 **Point-in-Time Count Methodology for Sheltered & Unsheltered Homeless Populations**

Last Updated: November 12, 2020

**Sheltered Count Methods**

Consistent and rigorous methodology ensures that the data are reliable and comparable across years and can be used to design effective interventions to help people experiencing homelessness. Connecticut has implemented a consistent and uniform statewide methodology for *CT PIT* implementation since 2008.

*CT PIT 2021* will be the eleventh year in which the Connecticut Homelessness Management Information System (CT HMIS) will provide demographic data for clients in emergency shelters, and transitional housing programs, and the second year for safe havens, and will be a source to verify population count information provided by homeless programs into a separate *CT PIT* database. HMIS data is used to provide population-level detail and for the purposes of extrapolating data for missing data values. Providers also will use the CT PIT database to document their housing inventories and confirm population demographics.

*CT PIT 2021* will be conducted the night of **Tuesday**, January 26, 2021.

The Sheltered Count includes three main components: the collection of demographic or characteristic data on persons in emergency shelters, transitional housing programs and safe havens; the collection of client population counts among shelters, transitional housing programs, safe havens, rapid rehousing programs, permanent supportive housing programs, other permanent housing for the homeless, and shelters dedicated to serving survivors of domestic violence; and the collection of bed and unit inventory for all program types.

**Collecting Client Demographics**

Information on key demographic characteristics is collected from all persons staying in Connecticut’s emergency shelters and transitional housing programs on the night of the count. Data elements collected for the purposes of *CT PIT* have been aligned with the everyday intake assessment which all emergency shelters, transitional housing projects and safe havens usually use to enter clients. If data was properly and fully entered for all active emergency shelter, transitional housing and safe haven clients on the night of the count, shelters, transitional housing and safe haven projects have no additional demographic data to collect.

For clients staying in emergency shelters, transitional housing programs, and safe havens that do not participate in CT HMIS, demographic data will be collected in aggregate and entered into the Point-in-Time database designed to capture this information, as well as bed and unit inventory for the Housing Inventory. The Non- HMIS participatory projects enter their aggregate data directly into the PIT database.

**Evacuee Data for 2021**

In the event of a natural disaster that brings evacuees experiencing homelessness to CT, counting protocols will be put into place to include this population. The level of detail in the data received from FEMA or other government agencies involved with the evacuee population will determine the capacity to provide extrapolated estimates of subpopulation data, i.e. chronic, veteran, severe mental illness, chronic substance abuse, HIV/AIDS, and domestic violence.

**COVID-19 Data for 2021**

Due to the SARS-CoV-2 virus in 2020, data fields have been added to the homeless management information system (HMIS) in CT to capture those who are experiencing homelessness due to the pandemic. This data will be reflected in the PIT count as determined by HUD.

**Youth Data**

The 2021 PIT will include any youth (those aged 18-24) found either sheltered or unsheltered on the night of the PIT. In previous years, the PIT report included data from a week-long Youth Outreach and Count (YOC) effort. Due to the different methodologies for capturing the youth data, CCEH determined that for PIT 2021 any data captured in the YOC will be documented in a separate report that focuses specifically on youth. The PIT will continue to report on any youth found in shelters, transitional housing, or safe havens, as well as those found unsheltered the night of the PIT.

**Technical Methodology (For HDX Answers)**

Data for people experiencing homelessness on the night of the Point-in-Time (PIT) count will come from HMIS for those persons residing in an emergency shelter, transitional housing, or safe haven project. Ninety percent of shelter, transitional housing projects, and safe havens in CT participate in HMIS. The remaining 10% of projects that do not participate will provide client-level survey data. This approach allows for a complete census count of sheltered homeless and allows for capturing all population and subpopulation data.

In order to avoid duplication, several prevention methods are used:

* Comparison of personally identifying information (PII), such as name, date of birth, and Social Security Number
* Comparison of unique client identifiers (not PII)
* Blitz count of persons in shelters (i.e., count occurred at same time to avoid double-counting)
* Interview/survey question(s) with screening questions (e.g., have you already completed a count survey)

**PIT 2021 Chronic Homelessness Calculations**

CCEH will use the By Name List (BNL) data in HMIS to determine the Chronic Homeless Status of people experiencing homelessness in CT. The BNL is more accurate than the client-level self-reported data as the chronicity information has been confirmed or rejected by a case manager. This includes verifying the person has the required length of time homeless: 1 year or longer, or 4 or more episodes in the last three years with a total length of time homeless of 1 year or longer; as well as verifying that they have a qualifying disability based on the requirements outlined in HUD’s Final Rule on Defining Chronic Homelessness found here: *https://www.hudexchange.info/resources/documents/Defining-Chronically-Homeless-Final-Rule.pdf.*

As of this writing, HUD has not provided guidance for the unsheltered PIT count for 2021, and CCEH will adjust the methodology accordingly once this direction is known. In previous years, the BNL data was cross-referenced with all people in HMIS participating shelters and all people identified as unsheltered homeless to determine the most accurate number of verified chronically homeless adults and families in each Continuum of Care. This includes using HMIS IDs, First Name, Last Name, and Date of Birth to electronically match records from HMIS participating projects to the BNL. For those experiencing unsheltered homelessness, First Name, Last Name, and Date of Birth data will be used to match clients from the By Name List. All unsheltered data containing personally identifying information is accessed via secure connections and is only accessible to PIT Administrators. Since domestic violence (DV) shelters do not participate in HMIS, their chronic homeless numbers will be based on self-reported data.

Electronically verifying the data is not enough, however. Coordinated Access Network staff will need to verify that all of the people experiencing chronic homelessness were, in fact, still homeless on the night of the count IF THEY WERE NOT IN AN EMERGENCY SHELTER or INTERVIEWED DURING THE UNSHELTERED COUNT. (Clients residing in an emergency shelter will be considered verified as they were in a shelter on the night of the count and therefore we know that they were still experiencing homelessness on the night of the count.) CCEH will work with Coordinated Access Networks in advance of the Point-in-Time Count to ensure they have enough staff available to outreach clients on their By-Name-List that were not staying in shelter. The verification will need to be done within 3 business days of the Point-in-Time Count so that all PIT data is received by the data entry deadline. CAN Managers will need to provide the HMIS ID of the chronically homeless household they outreached, the town in which the person slept, and the location of where the person slept. The results of this outreach will determine if the person still meets chronic eligibility for the purposes of PIT. CCEH will provide training to the CANs and Regional Coordinators to be sure adequate preparations are in place for this effort.

For clients who self-identify as chronically homeless by answering the questions that meet the criteria for chronic homelessness (*literally homeless, have a disability of long duration, and have a length of time homeless that meet the requirements outlined in HUD’s final rule on defining Chronic Homelessness: https://www.hudexchange.info/resources/documents/Defining-Chronically-Homeless-Final-Rule.pdf*), but do not appear on the By-Name-List will retain their chronic categorization for the purposes of PIT.

**Extrapolation of HMIS Data to Inform Subpopulations**

Although data quality in CT HMIS improves dramatically each year with extensive validation programming aimed at preventing incomplete or missing data, some extrapolation is necessary to account for imperfect data quality. The comprehensive methodology at calculating the subpopulations is as follows:

**Chronic Homeless Population Data**

Individual and Family surveys are separated based on the response to the question “If yes, HOW MANY children are staying with you tonight?”

Emergency Shelter Programs Only

**Surveys Included** (Numerator):

 Surveys that meet the following criteria:

* Meet the criteria for CH (literally homeless, have a disability of long duration, and have a length of time homeless that meet the requirements outlined in HUD’s final rule on defining Chronic Homelessness: https://www.hudexchange.info/resources/documents/Defining-Chronically-Homeless-Final-Rule.pdf)
* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”

**Surveys Useable** (Denominator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
	+ Substantive answer to either question:
		- Have you been continuously homeless for a year or more?
		- In the last three years, HOW MANY TIMES have you been homeless?
		- If 4 or more times, how many months have you been homeless total during those episodes?
	+ Substantive answer to one of the questions:
		- Do you have HIV or AIDS?
		- Do you have a Physical Disability?
		- Do you have a Developmental Disability?
		- Do you have a Chronic Health Condition?
		- Do you have a Mental Health Problem?
		- Do you have any Substance Abuse Issues?

Please note that Substantive Answers to disability questions includes a Yes answer to follow up question indicating the disability (1) is expected to be long-continuing or of indefinite duration; (2) Substantially impedes the individual's ability to live independently; and (3) Could be improved by the provision of more suitable housing conditions.

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Extrapolation**:

 Individuals: Rate \* Number of Adults (from PIT population count)

 Families: Rate \* Number of Adults (from PIT population count) \* Average family size (from PIT population count)

**DV Sub-Population**

Emergency Shelter and Transitional Housing Programs Only

Programs classified as serving DV are excluded from the surveys used for the **Rate** calculation and the population is added back at 100%

**Female & Transgender Calculation**

**Surveys Included** (Numerator):

Surveys that meet the following criteria:

* Have a Yes answer to the questions:
	+ We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?
	+ Are you currently experiencing homelessness due to domestic violence?
* Answered the question “How do you identify your GENDER?” as Female or Transgender

**Surveys Useable** (Denominator):

Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Are you currently experiencing homelessness due to domestic violence?
* Answered the question “How do you identify your GENDER?” as Female or Transgender

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Male Calculation:**

**Surveys Included** (Numerator):

 Surveys that meet the following criteria:

* Have a Yes answer to the questions:
	+ We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?
	+ Are you currently experiencing homelessness due to domestic violence?
* Answered the question “How do you identify your GENDER?” as Male

**Surveys Useable** (Denominator):

Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Are you currently experiencing homelessness due to domestic violence?
* Answered the question “How do you identify your GENDER?” as Male

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Extrapolation**:

(**Rate** \* Number of Female & Transgender (from PIT population count excluding DV programs)) + **Rate** \* Number of Male (from PIT population count excluding DV programs)) Number of Adults from PIT population count in DV Programs

**HIV Sub-Population**

Emergency Shelter and Transitional Housing Programs Only

Programs classified as serving HIV are excluded from the surveys used for the **Rate** calculation and the population is added back at 100%

**Surveys Included** (Numerator):

 Surveys that meet the following criteria:

* Have a Yes answer to the questions:
	+ We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?
	+ Do you have HIV or AIDS?

**Surveys Useable** (Denominator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Have a Yes or No answer to the question “Do you have HIV or AIDS?”

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Extrapolation**:

 (**Rate** \* Number of Adults (from PIT population count excluding HIV programs)) + Number of Adults from PIT population count in HIV Programs

**Substance Abuse Sub-Population**

Emergency Shelter and Transitional Housing Programs Only

**Surveys Included** (Numerator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Answered the question “Do you have any Substance Abuse Issues?” as any of Yes, Alcohol Abuse, Drug Abuse, Both Alcohol and Drug
* Have a Yes answer to the question “If yes, is this a long-term Substance Abuse Problem that impairs your ability to hold a job or live independently?”

**Surveys Useable** (Denominator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Answered the question “Do you have any Substance Abuse Issues?” as any of Yes, Alcohol Abuse, Drug Abuse, Both Alcohol and Drug, No

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Extrapolation**:

 **Rate** \* Number of Adults (from PIT population count)

**Mental Illness Sub-Population**

Emergency Shelter and Transitional Housing Programs Only

**Surveys Included** (Numerator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Have a Yes answer to the questions:
	+ Do you have a Mental Health Problem?
	+ If yes, is this a long-term Mental Health Problem that impairs your ability to hold a job or live independently?

**Surveys Useable** (Denominator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Have a Yes or No answer to the questions:
	+ Do you have a Mental Health Problem?
	+ If yes, is this a long-term Mental Health Problem that impairs your ability to hold a job or live independently?

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Extrapolation**:

 **Rate** \* Number of Adults (from PIT population count)

**Chronic Homeless Veteran Sub-Population**

Individual and Family surveys are separated based on the response to the question “If yes, HOW MANY children are staying with you tonight?”

Emergency Shelter Programs Only

**Surveys Included** (Numerator):

 Surveys that meet the following criteria:

* Meet the criteria for chronic homeless
* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Have a Yes answer to the question “Have you served in the U.S. MILITARY?”

**Surveys Useable** (Denominator):

 Surveys that meet the following criteria:

* Have a Yes answer to the question “We are conducting a survey that helps advocates obtain funding to end homelessness. Would you like to participate?”
* Have a Yes answer to the question “Have you served in the U.S. MILITARY?”
	+ Substantive answer to either question:
		- Have you been continuously homeless for a year or more?
		- In the last three years, HOW MANY TIMES have you been homeless?
		- If 4 or more times, how many months have you been homeless total during those episodes?
	+ Substantive answer to one of the questions:
		- Do you have HIV or AIDS?
		- Do you have a Physical Disability?
		- Do you have a Developmental Disability?
		- Do you have a Chronic Health Condition?
		- Do you have a Mental Health Problem?
		- Do you have any Substance Abuse Issues?

Please note that substantive answers to disability questions includes a Yes answer to follow up question indicating the disability (1) is expected to be long-continuing or of indefinite duration; (2) substantially impedes the individual's ability to live independently; and (3) could be improved by the provision of more suitable housing conditions.

**Rate** for extrapolation:

 **Surveys Included** / **Surveys Useable**

**Extrapolation**:

 Individuals: Rate \* Number of Adults (from PIT population count)

 Families: Rate \* Number of Adults (from PIT population count) \* Average family size (from PIT population count)

**Unsheltered Count Methods *[NOTE: As of November 12, 2020 HUD has not yet provided guidance for how states are to conduct the unsheltered PIT Count for 2021. The information in this section reflects the 2020 PIT Count and will be adjusted once final direction from HUD is known.]***

**Technical Methodology (For HDX Answers)**

**Population Data**

The Unsheltered Count uses two sampling methods: “Night of the count” - known locations and “Night of the count” - random sample. Some areas are not canvassed due to being locations known to not have people experiencing homelessness within them, e.g. gated communities.

Areas for canvasing are selected in two ways: areas known to have unsheltered homeless and a random sample of areas outside of known locations. Data from the randomly sampled locations are then extrapolated to provide a statistically valid estimate of the total number of people in an unsheltered situation.

All homeless people encountered during the count in the assigned areas are counted. People are not selected randomly, and the selection is driven by practicality or expediency (e.g., canvassers count people that are in plain view from the sidewalk and did not try to look into buildings or cars)

Deduplication efforts consist of:

* Blitz count of unsheltered people (i.e., canvassing of different areas occurred at same time to avoid double counting)
* Interview/survey question(s) with screening questions (e.g., have you already completed a count survey)

**Unsheltered Subpopulations**

The approach used to collect demographic and subpopulation data about unsheltered people included in the unsheltered population during the PIT count is through the use of mobile surveys/interviews of people identified as unsheltered on the night of the PIT count. All people encountered are surveyed if they wish to participate. If someone refuses, the volunteer is instructed to complete an observational survey on the person if they are sure the person is experiencing homelessness. Surveys are conducted via a mobile application called “Counting Us” provided by Simtech Solutions.

Deduplication strategies among sheltered and unsheltered data include:

* Comparison of personally identifying information (PII), such as name, date of birth, and Social Security Number
* Comparison of unique client identifiers (not PII)
* Blitz count of unsheltered people (i.e., sheltered and unsheltered counts occurred at same time to avoid double counting)
* Interview/survey question(s) with screening questions (e.g., have you already completed a count survey)

Observational surveys present a challenge for deduplication as they have limited information beyond age group, race, gender, and ethnicity. In an effort to reduce the number of observational surveys, intensive trainings around when it is acceptable to use that type of survey will be conducted by CCEH, along with live monitoring of the numbers and percentages of observational surveys by PIT region to detect any areas with skewed data during the count. This will allow for immediate outreach to Regional Coordinators who can contact their volunteers and correct their use of observational surveys if they are using them when standard surveys should be administered.

**Timing of the Unsheltered PIT Count**

The unsheltered Point-in-Time Count will take place in accordance with HUD Guidance on a single night during the last ten days in January: January 26, 2021. The count can take place between dusk and dawn and the PIT Regions are conducting their counts during the timing blocks that best fit the needs of the homeless population of the area. The following list outlines the time slots by PIT Region in which the count will happen:

Bridgeport: 9 pm-1 am

Bristol: 5-7 am

Danbury: 7-11 pm

Hartford: 5-7 am

Hartford Suburbs: 5-7 am

Litchfield: 7-11 pm

Meriden: 7-11 pm

Middlesex: 7-11 pm

New Britain: 5-7 am

New Haven: 4-7 am

New Haven (East): 7-11 pm

New Haven (West): 7-11 pm

New Haven-North-South: 7-11 pm

Norwalk: 7-11 pm

Norwich-New London: 7-11 pm

Stamford-Greenwich: 9 pm-1 am

Waterbury: 7-11 pm

Windham: 7-11 pm

**Chronic Homeless Calculation**

The By Name List data will be cross-referenced with all people identified as unsheltered homeless to determine the most accurate number of verified chronically homeless adults and families in each Continuum of Care. This includes using First Name, Last Name, and Date of Birth data to match clients from the By Name List. All unsheltered data containing personally identifying information is accessed via secure connections and is only accessible to PIT Administrators.

Electronically verifying the data is not enough, however. CCEH will work with Coordinated Access Networks to formulate a plan in advance of the Point-in-Time Count to have enough staff available to outreach clients on their By-Name-List that were not staying in shelter. For those who were not identified on the night of the count, verification will need to be done within 3 business days of the Point-in-Time Count so that all PIT data is received by the data entry deadline. CAN Managers will need to provide the HMIS ID of the chronically homeless household they outreached, the town in which the person slept, and the location of where the person slept. The results of this outreach will determine if the person still meets chronic eligibility for the purposes of PIT. CCEH will provide training to the CANs and Regional Coordinators to be sure adequate preparations are in place for this effort.

For clients who self-identify as chronically homeless by answering the questions that meet the criteria for chronic homelessness (*literally homeless, have a disability of long duration, and have a length of time homeless that meet the requirements outlined in HUD’s final rule on defining Chronic Homelessness: https://www.hudexchange.info/resources/documents/Defining-Chronically-Homeless-Final-Rule.pdf*), but do not appear on the By-Name-List will retain their chronic categorization for the purposes of PIT.

For clients who self-identify as chronically homeless by answering the questions that meet the criteria for chronic homelessness, but appear on the By-Name-List as verified to be not chronically homeless will have their status updated to reflect the non-chronic status as their information has already been verified by the CAN.

**Sampling Strategy**

CCEH is sub-contracting with Simtech Solutions, Inc., cause-driven technology services provider, for the design and implementation of the unsheltered count methodology. Simtech and CCEH will employ a stratified random sample to estimating the number of unsheltered homeless individuals in Connecticut. Working in consultation with CCEH and PIT Region Coordinators, Simtech will designate Connecticut’s 829 census tracts as either “high” or “low” based on the probability of finding a homeless person in that census tract. All high probability areas, and a sample of low probability areas will be canvassed during the PIT count. The process for designating high probability areas goes through quality assurance steps to ensure the most accurate selection of locations known to have people experiencing homelessness. The initial set of high probability census tracts are comprised of the locations in which a person was counted the previous year, regardless of whether or not that was a high or low probability block that year. These areas are expected to be canvassed again, unless a regional coordinator has a justification for why the location should be removed (for example what was an abandoned lot last year is now a condo complex this year). Then, working in collaboration with outreach and other providers who know the community well, additional census tracts known to have people experiencing homelessness in them will also be selected as high probability. Once all of the high probability locations are selected, the low probability sampling census tracts can be generated in the method described further in this document.

*Designating High Probability Census Tracts*

CCEH will provide a list of all census tracts in which at least one person was counted in 2020. Simtech will use this list to provide an initial designation of census tracts to be considered as high probability census tracts. This designation of the census tract as high probability is made regardless of whether or not that census tract was designated or sampled in 2020, or if that census tract was not intended to be canvassed at all. A list of census tracts in each PIT Region indicating these high probability census tracts, along with a map conveying this information, will be distributed to PIT Regional Coordinators through CCEH. The initial plan is for PIT Regional Coordinators to add or remove high probability areas based on information available to them through the usage of these printed maps. The determination will be based on their own institutional knowledge as well as data from street outreach teams and other homeless service providers with first-hand information about the locations of homeless individuals.

PIT Regional Coordinators will add or remove designated census tracts as necessary. If a PIT Regional Coordinator would like to add additional census tracts, they should provide justification for the additional areas to CCEH and Simtech to ensure that only those areas most likely to include homeless individuals are included in the designated areas and that the sample sizes do not exceed capacity to recruit, train, and deploy enough canvassers. To illustrate an example, Bristol has X designated high probability census tracts based on results from the 2020 PIT. They can add and remove census tracts based on information available to them, and can, with proper justification, return to CCEH a list as many or as few high probability areas as are identified. CCEH will utilize previous years’ census tracts information to identify regions where high percentages were identified in the sampling areas and work closely with those regions to better refine their high probability areas. The importance of proper designations of census tracts will be a focal point of all trainings, and one on one work with regional coordinators to reduce any potential over estimation in the 2021 PIT.

*Sampling Low Probability Census Tracts*

In addition to canvassing all high probability census tracts, enumerators will survey a sample of the remaining “low probability” areas in which it is not expected that enumerators will find homeless individuals. The low probability census tracts to be canvassed will be a random sample chosen from the population of census tracts within each Continuum of Care, using SAS Statistical Software to choose the random sample.

The Continuum of Care, rather than the PIT Region, will be used as the basis for choosing the low probability sample in order to ensure that a sufficient number of census tracts can be sampled to ensure an accurate count. In a small PIT region, like New Britain or New Haven West, for example, each having a total of 60 census tracts, it will be impossible to sample enough census tracts to ensure an accurate count. As a result of the small sample sizes and the potentially resulting high variance, the confidence intervals would be very large, and the reliability of the PIT could be questionable. This is especially true for subpopulations, like youth or veterans where the small numbers expected to be counted and small sample sizes could lead to artificially and extremely high estimates. By ensuring regional coordinators have the ability to select as many census tracts as necessary, this will also cut down on urban area sampling having an overinflated effect on rural/suburban areas as there will be less likelihood of larger urban areas being excluded from designated areas.

The sample size for each Continuum of Care will be determined by Simtech and CCEH in consultation with PIT Regional Coordinators, with a goal of improving the accuracy of the PIT count by increasing the sample size while understanding that the logistical constraints of finding, training, staging, and deploying canvassers across the state. Simtech will use the formula below to estimate the predicted precision of the 2021 estimate, within each CoC, for any given sample size:



where: is the proposed sample size, d is the precision, i.e., the maximum tolerated difference between the population total number of unsheltered homeless within low probability census tracts and its sample estimate;  is the number of low probability areas for each Continuum of Care; z is the standard normal score for a desired significance level , (for example, z = 1.96 for, which corresponds to a 95% confidence level); and  is the true variance of the number of unsheltered homeless within low probability census tracts. Simtech will use results from prior years to estimate , the population variance, in order to make confidence interval predictions for any given sample size.

**Hypothetical Results Calculation:**

*Scenario:*

CoC 503 has 210 total census tracts. 28 are designated as high probability, and 182 are therefore low probability. All 28 of the high probability census tracts are canvassed, along with a sample of 63 of the 182 low probability census tracts; 12 individuals are counted in the high probability areas, and 3 are counted in the 63 low probability areas.

*Results:*

HP: The 12 individuals in high probability areas are counted as 12

LP: An average of .048 individuals were counted in each low probability census tract. Applying this to the population of low probability census tracts in the CoC produces an estimate of 8.74 individuals in the 182 low probability areas in the CoC.

Total: 12 (HP) + 35 (LP) = 47 in CoC 503

 **Results and Extrapolation**

*Total Estimate*

Sampling weights, estimates, and confidence intervals will be applied differently to high and low probability census tracts in order to produce final estimates. Because CCEH will conduct a census of high probability census tracts, there is no sampling error, and therefore no weights or confidence intervals. For low probability areas, the average number of individuals counted in each sampled census tract within each Continuum of Care will be applied to the universe of low probability areas within that CoC. This is mathematically equivalent to applying a sample weight based on the proportion of sample areas chosen.

In order to ensure the methodological rigor of the PIT estimate, only those individuals encountered in areas designated as high probability or as part of the sample of low probability census tracts to be counted will be included in the results calculation. Any individuals who were found in areas outside of the randomly selected census tracts will be noted for inclusion in the 2021 PIT as high-probability areas.

*PIT Region, CAN, and Sub-CoC Estimates*

**Hypothetical Results Calculation: PIT Region, Sub-CoC, or CAN**

*Scenario Estimating the Unsheltered Population in Stamford Greenwich:*

Stamford Greenwich PIT Region has 40 census tracts in CoC 503, 6 of which were high probability and 34 of which were low probability.

HP: If 2 people were counted in the 6 HP census tracts, then the HP estimate here is 2

LP: The per-census tract average of .048 people is applied to the 34 low probability census tracts, producing a LP estimate of 1.632

Total: The 2 people counted in HP areas count as 2, but the 1.632 individuals estimated to be in the LP areas produces a total estimate of 3.632, which would be rounded up to 4.

Estimates at the PIT Region, CAN, and Sub-CoC estimates will be based on the number of individuals counted in high probability census tracts in that region as well the weighted average number of individuals estimated in the low probability sample.

*Demographic & Subpopulation Estimates*

Subpopulations estimates will be determined through a 2-step extrapolation process. The first step is to account for non-responses, in which, for any reason, an answer to a demographic question is not indicated. Completed responses will be proportionally applied to those who did not respond, at the CoC Level in order to maximize the sample size of completed responses. If, for example, 25% of completed questions of race indicate that they are African-American, this rate will be applied to all non-responses. Second, subpopulation estimates will be determined in the same manner as total estimates. Responses in high probability areas will not be extrapolated any further, and those in low probability census tracts will be applied to all census tracts in each Continuum of Care. Subpopulation estimates will be provided for each CoC for the purposes of HUD tables, as well as Sub-CoC, Coordinated Access Network, and PIT region levels for informational purposes as requested by local partners. Because the By-Name-List will be used to flag verified chronically homeless households, extrapolation rates for chronically homeless will be based off of the known to be chronic data and self-report data where no matching BNL data exits. This will result in a more accurate estimate of people experiencing chronic homelessness in each CoC.

**Note Regarding 2020’s Change from “Block Groups” to “Census Tracts”**

CCEH decided for 2020 PIT that we would be better positioned in the future if we pivot from “block groups” to “census tracts” for defining the regions for canvassing. Census tracts are a national standard for establishing regions for canvasing, and but block groups are not nearly as widely used for this purpose. Since the strength of a longitudinal study comes for consistency year over year in methodology, this decision to switch to census tracts was not made lightly. Ultimately, CCEH feels that we will need to switch to census tracts at some point in the future, and we will be better off long-term if we commit to this switch as soon as possible.

Census tracts do propose an obstacle, in that there are fewer of them to sample (829 census tracts, compared to 2,581 block groups for the state of Connecticut). There is an inverse relationship between a population’s size, and the percent of said population that needs to be sampled in order to achieve a given desired confidence interval. So, by decreasing the amount of regions to be sampled, from 2581 block groups to 829 census tracts, we are also increasing the percentage of these regions that we will need to sample in order to achieve the same confidence interval that we aimed to achieve in past PIT Counts. Ultimately, this means we will likely need to canvas a larger area of the state. CCEH aims to be prepared for this need by orchestrating communication efforts between CCEH and regional PIT planners in order to bolster volunteer recruitment where it is needed most. And, Simtech has built a more robust centralized volunteer registration portal that will make it easier to maintain a relationship with volunteers from year to year, and consequently foster a higher rate of returning volunteers for future PIT Counts.