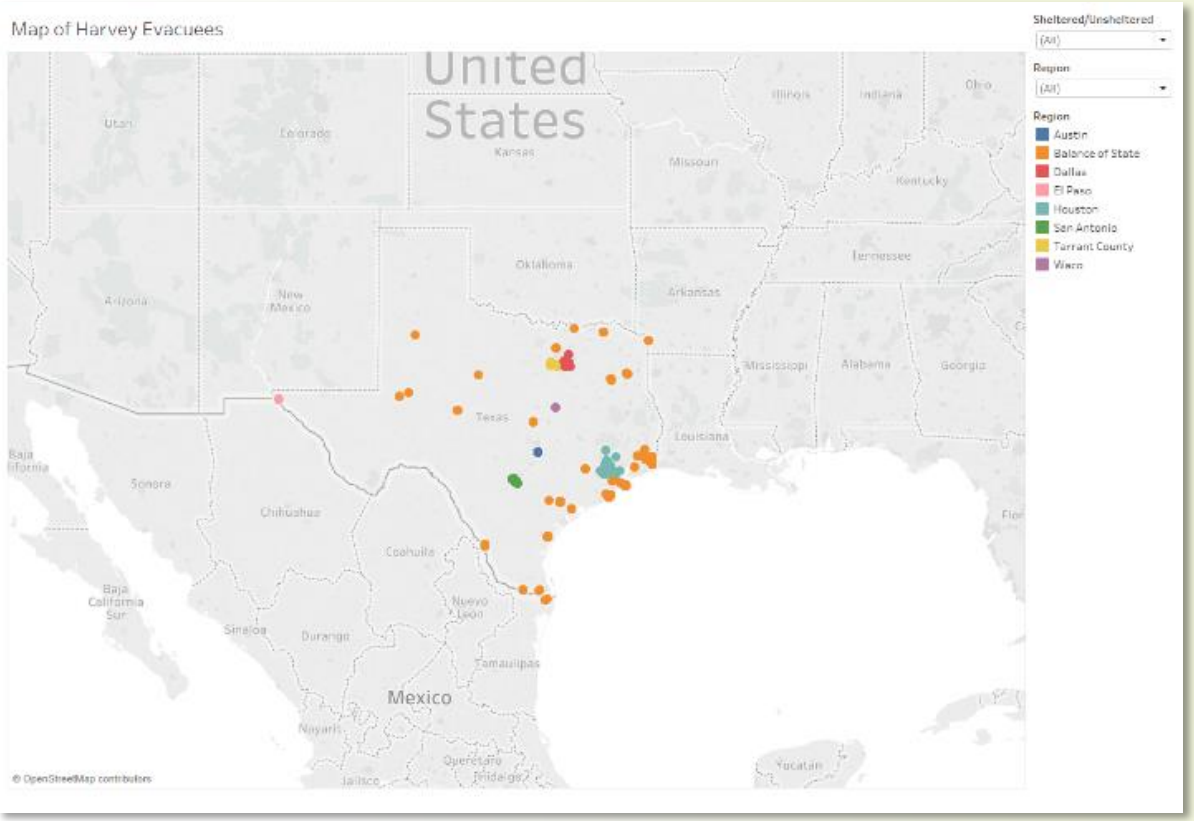
- Are you homeless as a result of natural disaster? If yes, which one?
- Where were you living when you became homeless this time?

Sleeping on the streets: Volunteers help count, survey Houston-area homeless

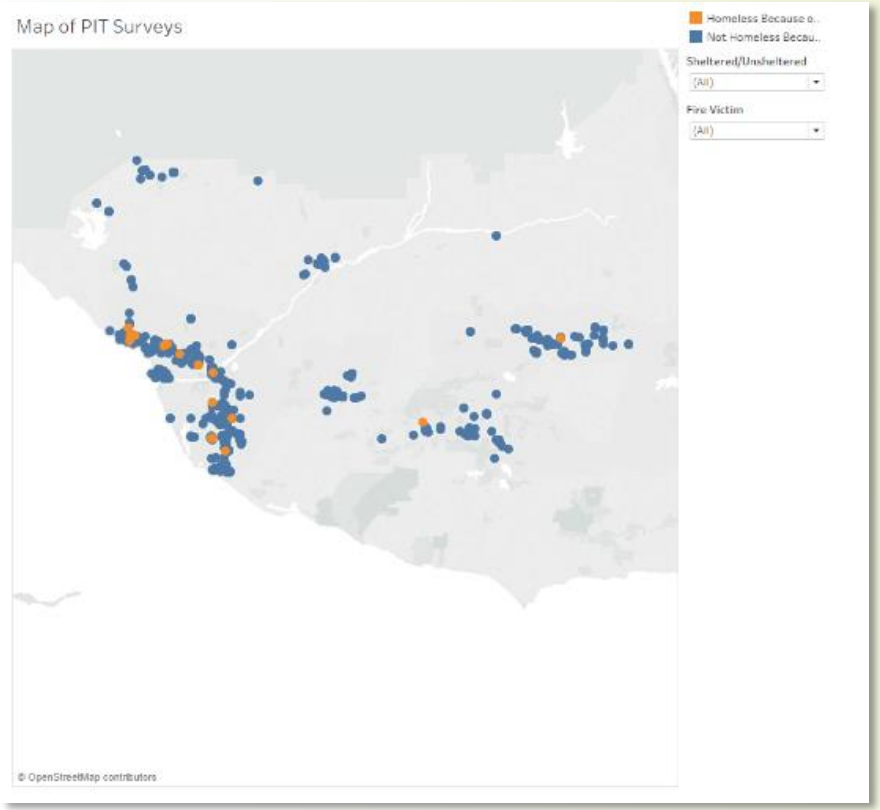
By Alyson Ward Updated 12:19 pm, Wednesday, January 24, 2018

Photo: Godofredo A. Vasquez, Houston Chronicle

Impact of Hurricane Harvey on the TX System



Impact of the Wildfires on Ventura's System



Racial Disparity Analysis using SOA

RACE - LOS | RACE - LOS | RACE - Weighted LOS | RACE - Positive Destination | RACE - Increased Income | RACE - Increased Income

RACE - Positive Destination

Project Type	Region or Project	American Indian or Al..	Asian	Black/ African Am..	Multiple Races	Native Hawaiian o..	White
Emergency Shelter	Dallas	11.3	3.5	13.2	7.9	2.5	9.5
	Fort Worth, Arlington/Tar..	18.2	7.7	24.5	26.3	20.0	22.0
	San Antonio	25.0	26.7	26.0	30.2	10.0	22.3
Transitional Housing	Dallas	25.0	100.0	56.7	82.6	33.3	57.1
	Fort Worth, Arlington/Tar..	100.0	0.0	62.7		0.0	63.9
	San Antonio	85.7	25.0	67.9	73.3	50.0	53.7
Permanent Supportive Housing	Dallas	100.0		74.2	16.7	0.0	64.3
	Fort Worth, Arlington/Tar..		100.0	51.9	75.0		58.3
	San Antonio	50.0	100.0	75.8	60.0	25.0	70.1
Street Outreach	Dallas	55.6	37.5	56.8	70.3	50.0	54.0
	Fort Worth, Arlington/Tar..		0.0	12.2	22.2		13.1
	San Antonio	5.9	0.0	14.4	15.4	33.3	14.5

Project Type
- [x] (All)
- [x] Emergency Shelter
- [x] Transitional Housing
- [x] Permanent Supportiv...
- [x] Street Outreach
- [x] Services Only
- [x] Other
- [x] Safe Haven
- [x] Permanent Housing - ...
- [x] Permanent Housing - ...
- [x] Homeless Prevention
- [x] Rapid Re-Housing

Percentage Exited to Posi...
0.0 — 100.0

- Results are culled from APRs with reports run by racial category for each project in every CoC that is part of the study.

Other SOA Objects to Consider

- Consumer-Facing Tools that enable people to help themselves
- Landlord Management and Support Tools
- Accounts Payable
- Artificial Intelligence services to support predictive modeling & prioritization
- Biometrics and/or bar coding services to uniquely identify clients
- Volunteer Recruitment and Management Tools
- Donation / Supply Management
- Roommate Match Systems
- Affordable Housing Locators (requires a client choice assessment)
- Family Reunification Matching Engines (requires permission)
- Unclaimed Property Divisions
- Client / Case Manager Messaging (requires client contact info in HMIS)
- Document Management systems (see blockchain work in Austin)

Questions? Thoughts?

Contact Info: Matt Simmonds
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