Data Quality 201
Strategies to Check the Accuracy of Your System

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Who's in the Room?

What type of organization do you represent?
- CoC Lead Organization
- HMIS Lead Organization
- Homeless Service Provider
- Government Organization (local, state, or federal)
- Other Service Provider (healthcare, mental health, etc.)
- Other

What's Your Biggest Challenge with Data Accuracy?

- Defining clear expectations for accuracy

- Monitoring organizations for accuracy

- Engaging providers and CoC stakeholders in discussing accuracy

- Fixing historical data for current reporting / needs

- Other

Learning Objectives

- Understand the roles and responsibilities of stakeholders related to ensuring accuracy of HMIS data

- Discussion of strategies and best practices to address data accuracy issues

- Review federal partner reports and how to address data accuracy issues

- Tools to use to determine when to go to who to address data accuracy

Components of Data Quality

What are the pieces of data quality?

- Data Completeness
  - HMIS Bed / Services Coverage
- Data Timeliness
- Data Consistency
- **Data Accuracy**

Data Accuracy

Goes beyond ensuring that data is entered into your HMIS….

- Looks at whether the data is accurate and in alignment with "real life"
- How to review data accuracy, how often to do so, and what tools to use will depend upon the specific issue
- How far can you realistically go back to review historical data in HMIS for accuracy?
  - Consider that the HUD System Performance Measures have a "two year look back" for measuring returns to homelessness

SNAPS Data TA Strategy

[HUD SNAPS Data TA Strategy to Improve Data & Performance](#)

HMIS data accuracy implicated in all 3 strategies
- Directly related to Strategy 2

STRATEGY 2:
Data systems collect accurate, comprehensive and timely data

SNAPS Data TA Strategy in Context

We know it's ambitious, but we also think it is realistic, especially when used not just as a destination but also as a road map

- Tools and resources provided by HUD around HMIS data, HMIS capacity, and HMIS data quality are anchored by the strategy and the outlined goals
- Start with where you currently are and aim for realistic change / improvement over time
- Remember that the priorities laid out in the strategy are federal priorities and they should be reviewed with local efforts and priorities

CoC Data Quality Brief

https://www.hudexchange.info/resources/documents/coc-data-quality-brief.pdf

Key Elements of Data Quality Improvement: "Accuracy: The degree to which data reflects the real-world client or service."

Action Steps to Improve Data Quality

|	Rationale	Considerations	Action Steps
Accuracy	To ensure data is collected and entered accurately. Accuracy of data in HMIS can be difficult to assess. It depends on the client's ability to provide the correct data and the intake worker's ability to document and enter the data accurately.	Is the data correct? Does it represent the reality of clients and services? Are providers monitoring to ensure that what is in HMIS is consistent with what is in other paper or electronic files? Are households properly entered?	1. Require providers to self-audit, checking the HMIS record against non-HMIS sources; 2. Establish a simple process for HMIS users to report and correct errors as they are discovered; and 3. Consult with vendor about implementing automatic validation checks at data entry (e.g., prevent users from entering infants as veterans)

CoC Data Quality Brief in Context

Reviews the roles and responsibilities of the various entities involved in monitoring and enforcing data quality, including:
- CoC
- HMIS Lead / System Administrator
- Participating Organizations / HMIS End Users
- HMIS Vendors

Emphasizes the importance of the various pieces of data quality, including:
- Completeness, including Coverage and Utilization
- Accuracy
- Timeliness
- Consistency

Who, What, When, How
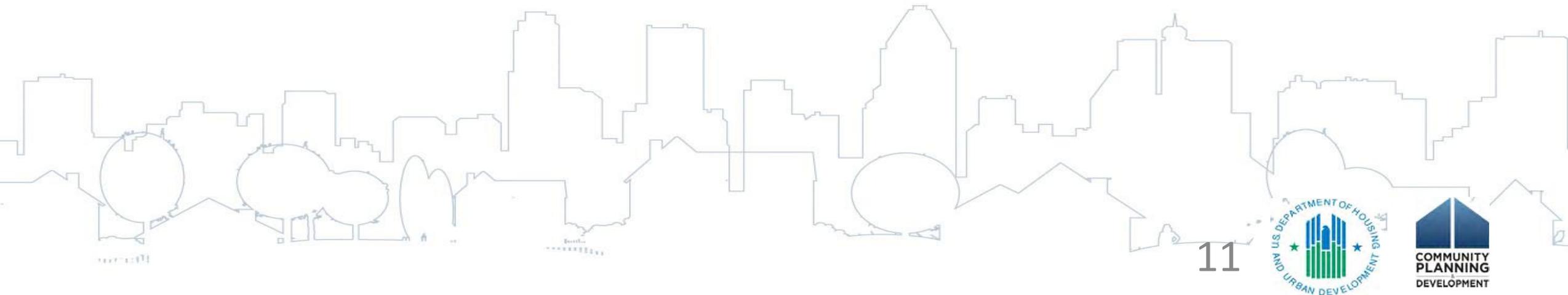
Poll Question

www.menti.com (use code 66 36 71)

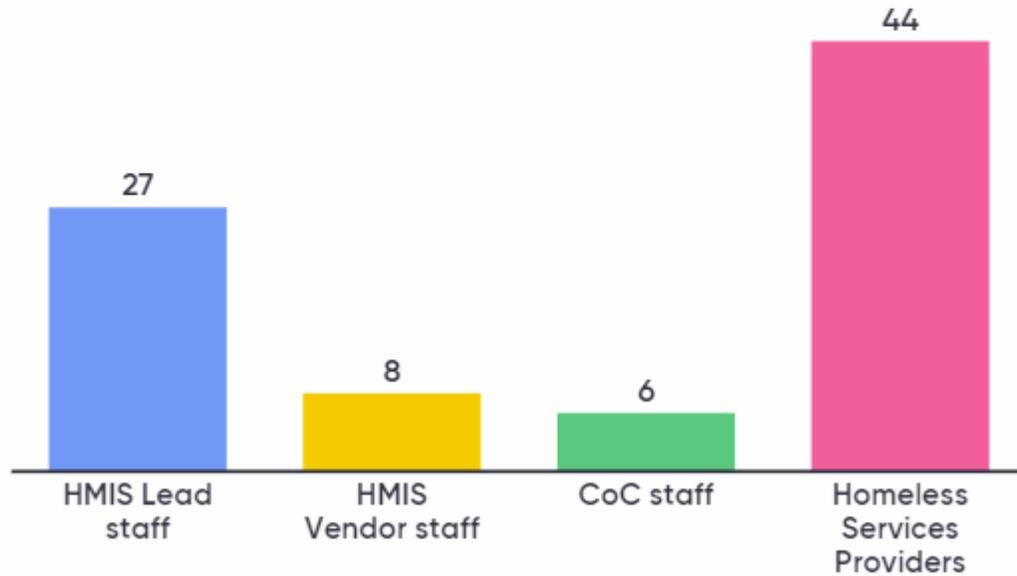**With what entity do you work most often to address data accuracy issues?**
- HMIS Lead staff (PDDEs setup issues, visibility issues, assessment issues, etc.)
- HMIS Vendor staff (reporting specs issues, system programming issues, etc.)
- CoC staff (lack of enforcements, encouragements, investment, etc.)
- Homeless Services Providers and users (data entry issues)

Poll Question

Stakeholders

Data accuracy includes different stakeholders with different roles & responsibilities

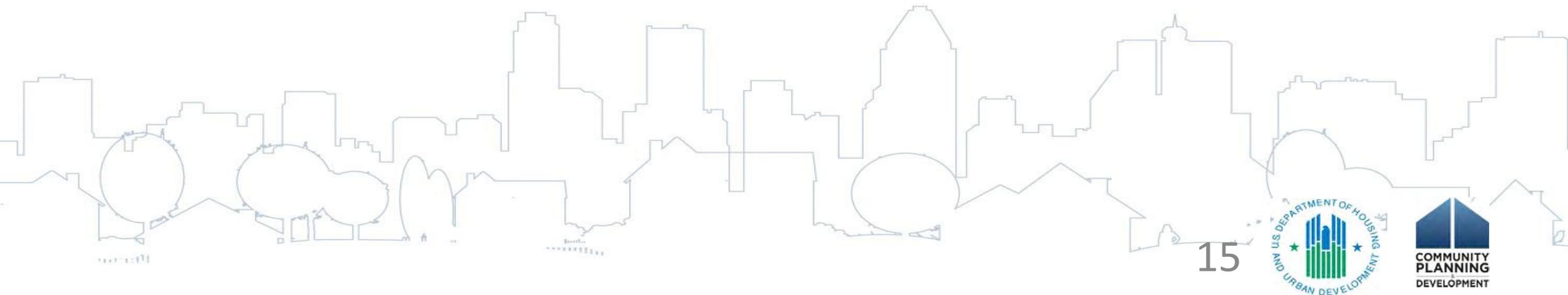The work of monitoring HMIS data accuracy cannot and should not fall on the HMIS Lead alone
- Ineffective
- Unsustainable
- Impossible

It Takes a Village

CoCs

What do CoCs believe the role of the HMIS Lead is related to HMIS data accuracy monitoring?

(open ended)

Who's Who – HMIS Lead

HMIS Lead & System Administrator

- Train users on correct workflow
- Ensure all required data elements are available to the correct projects in HMIS
- Check visibility of clients, assessments, questions to abide by local privacy policies and allowable uses & disclosures
- Properly complete PDDEs to ensure all project types pull into correct HUD & Federal Partner reports

Who's Who – HMIS Vendor

HMIS Software Vendor

- Program system according to HUD Data Dictionary (one to one matches with correct data elements)
- Build HUD and federal partner reports according to publicly available reporting specs
- Respond to questions about customization of the HMIS to meet local data accuracy needs
- Make vendor and software specific documentation available to customers

HMIS Leads

What do HMIS Leads believe the role of the CoC is related to HMIS data accuracy monitoring?

What strategies have you found effective in engaging CoCs in this process?

(open ended)

Who's Who – CoC

CoC

- Provide encouragements and enforcements for HMIS-participating organizations to be responsive to data accuracy concerns
- Work to address data accuracy in a Data Quality Management Plan and support the HMIS Lead in monitoring data accuracy on an ongoing basis
- Ensure sufficient staffing capacity within the HMIS Lead to address data accuracy

Who's Who – Homeless Services Provider

Homeless Services Provider and HMIS End Users

- The experts in knowing who their projects served and whether the data in HMIS is accurately reflecting who they served
- Should agree to the CoC's data accuracy baseline requirements as laid out in the Data Quality Management Plan
- Responsive to the HMIS Lead when addressing data accuracy issues
- Ask for help when needed

Discussion

What specific data elements are reviewed most often related to data accuracy?

- Project Descriptor Data Elements (CoC code, project type, operating start date, federal partner funding sources, etc.)
- HUD Universal Data Elements (relationship to head of household, client location, previous living situation, destination upon exit, etc.)
- HUD Common Program Specific Data Elements (income, non-cash benefits, health insurance coverage, disabling conditions, etc.)
- Federal Partner Data Elements (date of engagement, date of PATH status determination, RHY family critical issues, etc.)
- HMIS Software Programming Specs (system programming, report programming, etc.)

PDDEs and System Setup

Ever had a situation where you ran a report and you knew a specific project should have been included but it wasn't?

- Check PDDEs – these are becoming more and more important in accurate federal reporting
- HMIS Leads should have a consistent and ongoing process to review these for accuracy
- Ensure a process for HMIS Leads to be provided information needed to update PDDEs (newly funded projects, changes in bed counts, etc.)

PDDEs and System Setup

Review of PDDEs should be addressed in an HMIS Lead Monitoring and Data Quality Management Plan and HMIS Leads should be held accountable

- Proper and accurate setup of these is VITAL to system health and accuracy
- Should be done at least annually, if not more often
- Changes to PDDEs should be documented

PDDEs and System Setup

Use reports available in HMIS to review PDDEs

- Ensure a consistent and timely process to provide HMIS Lead with information needed to complete PDDEs
    - When projects start
    - When projects end
    - When funding sources change
    - When bed / unit counts change
    - When projects relocate to different geographic areas
    - When projects change project types

HUD Universal Data Elements

Ever had an issue with household counts or the number of clients meeting the chronic homeless definition or ages of participants or unaccompanied minors in a project that doesn't serve them?

- Ensure there is one, and only one, "Self" for relationship to head of household per household
- Review congruency among the 3.917 Living Situation data elements
- Review dates of birth
- Understand how your HMIS software requires data entry of household members entering a project after the HoH

HUD Program Specific Data Elements

Ever had "does the client have a disabling condition" a "Yes" answer but then no specific disabling condition defined as "Yes"? Ever had $0 for Total Monthly Income but then specific income sources listed with monthly amounts?

- Check for congruency among the different pieces of these questions (health insurance coverage, disabling condition, monthly income, non-cash benefits)
- Ensure an understanding of how your specific HMIS software requires updates to be made to these questions (when a client's income changes)

HUD Program Specific Data Elements

Can be reviewed using the same timeline and process as the HUD UDEs

- Know your users and whether they will be overwhelmed with a single large report covering all issues or multiple emails containing different reports related to data accuracy
- Ensure users understand what is being asked of them, the specific issues, and how to fix / address them

Federal Partner Data Elements

Ever had a biological male who is pregnant or a PATH date of enrollment without a date of engagement recorded or a household served with SSVF where the HoH is not a veteran?

- RHY, PATH, SSVF, VASH, and other federal partner funding streams require specific data elements be collected and entered into HMIS
- Use specific data accuracy reports to review those specific data elements

Federal Partner Data Elements

Talk the talk

- Know the Federal Partner language to understand what is and isn't possible in the data
- Utilize the Federal Partner HMIS Data Dictionaries to ensure proper project setup
- Use other Federal Partner resources available to provide accurate information and training to end users
- Maintain a process to ensure HMIS Leads know which projects are funded with which federal partner funding sources

HMIS Software Programming Specs

Ever seen an inaccurate data element on a report but the data entry in the system makes it look like it should be reporting accurately?

- Whenever possible, ensure at least one person within your HMIS Lead understands the reporting specs related to federal partner reports
- Ensure the HMIS Lead understands the system programming implications as laid out in the HMIS Data Dictionary
- Empower the HMIS Lead to advocate on the community's behalf with the HMIS Software Vendor

HMIS Software Programming Specs

Use the Federal Partner reporting specs available on the HUD Exchange and federal partner websites

- Use the HMIS Software Vendor's portal / library of documentation
- Communicate with the HMIS Software Vendor often and be specific about the issues / concerns
- Ask questions and reference the HUD documentation available
- When needed, utilize the HUD AAQ and / or federal partner AAQ

Poll Question

www.menti.com **(use code 66 36 71)**

How often do you review the accuracy of the data in HMIS?

- Weekly
- Monthly
- Every other month
- Quarterly
- Every 6 months
- Annually
- Before an upcoming federal report submission deadline
- Other

Poll Question

Go to **www.menti.com** and use the code **74 50 60**

Mentimeter

How often do you currently review the accuracy of the data in HMIS?

- Other
- Weekly — 5
- Before an upcoming report submission — 2
- Annually — 4
- 1
- Quarterly — 12
- Monthly — 26
- Every other month — 5

👤 55

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How Often?

How often data accuracy is reviewed should be laid out in the Data Quality Management Plan

- DQMP framework includes involvement from CoC, HMIS Lead, Homeless Service Providers, and other stakeholders
  - Ensure a common understanding of the roles and responsibilities of each entity involved

- Should be done consistently and on an ongoing basis
  - Monthly? Every other month? Every quarter? What makes sense for your community and what is realistic?

How Often?

Consider local needs
- May depend on the maturity of the HMIS and end users
  - Every other month may be too often for some implementations while monthly may not be enough for others

Does the HMIS Lead have sufficient capacity to monitor the accuracy of HUD UDEs as often as is needed?
- Consider the capacity of the HMIS Lead and plan accordingly / realistically

Discussion

What resources do you use to review data accuracy?
- HUD Data Quality Framework report
- Custom reports
- Onsite monitoring that includes comparing paper files to data in HMIS
- HUD reporting specifications
- HMIS Lead training materials about PDDEs
- Conversations with the HMIS Vendor about customizing the HMIS
- Other

Resources to Use

Monitoring for data accuracy can be difficult and resources available will depend upon the data accuracy issues

HUD Data Quality Framework Report good start – comprehensive and detailed!

- Use as jumping off point – can be edited to add more / different fields as needed
- Provide training to users on how to read the Data Quality Framework, what it's telling them, and how to fix errors showing on the report

Resources to Use

Custom reports may be helpful to review data accuracy issues

- Biological males as pregnant
- Minors as veterans
- Too many or not enough Heads of Household in any given household
- Congruency among the 3.917 Living Situation data elements
- Housing Move-In Date issues
- Destination issues, including "No exit interview completed" (what's accurate vs. what's missing / incomplete)
- Very low or very high bed utilization in a given time period, based on beds available in the project (check for accuracy of client enrollments and exits from project)
- Unaccompanied minors served by a project not serving the subpopulation

Resources to Use

Onsite monitoring can be used to monitor data accuracy by comparing paper files to data entered into HMIS

- Does the information in the paper file match what is in HMIS?
- Is the information collection process done in such a way that would encourage a high degree of accuracy?
  - Intake staff can explain the data elements to clients in a clear, consistent, and accurate manner
  - The data collection process is conducted in a client-centered manner that includes privacy and building trust

Resources to Use

May need to review available reporting specs and / or the [HMIS Standard Reporting Terminology Glossary](#)

- Very technical reading
- Leverage any diversification of knowledge within the HMIS Lead
- Use reporting specs and the HUD Data Dictionary when discussing system questions with HMIS Software Vendor
- Don't be afraid to ask questions

Resources to Use

HMIS Lead ensure a consistent and accurate process to maintain PDDEs / System Setup

- [PDDEs training video](#)
- [Project Setup Tool](#)
- Reports in the HMIS that review PDDEs setup
- Project Setup Guide

Resources to Use

Conversations with the HMIS Software Vendor may provide options and flexibility for customizing the implementation to account for ongoing data accuracy issues

- Implementing conditional logic
- Use of color or font changes to highlight data elements and / or changes
- Building in data congruency checks (HUD Verification, 3.917 questions, etc.)
- Use of warnings and alerts

Activity / Scenario
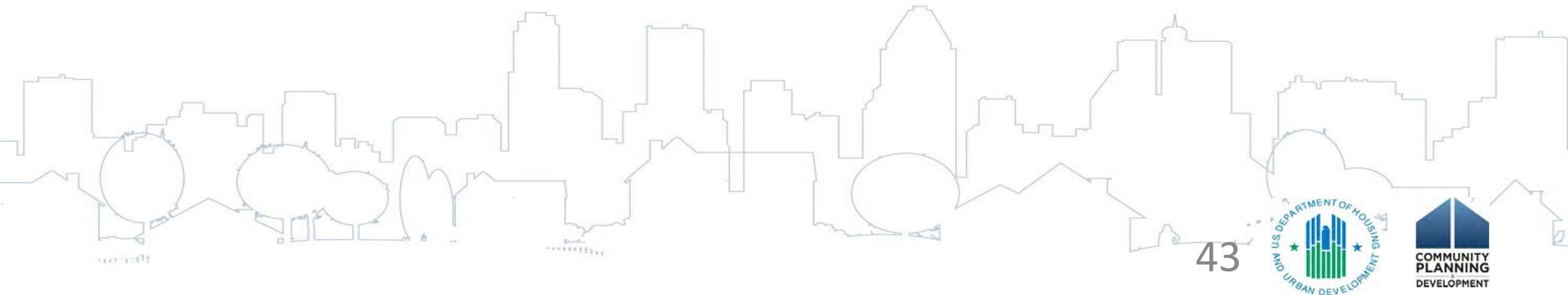
How Would You Deal?

Scenario 1:

You run the HUD Data Quality Framework Report for a local Emergency Shelter, and you notice that your results for the Personally Identifiable Information (PII) table include high rates (80% or more) of "Client Doesn't Know/Client Refused" for the following data elements: social security, name, date of birth, and gender.

- What are your first reactions to this?
- Why do you think there is a data quality / accuracy issue?
- If so, how might it impact your data overall?
- What would your next steps be to address this data quality / accuracy issue?

How Would You Deal?

Scenario 2:

You run a bed utilization report for a local Emergency Shelter and you notice that your result is less than 65% utilization for the first month of the quarter, and then 125% utilization for the last month of the quarter.

- What are your first reactions to this?
- Why do you think there is a data quality / accuracy issue?
- If so, how might it impact your data overall?
- What would your next steps be to address this data quality / accuracy issue?

How Would You Deal?

Scenario 3:

You run a CoC APR for a Permanent Supportive Housing project dedicated to serving clients meeting the chronic homeless definition and only 20 out of 100 clients served show as meeting the definition.

- What are your first reactions to this?
- Why do you think there is a data quality / accuracy issue?
- If so, how might it impact your data overall?
- What would your next steps be to address this data quality / accuracy issue?

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Real-Life Example
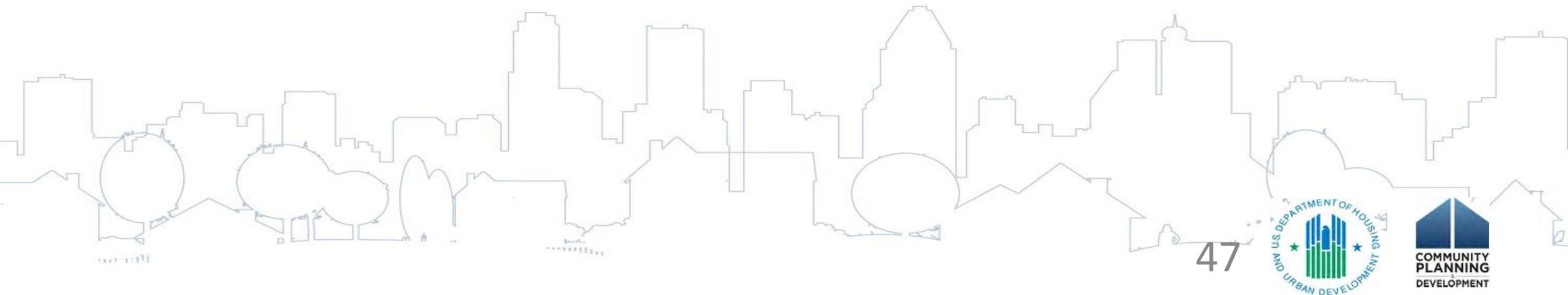
How do you know what the issue is and what do you do?

Natalie and Alissa "in real life"

- Started at the provider level
- HMIS Lead reviewed data in the system
- Reviewed the report pulling the data
- Ran some custom reports as well
- Reviewed the reporting specs
- Contacted vendor
- Contacted federal partner
- Submitted AAQ

Outcome

Community shifted their understanding of the specific question, based on feedback from federal partner (accuracy of understanding of data element / question / intent of data collected)

- And to get there…it took a step-by-step process and involved many different entities

Let's Revisit the HUD SNAPS Data TA Strategy…
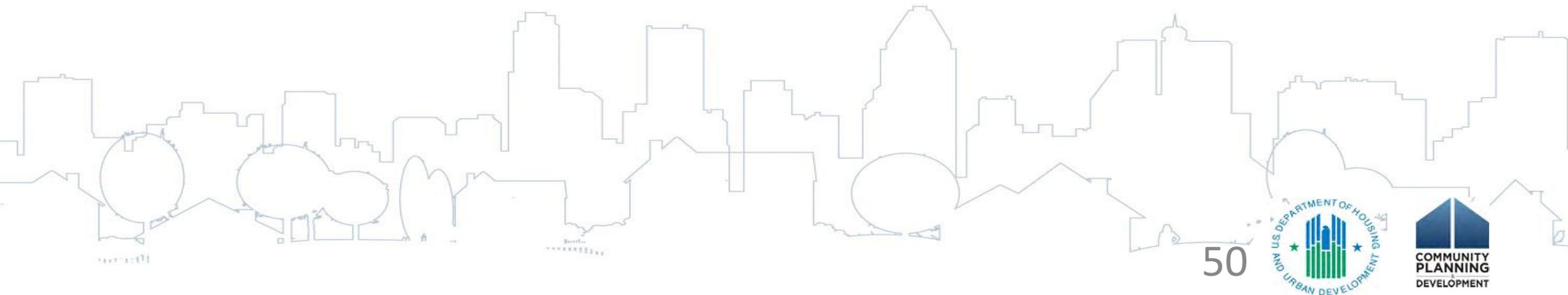
Discussion

Current status or near-term goals for data quality

How close are communities to meeting the current status / near-term goals related to data quality?
- We're there
- 75% there
- Halfway there
- 25% there
- Not even close

Current status (or near-term)
- 100% complete
- Less than 100% accurate
- No timeliness standard

Discussion

How close are communities to meeting the 3-5 year goals for the majority of CoCs related to data quality?
- We're there
- 75% there
- Halfway there
- 25% there
- Not even close

3-5 year goals for the majority of CoCs for data quality

Majority of CoCs in 3-5 years

- 100% accurate
- 100% complete
- Projects directly enter data within 2 hours for crisis response and project start/ project exit
- PSH projects directly enter data within 24 hours

Discussion

How close are communities to meeting the 3-5 year goals for advanced CoCs related to data quality?
- We're there
- 75% there
- Halfway there
- 25% there
- Not even close

3-5 year goals for advanced CoCs for data quality

Advanced CoCs in 3-5 years

- 100% accurate
- Customized local data elements are limited to information needed to report, serve and house clients.
- 100% complete
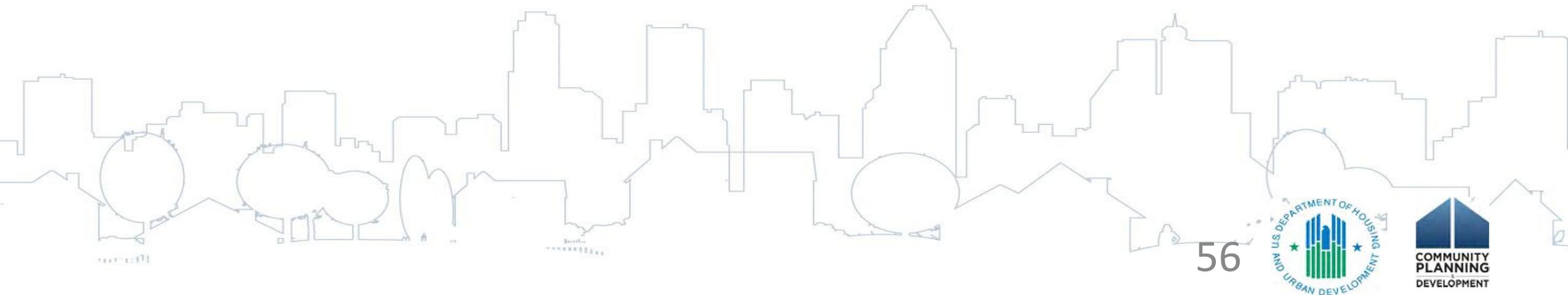- Timeliness meets Coordinated Entry placement and referral needs

Longitudinal System Analysis (LSA)
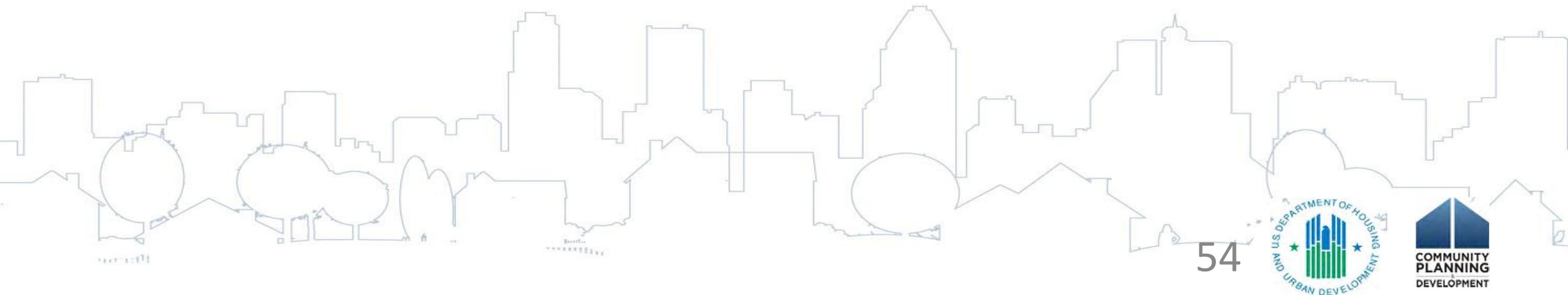
LSA

- LSA process this year
- Short-term focus vs. Long-term focus
- Ongoing process
- Stella
- Office hours
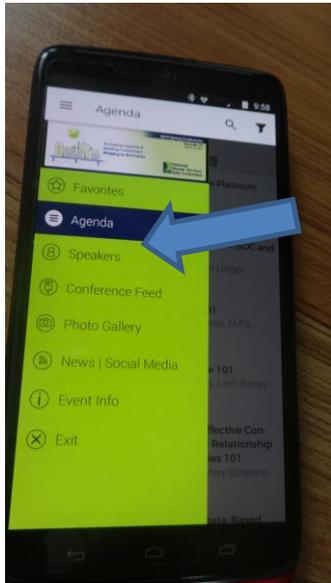- THANK YOU!!

Conclusion

Audience Question

Tell us one thing you took away from this session that you will implement in your data accuracy framework when you go back to your community
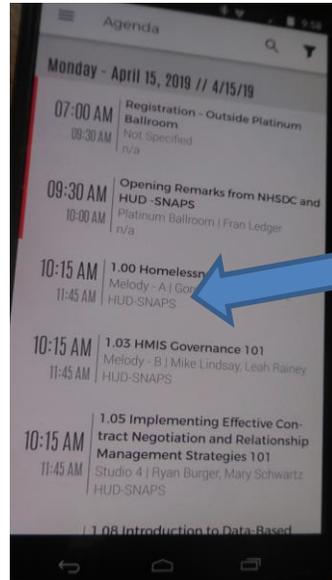
Q&A
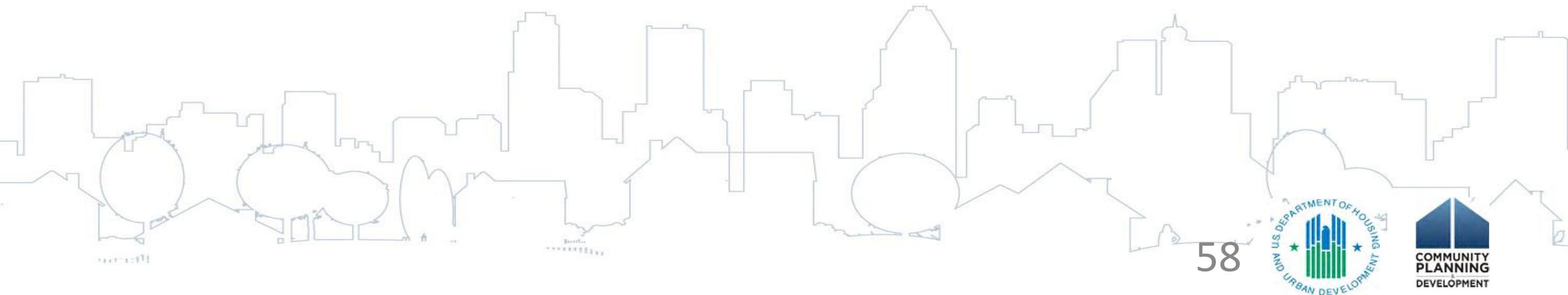
Evaluate This Session on Your Conference App!
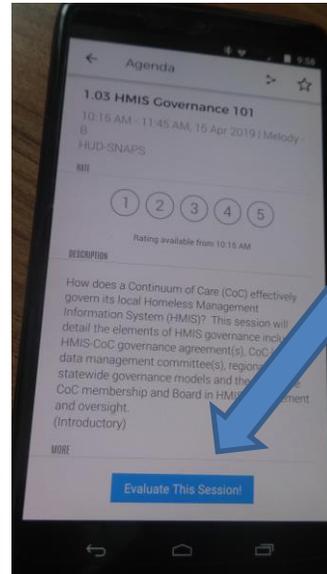## (It takes 5 minutes to complete)
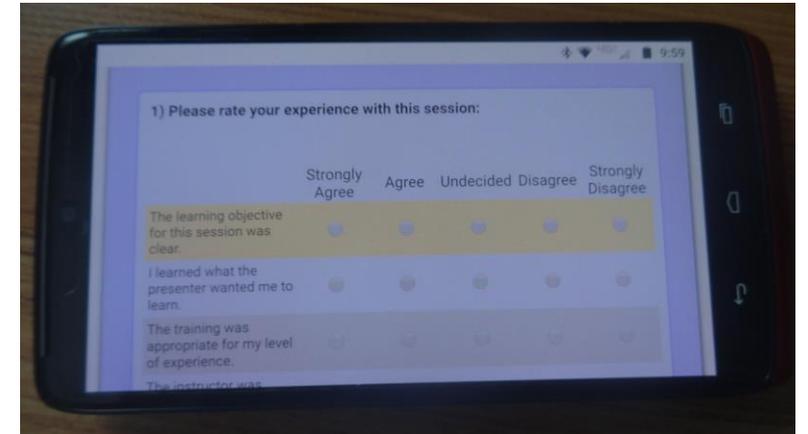
1) Select "Agenda" from the navigation menu.

2) Select the name of the session.

3) Select the blue "Evaluate This Session".

4) Complete the Evaluation and Select "Finish".

TIP:
Turn your phone horizontally to see rating options.

Thank you!

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