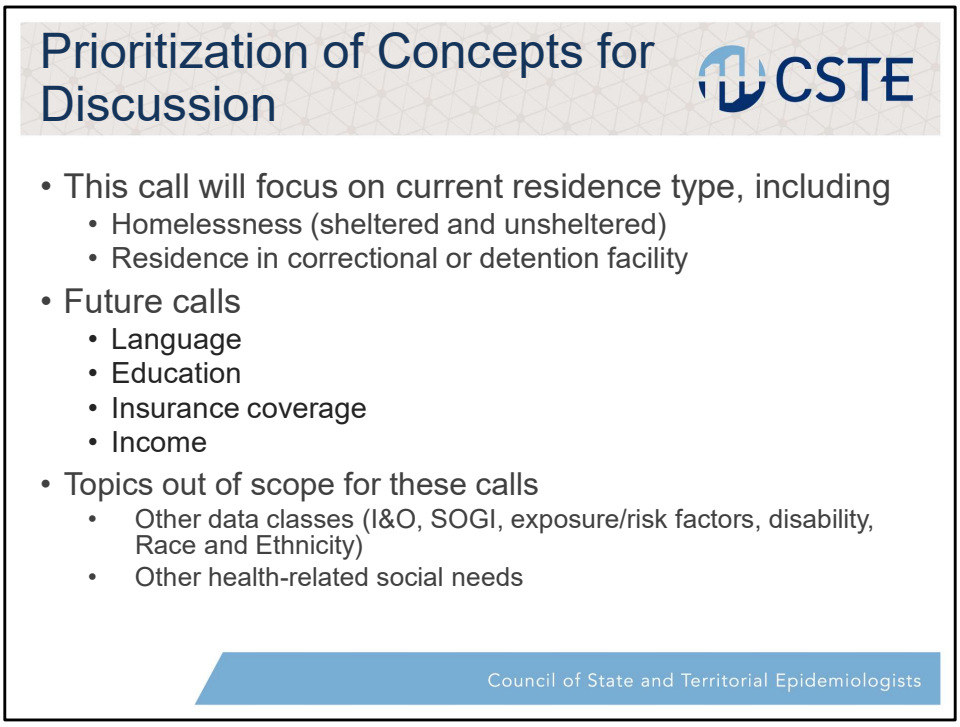
Social Determinants of Health

CSTE DSWG Data Element Specific Team
9/20/2024

In public health frameworks, a distinction has been made between SDOH at the community level and health-related social needs at an individual level.

We want to acknowledge this distinction and clarify that we are focusing on person-level data, because case data are collected at the individual level. While our naming convention for what we're talking about has been SDOH, in reality what we are attempting to capture with these data elements are individual health-related social needs.

These data points help public health officials identify which individuals may be at higher risk of adverse health outcomes due to their social conditions but also highlight factors that may increase the risk of acquiring and spreading disease, particularly in congregate living settings.



Health related social needs are a broad topic that encompass a wide range of data elements. To gather information ahead of the call, a poll was sent to the DEST members on the individual-level concepts for which it is most important to define standard definitions and interpretations for case surveillance.

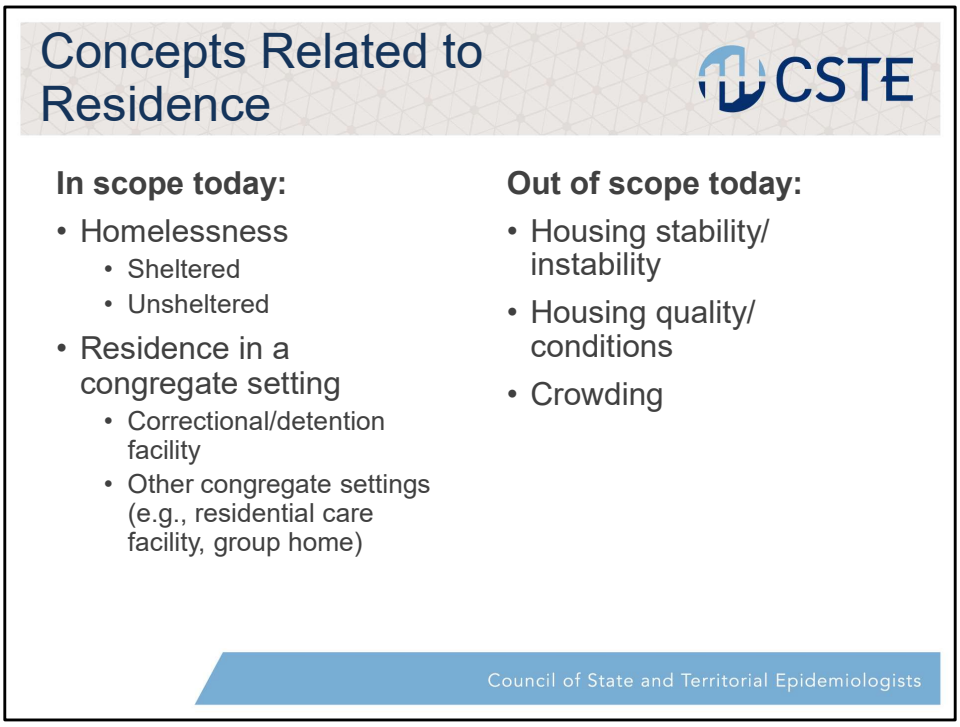
- The poll identified **Homelessness/Residence Type and Incarceration** as some of the highest priority topics for discussion. For the first call, we'll focus specifically on residence type as a data element for how homelessness and current incarceration or detention may be captured and transmitted in case surveillance.

Future calls will cover other high interest areas including:

- **Primary Language**
- **Highest Level of Education**
- **Insurance Coverage** and **Income Level**

Topics that will not be covered because have already been discussed or will be discussed in other data classes include industry and occupation (I&O), SOGI, Exposures/Risk Factors such as substance abuse, Disability, and Race and Ethnicity.

Background Information: SDOH - Residence Type



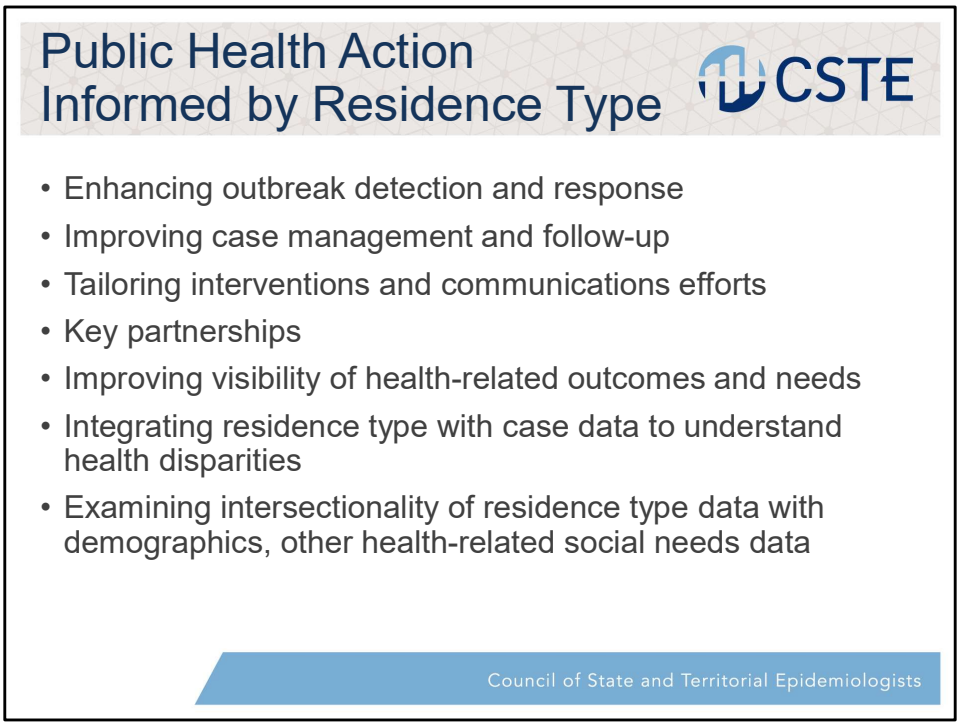
Our conversation will focus on transmitting key aspects of residence type for understanding the health risks associated with different living conditions in the context of reportable diseases.

- **When we talk about the data element of Residence Type, the two concepts that are in scope for transmission by that data element include:**
    - **Homelessness**: Includes individuals without a stable or permanent home. Homelessness can be divided into two categories:
        - **Sheltered**: Those living in temporary accommodations, such as emergency shelters, transitional housing, or motels provided by charities or government programs.
        - **Unsheltered**: People living in places not meant for human habitation, like streets, parks, abandoned buildings, or vehicles, facing significant health risks due to exposure and lack of access to basic services.
    - **Residence in a Congregate Setting**: is the other concept in scope for this data element and can include
        - **Correctional/Detention Facility**: Living in jails, prisons, or detention centers, where close quarters can heighten the risk of infectious diseases.
        - **Other Congregate Settings**: Such as residential care facilities or

group homes, where shared living spaces present unique public health challenges.

- **Concepts related to residence that are out of scope for the data element we're defining today include:**
  - **Housing Stability/Instability**
  - **Housing Quality/Conditions**
  - **Crowding**

By narrowing our focus we aim to collect a standard data element across cases to better understand how particular residence types, as related to homelessness and congregate settings, impact reportable diseases.



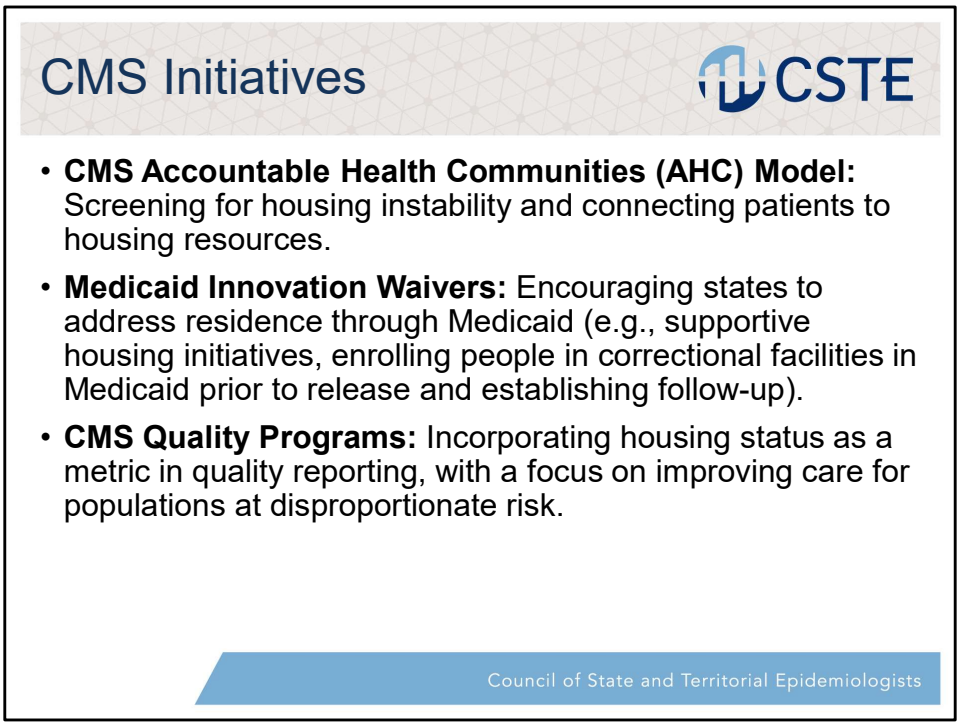
The scope of this work is to focus on aspects of health-related social needs that can most tangibly improve disease prevention and control.

For example, finding a disproportionate burden by residence type could:

- Improve outbreak detection in specific settings, such as shelters or prisons, which may also help provide timely information to allocate resources more effectively.
- Understanding individual social needs, like lack of stable housing, helps in designing follow-up plans that are realistic and effective. This is particularly relevant in managing diseases where continuity of care is crucial, such as tuberculosis or hepatitis C.
- Tailor interventions such as targeted testing, vaccination efforts, communications, or provision of social services, to those most at risk.
- Partnerships could be sought or strengthened with trusted providers, community-based organizations, and people with lived experience when there is better understanding of disease burden based on residence type.
- Residence type data in individual case reports allows for analysis of how social

conditions affect health outcomes or risk factors, such as rates of chronic disease.

- Residence type can also be examined intersectionally; for example, how does the condition differentially impact people experiencing homelessness who have a disability or those in a racial or ethnic minority group?



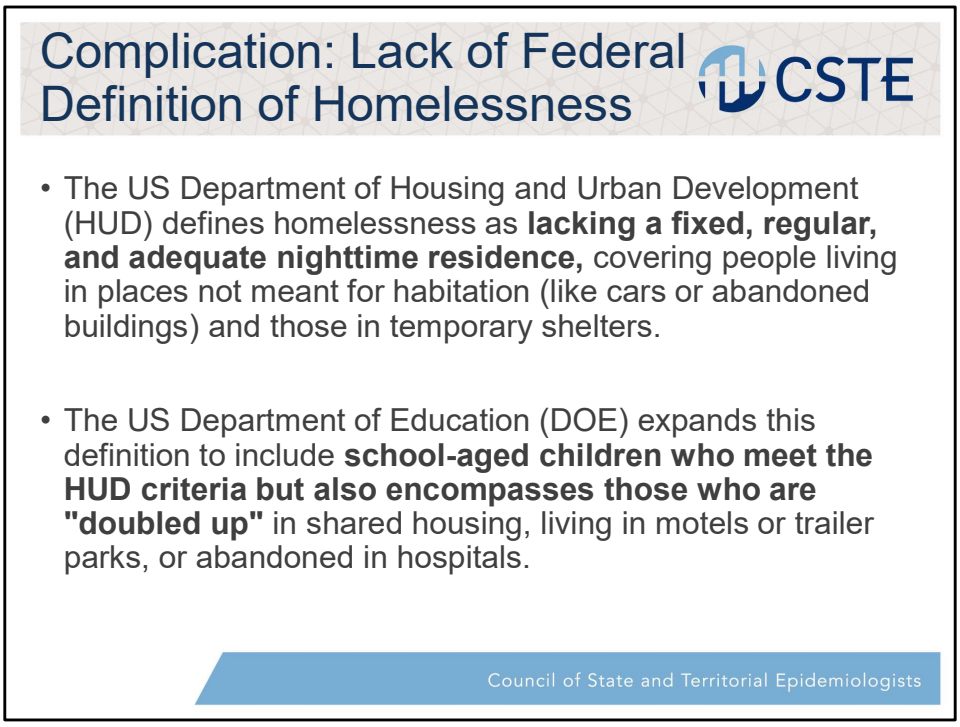
The Centers for Medicare & Medicaid Services (CMS) have implemented several key initiatives that address residence type as an important social determinant of health.

- The **Accountable Health Communities (AHC) Model** is focused on identifying housing instability among Medicare and Medicaid beneficiaries. Through this model, CMS has established screening protocols to identify patients who are experiencing housing challenges, and the model facilitates connections to community-based housing resources. This helps to ensure that patients have stable living conditions, which is fundamental to maintaining good health.

- Through **Medicaid Innovation Waivers**, CMS encourages states to implement programs that directly address housing instability and homelessness. For example, some states have developed supportive housing initiatives that provide both housing and healthcare services to Medicaid beneficiaries who are homeless or at risk of becoming homeless.

- Additionally, CMS has integrated housing status as a metric in several of its **Quality Programs**. By tracking and reporting on housing-related data, these programs help healthcare providers focus on improving care for patients who

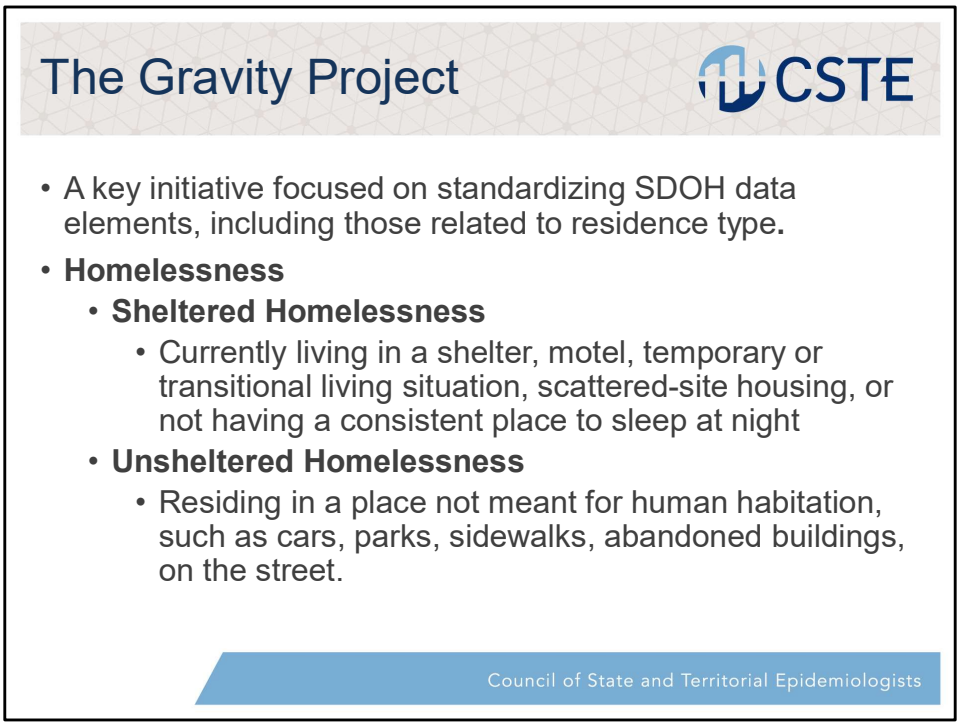
face housing challenges. This includes efforts to reduce hospital readmissions among homeless populations and ensuring that housing needs are considered as part of the overall care plan.



One complication that must be acknowledged is the lack of a standardized definition of homelessness, even at the federal level.

The US Department of Housing and Urban Development (HUD) defines homelessness as lacking a fixed, regular, and adequate nighttime residence, covering people living in places not meant for habitation (like cars or abandoned buildings) and those in temporary shelters. In contrast, the **US Department of Education (DOE)** expands this definition to include school-aged children who meet the HUD criteria but also encompasses those who are "doubled up" in shared housing, living in motels or trailer parks, or abandoned in hospitals.

These data tend to be collected differently in each state due to the previous lack of a validated and standardized tool to collect these data.



The **Gravity Project** is a multisector initiative dedicated to standardizing Social Determinants of Health data, and one of its key areas of focus is housing/residence. This includes developing standardized data elements for housing instability, homelessness, and overall housing status.

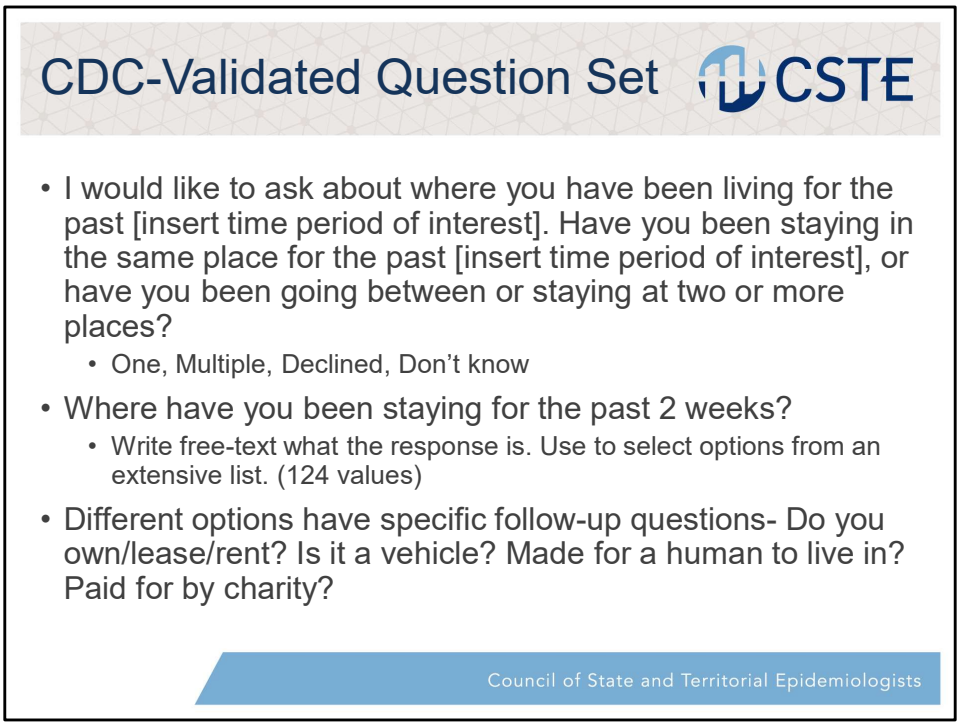
The Gravity Project designs data elements to be integrated with **Electronic Health Records (EHRs)** and with the goal of eventual incorporation into the **United States Core Data for Interoperability (USCDI)**. The Gravity Project's work is also closely aligned with CMS initiatives like those we just mentioned.

The Gravity Project defines and categorizes homelessness to ensure accurate data capture and reporting.

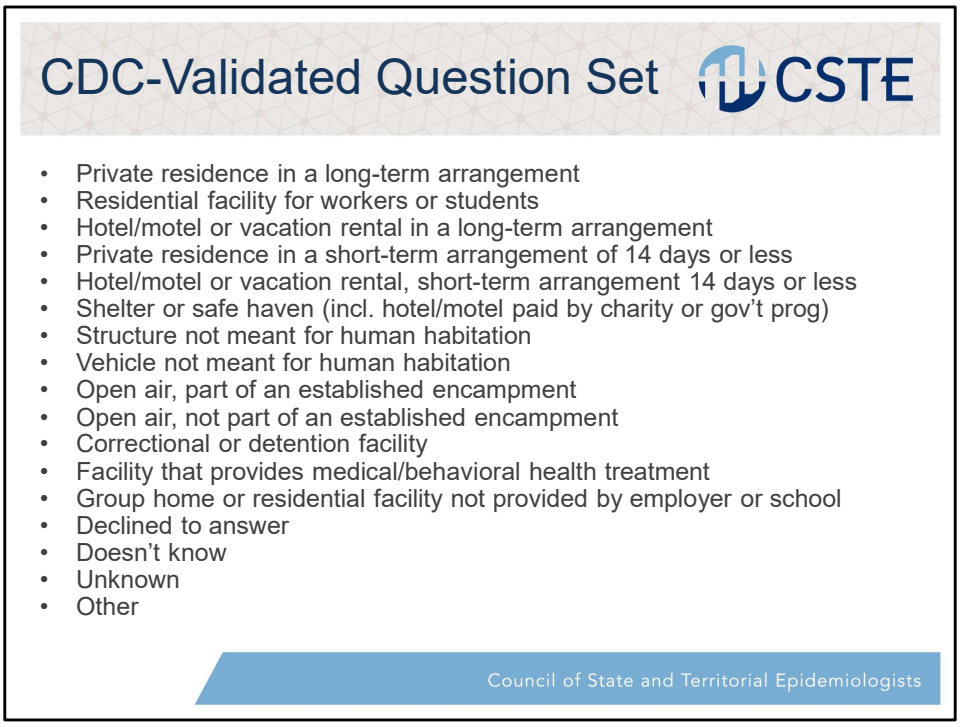
- **Sheltered Homelessness**: Includes individuals currently living in shelters, motels, temporary or transitional housing situations, or scattered-site housing.
- **Unsheltered Homelessness**: Refers to individuals residing in places not meant for human habitation, such as cars, parks, sidewalks, abandoned buildings, or on the street.

The Gravity Project is also planning to expand housing work this year by developing

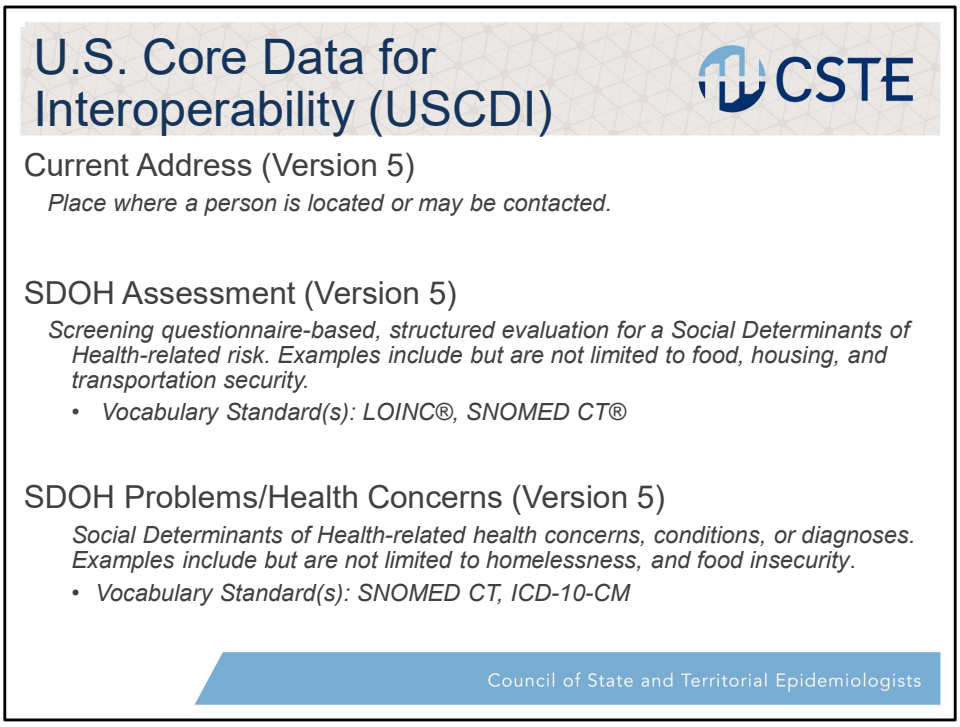
standards and terminology around a CDC-developed and validated question set to capture residence data, focused specifically on homelessness and residence in congregate settings.



CDC and Fulton County, Ga have worked together to develop and validate a question set for accurate capture of housing status (whether someone is housed, experiencing sheltered homelessness, or experiencing unsheltered homelessness) or living in a congregate setting. An idea of the flow of questions and responses are shown on the slide. The person would be asked to provide information about where they are living in their own words, and the investigator would then select the appropriate options from an extensive list. Depending on those selections, additional follow up questions may be required, such as is the location made for a human to live in or paid for by charity.

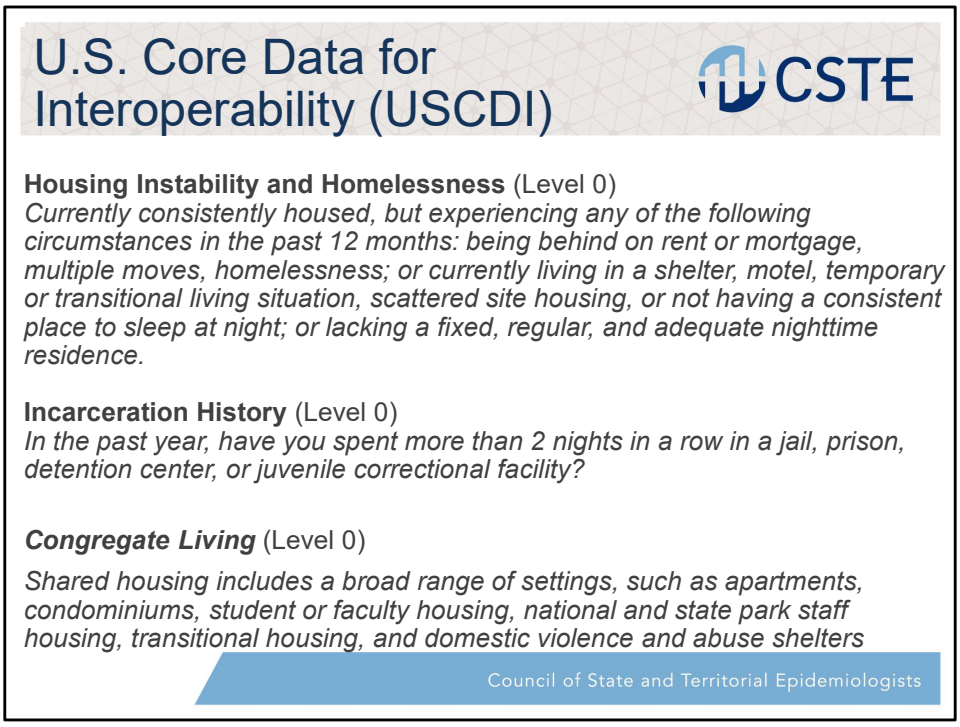


The responses from the previous questions can be rolled up into the 17 options shown on this slide. The Gravity Project is working to develop standards and terminology around this set of values for future inclusion within USCDI and electronic health records.

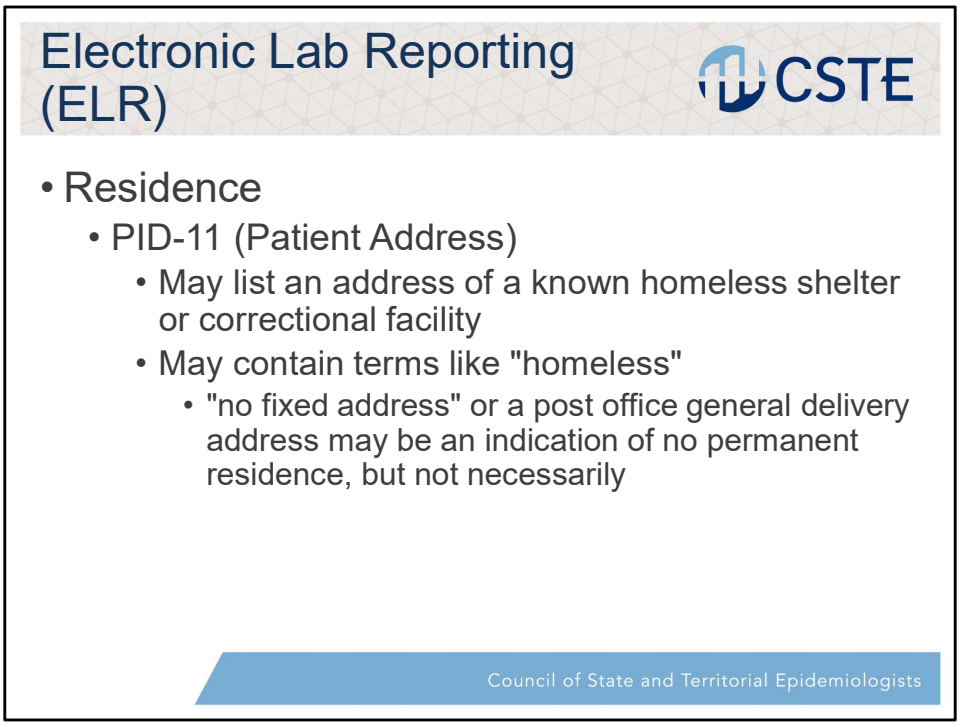


- Among the relevant data standards, USCDI provides a standardized set of health data classes and constituent data elements for nationwide, interoperable health information exchange. Some of the data elements related to residence type/homelessness/incarceration within Version 5 of USCDI include:
  - **Current Address**: Refers to where a person is presently located or can be contacted.
  - **SDOH Assessment**: A structured questionnaire for evaluating risk factors like food insecurity, housing instability, and access to transportation. This data element references the Gravity Project's work.
  - **SDOH Problems/Health Concerns:** Such as homelessness or food insecurity, that may be coded using SNOMED or ICD10 codes.

  It is important to note that SDOH data are likely not gathered in a standardized way across healthcare and there can be biases in the data collection (e.g., likely to be asked or documented only for those who give subjective impressions of poverty or homelessness to clinicians)



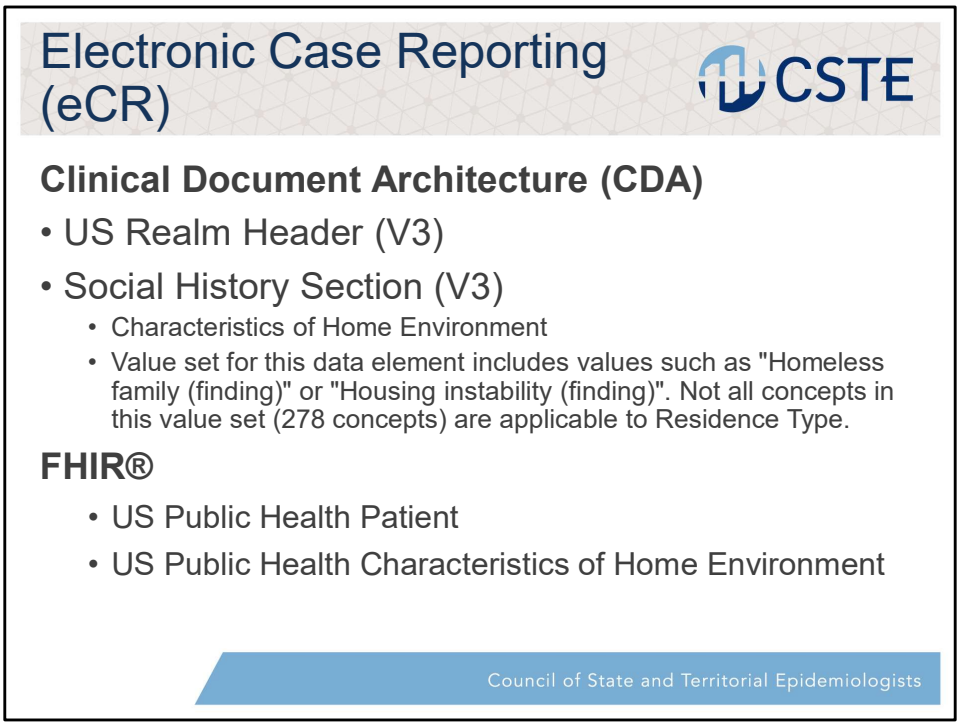
- A few additional data elements are defined as Level 0 in USCDI, meaning evidence of the standardization or exchange of these data elements is limited.
  - **Housing Instability and Homelessness:** Identifies individuals who have faced housing challenges in the past 12 months, such as being behind on rent, multiple moves, or periods of homelessness. It also includes those in temporary or unstable living situations.
  - **Incarceration History:** Identifies whether a person has spent more than two consecutive nights in jail or prison in the past year.
  - **Congregate Living**: Identifies shared housing situations from a broad range of settings, which can include apartments, dorms, transitional housing, or shelters.



- **In Electronic Lab Reporting (ELR),** PID-11 is the segment used to document the patient's address. This address data can include street address, city, state, zip code, and other location details. While PID-11 is primarily designed to record a standard address, it can also be a tool to identify specific residence types, such as homelessness or incarceration, based on the address provided.

- For instance, if the address listed is that of a known homeless shelter, this can suggest that the individual is experiencing housing instability. In some cases, the address field might include a term like 'homeless'. In other instances it may contain terms like 'no fixed address' or a general delivery address at a post office, which are not necessarily but can be indicators that the individual does not have a permanent residence.

- Similarly, if the address provided in PID-11 corresponds to a known correctional facility, this can indicate that the individual is currently incarcerated. Correctional facilities often have unique and identifiable addresses, making it possible to use this information to determine the residence type.

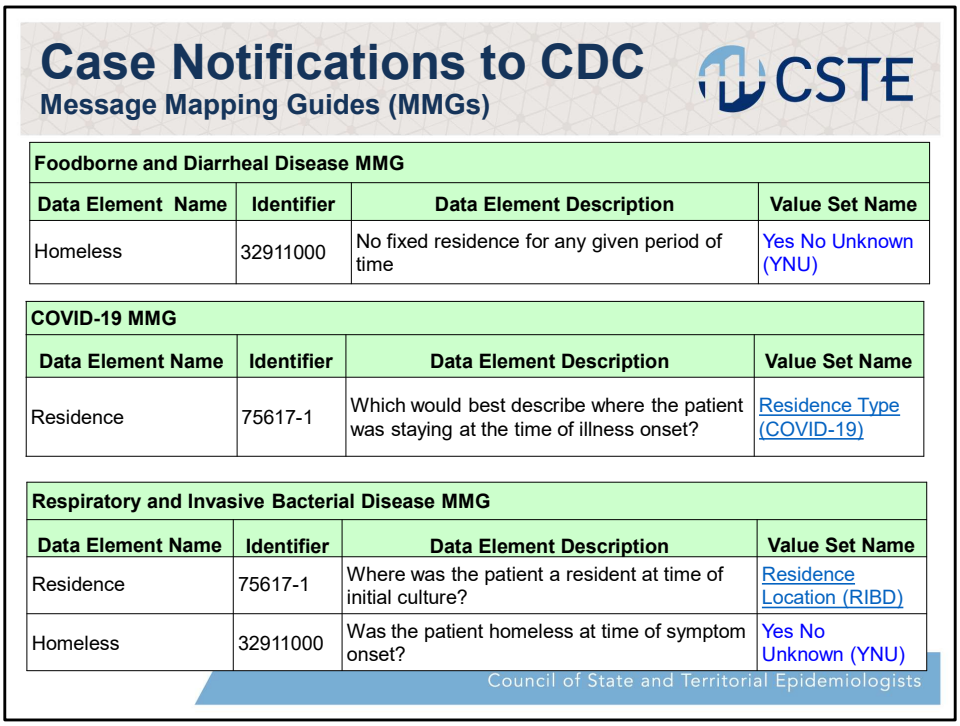


In electronic case reporting (eCR), the US Realm Header (v3) is used to capture the patient address. Also, there are instructions that if the patient is homeless, complete as much address information as possible (city, zip, county, etc.) and use the 'Characteristics of Home Environment' template in the Social History Section to indicate that the patient is homeless. The 'Characteristics of Home Environment' template reflects the type of residence, status of accommodations, living situation and environments. For example, the value set contains codes like 'Homeless family (finding)' or 'Housing instability (finding)'. The value set for this data element consists of 278 detailed SNOMED values and not all are applicable to our discussion of Residence Type.

The eCR FHIR specification similarly captures information about a patient's residence and living conditions

•The **US Public Health Patient Resource** contains the Patient information, including address.

•The **US Public Health Characteristics of Home Environment** resource utilizes the same SNOMED value set as this template in the CDA I mentioned above.



Case Notifications to CDC
Message Mapping Guides (MMGs)

CSTE

Foodborne and Diarrheal Disease MMG			
Data Element Name	**Identifier**	**Data Element Description**	**Value Set Name**
Homeless	32911000	No fixed residence for any given period of time	Yes No Unknown (YNU)

COVID-19 MMG			
Data Element Name	**Identifier**	**Data Element Description**	**Value Set Name**
Residence	75617-1	Which would best describe where the patient was staying at the time of illness onset?	Residence Type (COVID-19)

Respiratory and Invasive Bacterial Disease MMG			
Data Element Name	**Identifier**	**Data Element Description**	**Value Set Name**
Residence	75617-1	Where was the patient a resident at time of initial culture?	Residence Location (RIBD)
Homeless	32911000	Was the patient homeless at time of symptom onset?	Yes No Unknown (YNU)

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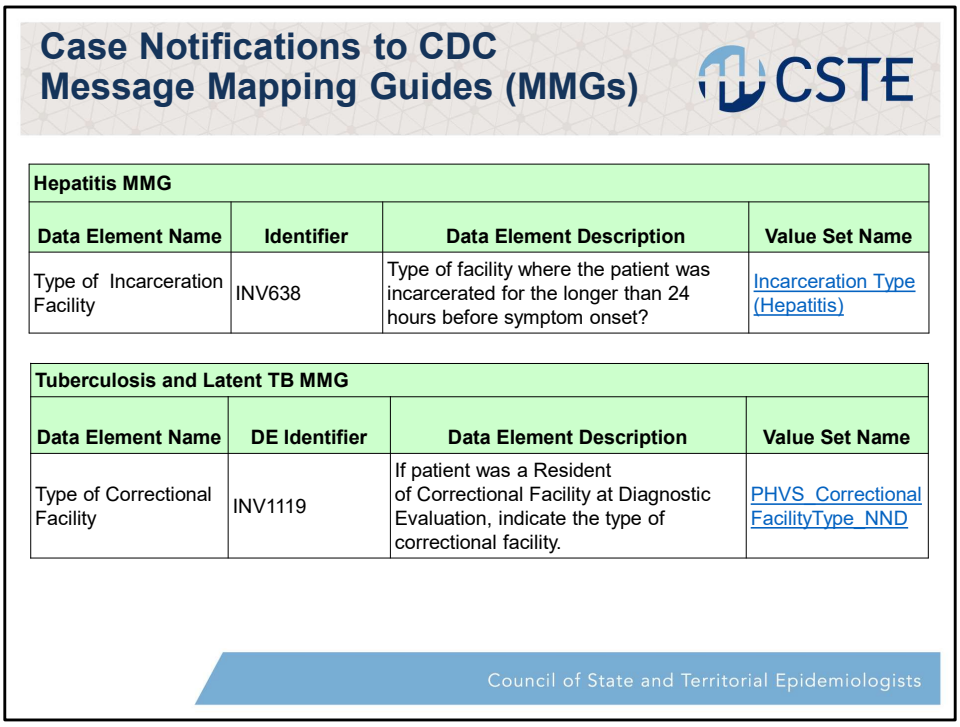
Specific CDC Message Mapping Guides (MMGs) include data elements on Residence and Homelessness.

The Foodborne and Diarrheal Disease MMG describes Homeless as having no fixed residence for any given period of time, while the Respiratory and Invasive Bacterial Disease (RIBD) MMG asks "Was the patient homeless at the time of symptom onset?"

When speaking about Residence as a data element, the RIBD MMG asks "Where was the patient a resident at time of initial culture?“

Another MMG that includes Residence is the COVID-19 MMG describing where the patient was staying at time of illness onset.

Not shown in this slide is TB. In the TB MMG, the risk factor data element includes values for “Homeless Ever” and “Homeless in the Past 12 Months.”



Case Notifications to CDC Message Mapping Guides (MMGs)

CSTE

Hepatitis MMG			
Data Element Name	**Identifier**	**Data Element Description**	**Value Set Name**
Type of Incarceration Facility	INV638	Type of facility where the patient was incarcerated for the longer than 24 hours before symptom onset?	Incarceration Type (Hepatitis)

Tuberculosis and Latent TB MMG			
Data Element Name	**DE Identifier**	**Data Element Description**	**Value Set Name**
Type of Correctional Facility	INV1119	If patient was a Resident of Correctional Facility at Diagnostic Evaluation, indicate the type of correctional facility.	PHVS_CorrectionalFacilityType_NND

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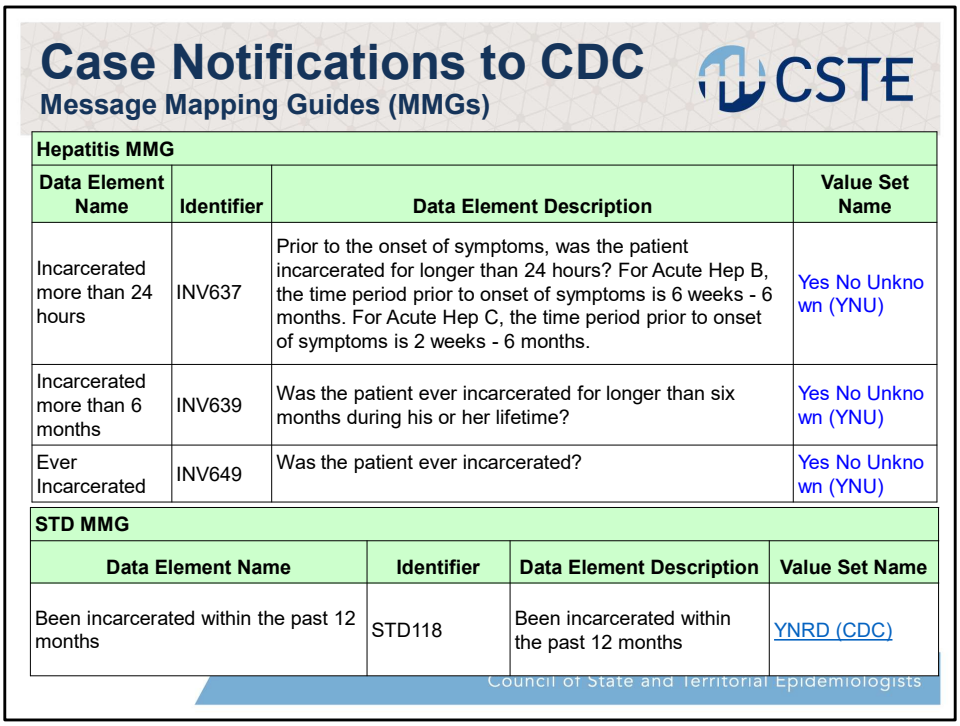
For incarceration, the Hepatitis MMG asks about the type of incarceration facility where the patient was incarcerated for longer than 24 hours before symptom onset. The TB and Latent TB MMG includes the Type of Correctional Facility data element which is used if the patient was a resident at correctional facility at the time of diagnostic evaluation.



Case Notifications to CDC

Message Mapping Guides (MMGs)

CSTE

Hepatitis MMG

Data Element Name	Identifier	Data Element Description	Value Set Name
Incarcerated more than 24 hours	INV637	Prior to the onset of symptoms, was the patient incarcerated for longer than 24 hours? For Acute Hep B, the time period prior to onset of symptoms is 6 weeks - 6 months. For Acute Hep C, the time period prior to onset of symptoms is 2 weeks - 6 months.	Yes No Unknown (YNU)
Incarcerated more than 6 months	INV639	Was the patient ever incarcerated for longer than six months during his or her lifetime?	Yes No Unknown (YNU)
Ever Incarcerated	INV649	Was the patient ever incarcerated?	Yes No Unknown (YNU)

STD MMG

Data Element Name	Identifier	Data Element Description	Value Set Name
Been incarcerated within the past 12 months	STD118	Been incarcerated within the past 12 months	YNRD (CDC)

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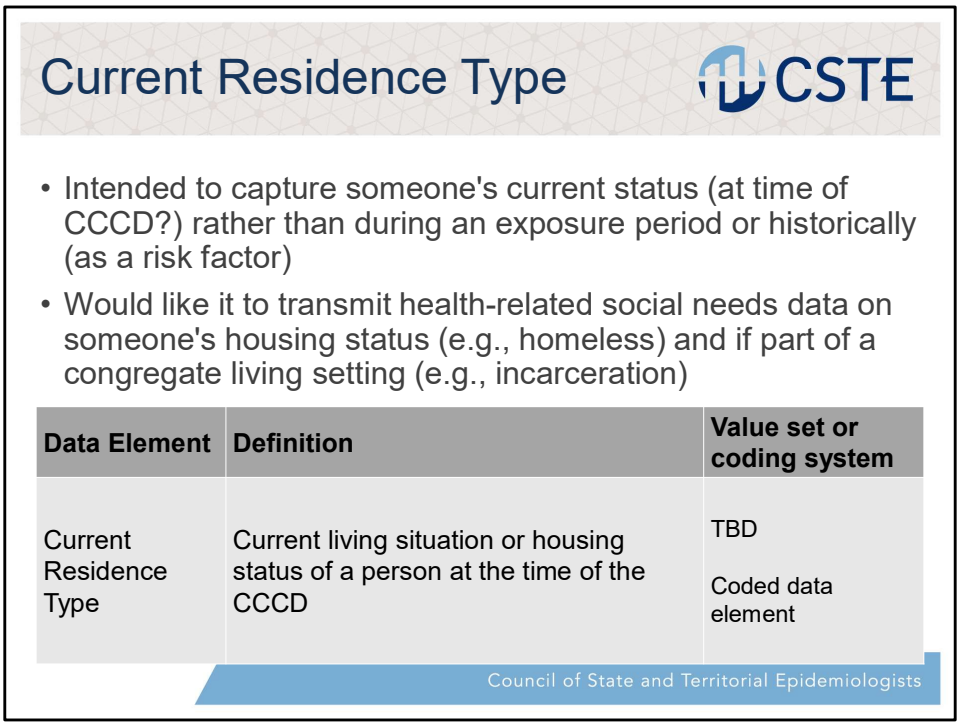
The Hepatitis MMG includes various data elements all related to incarceration. The data elements describe the period of time an individual has been incarcerated or if ever incarcerated.

The STD MMG also includes a data element related to incarceration called "Been incarcerated within the past 12 months".

Many of these specific examples are of data elements that tend towards condition-specific timeframes and risk factors. The data element we are going to talk about today of "Residence Type" is not intended to encompass or replace all condition-specific risk factor or exposure data elements that would be transmitted within those condition specific repeating groups. The goal is to identify a standard data element that can provide health-related social need information in a consistent way across all cases.



To that end, the concept captured here is the CURRENT residence type (or perhaps the residence type at time of report, time of dx, time of CCCD or similar permutation). This may be different than what the residence type was at the time of exposure or what a prior residence type was as a risk factor for the condition, as these exposures or risks can be captured within the condition specific repeating groups as needed.

This slide includes a potential definition for residence type that we will discuss on the call on the 20th so that you can have some time to consider it before the call.