This workbook should **only** be used if:

● You selected “Extrapolation” on screen 2L. Continuum of Care (CoC) Sheltered Homeless Population and Subpopulation: Methods as the method your CoC used to count sheltered homeless persons during the last point-in-time count.

● You are missing either survey or HMIS data for a group of providers. This means you have a group of providers that are not contributing data to HMIS OR a group of providers that did not respond to the CoC's point-in-time survey.

● You have enough data from which to extrapolate. This means:

If you are using provider or client survey data, you have a project response rate of 80% or more.

If you are using HMIS data, each project for which you have data has 75% client coverage or higher. Client coverage is different than bed coverage and means that a minimum of 75% of clients staying in the program on the night of the point-in-time count have been entered into HMIS.

● You have at least 50% bed coverage for each provider type group (e.g. emergency shelters for individuals, emergency shelters for families, emergency shelters for mixed populations, transitional housing for individuals, transitional housing for families, and transitional housing for mixed populations). In other words, for each provider type group, data for at least 50% of the total beds in each group are reported in HMIS. This worksheet helps you calculate bed coverage for each provider type group.

● Your Housing Inventory Chart has been updated. CoCs are required to update Housing Inventory information every year and the most recent information should be used for extrapolation purposes.

Tab 1: Instructions for Calculating Population and Subpopulation Estimates from Incomplete Survey or HMIS Data

This workbook should be used in conjunction with Section 5.1 and Section 5.2 of HUD's A Guide to Counting Sheltered Homeless People ("Calculating Population and Subpopulation Estimates from Incomplete Data" and "Estimating Population and Subpopulation Information for Non-respondents to the Point-in-Time Survey").

Purpose of this Workbook

This workbook is designed for CoCs that wish to use incomplete survey or HMIS data to produce estimates of the number of sheltered homeless people in their communities. The tool will help you:

- Assess your bed coverage rates for different provider types (e.g. emergency shelters and transitional housing serving individuals, emergency shelters and transitional housing serving persons in families, emergency shelters and transitional housing serving mixed populations); and

- Determine whether it is possible to extrapolate from these data to produce the sheltered homeless population and subpopulation counts required for Exhibit 1 of the annual Continuum of Care Application (Chart K: CoC Point-in-Time Homeless Population and Subpopulations Chart).

When to Use this Workbook

This workbook should **only** be used if all of the following are true for your CoC:

- You are missing either survey or HMIS data for a group of providers. This means you have a group of providers that are not contributing data to HMIS OR a group of providers that did not respond to the CoC's point-in-time survey.

- You have enough data from which to extrapolate. This means:

  If you are using provider or client survey data, you have a project response rate of 80% or more.

  If you are using HMIS data, each project for which you have data has 75% client coverage or higher. Client coverage is different than bed coverage and means that a minimum of 75% of clients staying in the program on the night of the point-in-time count have been entered into HMIS.

- You have at least 50% bed coverage for each provider type group (e.g. emergency shelters for individuals, emergency shelters for families, emergency shelters for mixed populations, transitional housing for individuals, transitional housing for families, and transitional housing for mixed populations). In other words, for each provider type group, data for at least 50% of the total beds in each group are reported in HMIS. This worksheet helps you calculate bed coverage for each provider type group.

- Your Housing Inventory Chart has been updated. CoCs are required to update Housing Inventory information every year and the most recent information should be used for extrapolation purposes.

When NOT to Use this Workbook

This tool should NOT be used if:

- You do not have enough data from which to extrapolate. This means you need to have sufficient response rates or client coverage; see "When to use this Tool" above.

● You do not have at least 50% bed coverage for each provider type group (e.g. emergency shelters for individuals, emergency shelters for families, emergency shelters for mixed populations, transitional housing for individuals, transitional housing for families, and transitional housing for mixed populations).

Workbook Contents

This workbook is composed of 6 tabs or worksheets.

● Tab 1 is the Instructions tab.
● Tab 2 is the Housing Inventory and Point-in-Time (PIT) Counts worksheet, where you will record housing inventory and point-in-time count information on each emergency shelter and transitional housing project in your CoC. Based on the information you enter here, the workbook will group projects by provider type and produce population estimates.
● Tab 3 is the Subpopulation worksheet, where you will record the number of individuals in your CoC who belong in various subpopulations.
● Tab 4 is the Pop-Subpop Chart, which is a replica of the "Population and Subpopulation Chart" you will find in Exhibit 1 of the CoC Application. You do not need to enter any information on this tab.
● Tabs 5 and 6 present the backup calculations used in the extrapolation procedure. You do not need to enter any information on these tabs. Tab 5 calculates the bed coverage rate for each provider type and Tab 6 contains the extrapolation calculations for each provider type.

In all of the worksheets enter data into the yellow-shaded cells in Tabs 2 and 3 only. DO NOT enter data into any of the gray-shaded cells. This will erase the formulas that have been pre-entered into the cell and will cause errors in the worksheets.

Worksheet Instructions -- Tab 2: Housing Inventory and PIT Counts

Nearly all of the data entry that you will need to do is on the Housing Inventory and PIT Counts worksheet (Tab 2). Once you have entered the requested information on the emergency shelters and transitional housing projects in your CoC, the workboo will automatically calculate the bed coverage rates (shown in Tab 5). If the bed coverage rates for each provider-type are high enough (50% or above), the worksheet will extrapolate from your data to create population estimates for the Population and Subpopulations Chart. These estimates will then automatically appear in Tab 4: Pop-Subpop Chart.

The Housing Inventory and PIT Counts worksheet is divided into two side-by-side sections. The left hand side contains all the information on emergency shelter projects and the right hand side covers transitional housing projects. Each line allows you t enter information on an emergency shelter project and a transitional housing project. For each project (either emergency shelter or transitional housing) you will enter the following information, which is further described below:

● Provider *
● Facility Name *
● Client Type
● Participating Status
● Bed Capacity *
● Point-in-Time Count of Persons in Households without Dependent Children (from HMIS or survey data)
● Point-in-Time Count of Persons in Households with Dependent Children (from HMIS or survey data)

**** Important: Provider, Facility Name, and Bed Capacity can be copied from the electronic Housing Inventory Chart and pasted to the appropriate column in Tab 2 to minimize data entry and ensure the program information in both instruments is consistent.***

*** Provider**: Enter the name of the provider.

*** Facility Name**: Enter the name of the facility.

Client Type: You will need to assign a client type to every Emergency Shelter and Transitional Housing project in the CoC. Use the drop-down menu to select among the following three client types: individuals only, persons in families only, or mixed populations (for projects that serve both individuals and persons in families). Information on client type for each project is available from your completed Housing Inventory Chart in the CoC Application (Exhibit 1, Chart I).

Participation Status: Use the drop down menu to indicate if the project participated in data collection or not. For each project select "participant" or "non-participant."

- *For CoCs using HMIS data*, "participant" means that the project is reporting client-level data to an HMIS in accordanc with the HMIS data standards.
- *For CoCs using manual survey data collection*, a "participant" is one that completed the point-in-time survey and a non-participating provider is one that did not.

*** Bed Capacity:** Enter the total bed capacity for the project This information is available from the Housing Inventory Chart ("Total Year-Round Beds").

PIT Count of Persons in Households without Dependent Children: For each facility designated as a "participant," enter the total number of single persons and persons in families without children in the project at the time of the count (based on HMIS or survey data). **If the project is designated a "non-participant," leave the cell blank.**

PIT Count of Persons in Households with Dependent Children: For each facility designated as "participant," enter the total number of persons in households with children in the project at the time of the count (based on HMIS or survey data). **the project is designated a "non-participant," leave the cell blank.**

Worksheet Instructions -- Tab 3: Subpopulation

If you would like to develop subpopulation estimates using your incomplete HMIS or survey data, you will also need to fill in th yellow-shaded cells in the Subpopulation worksheet (Tab 3).

The following information is required to generate subpopulation estimates using your incomplete HMIS or survey data:

Total Number of ES/TH Beds in CoC: You do not need to enter this information. It will automatically be pulled from the Housing Inventory and PIT Counts worksheet (emergency shelter and transitional housing bed capacity).

Number of participating beds in ES/TH: You do not need to enter this information. It will automatically be pulled from the Housing Inventory and PIT Counts worksheet (emergency shelter and transitional housing bed capacity and participant status information).

Number of ES/TH Clients from participating projects who are in the subpopulation: This is the only column in the "Subpopulation" worksheet in which you have to enter data manually. **You must enter this information if you want to generate subpopulation estimates for your CoC.** Based on your HMIS or survey data, report a point-in-time count of the number of sheltered homeless persons (including adults and unaccompanied youth only) in each subpopulation category by program type (emergency shelter and transitional housing). Enter these numbers into the yellow-shaded boxes.

Extrapolating HMIS or survey data for the Entire ES/TH Population: This is the estimated number of each subpopulatio that has been extrapolated for your entire CoC. It is calculated by multiplying the "Number of Clients in participating project who are in the subpopulation" by the "Total Number of Beds in CoC" divided by the "Number of beds in participating projects." This value will be automatically entered into the "Pop-Subpop Chart" worksheet (Tab 4).

Caution: The worksheet will only extrapolate your subpopulation estimates if the total Bed Coverage for all ES and TH projects is greater than or equal to 50%, respectively.

Worksheet Explanation -- Tab 4: Pop-Subpop Chart

This worksheet is a replica of the "Sheltered" portion of the "Population and Subpopulation Chart" found in Exhibit 1 of the Co Application. All of the values in this worksheet, except for the number of households with and without children (lines 1 and 2) will be automatically generated from the information entered in the "Housing Inventory & PIT Counts" and "Subpopulation" worksheets.

Part 1: Population Estimates: These values are generated based on the information entered into the "Housing Inventory & PIT Counts" worksheet. The extrapolation procedure and bed coverage calculations that produce these figures are located on the "Calculating Bed Coverage" and "Calculating Pop. Estimates" worksheets (Tabs 5 and 6).

If you see "*See Notes Below*" written in red to the right hand side of the chart that means that not all of your provider-types had at least 50% bed coverage, and you will need to do additional data collection to determine the actual population estimates. **If a provider-type has below 50% coverage then the worksheet will only provide a count of persons served by participating projects and will not extrapolate for the overall population served by that provider type.**

For example, if you have 100 total beds for emergency shelters serving individuals but you only collected data on 40 of thos beds (i.e. only 40 beds are in "participating projects"), the population estimates will only include individuals who used the 40 beds in participating projects and will not extrapolate to account for the 60 beds in non-participating projects. You will have to work with the projects containing the 60 non-participating beds to obtain the count information and add that value into the population estimate.

Number of Households with and without Dependent Children: This worksheet cannot calculate the number of households for each category. You will have to calculate this manually once you have a population estimate for 1a (Total number of persons in households with dependent children) and 2a (Total number of persons in households without dependent children).

In order to determine the number of households for each category, use your HMIS or survey data to calculate the average number of persons per household for each category (i.e., households with dependent children in emergency shelter, households with dependent children in transitional housing, households without dependent children in emergency shelter, and household without dependent children in transitional housing). Divide the total number of persons in households by the average number of people in that type of household for each of the four categories.

For example, if the extrapolated total number of persons in households with dependent children in emergency shelter is 80, and the average number of persons per family with children in emergency shelter based on your HMIS or survey data is 4, the estimated "Number of Families with Children" in emergency shelter for the entire CoC will be 20 (80 divided by 4).

Part 2: Subpopulation Estimates: These values are pulled in from the "Subpopulation" worksheet (Tab 3). The calculatio is described above ("Extrapolating HMIS or survey data for the entire ES/TH population").

Worksheet Explanation -- Tab 5: Calculating Bed Coverage

This worksheet represents part of the "backend" calculations that are automatically done to extrapolate your HMIS or survey data. This worksheet is provided so you can see how the calculations were done. DO NOT enter any data into this workshee

Tab 5 calculates bed coverage by provider-type using data entered into the "Hsg Inventory & PIT Counts" worksheet.

Sufficient Bed Coverage for Extrapolation?:

If this column says "Yes" then the workbook extrapolates for that provider-type to produce estimates for your entire CoC.

If this column says "No" then a note will appear informing you that the bed coverage rate for that provider-type is below 50% and that it will not extrapolate the data. If the bed coverage is below 50% the workbook WILL INCLUDE the people who are in participating projects but it will not extrapolate those numbers. You will have to perform a manual count of the non-participating projects for the provider-types that do not have at least 50% bed coverage and add those numbers into the final estimates. For more information on how to perform manual counts see Chapter 4 of A Guide to Counting Sheltered Homeless Persons.

Worksheet Explanation -- Tab 6: Calculating Pop. Estimates

This worksheet represents part of the "backend" calculations that are automatically done to extrapolate your HMIS or survey data. This worksheet is provided so you can see how the calculations were done. DO NOT enter any data into this workshee

Tab 6 will automatically extrapolate data entered into the "Hsg. Inventory & PIT Counts" worksheet to calculate Population Estimates.

Tab 2: Housing Inventory and PIT Counts to Divide Providers into Groups

Extrapolation is most accurate when you divide providers into program-type based on the type of services they provide and general characterisitics of the clients they serve

Emergency Shelters

Provider	ES Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with Dependent*** Children	Total PIT Count of Number of Persons Served
Provider A	*HUD ES Example 1*	*Individuals*	*Participant*	*30*	*28*	*0*	*28*
Provider B	*HUD ES Example 2*	*Families*	*Participant*	*45*	*5*	*40*	*45*
Provider C	*HUD ES Example 3*	*Mixed*	*Non-participant*	*15*	*10*	*5*	*15*

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Emergency Shelters

Provider	ES Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with Dependent*** Children	Total PIT Count of Number of Persons Served

Transitional Housing Programs

Provider	TH Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with*** Dependent Children	Total PIT Count of Number of Persons Served
Provider A	*HUD TH Example 1*	*Individuals*	*Participant*	*20*	*18*	*0*	*18*
Provider B	*HUD TH Example 2*	*Families*	*Participant*	*10*	*2*	*8*	*10*
Provider C	*HUD TH Example 3*	*Mixed*	*Non-participant*	*31*	*10*	*21*	*31*

Transitional Housing Programs

Provider	TH Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with*** Dependent Children	Total PIT Count of Number of Persons Served

Transitional Housing Programs

Provider	TH Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with*** Dependent Children	Total PIT Count of Number of Persons Served

Transitional Housing Programs

Provider	TH Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with*** Dependent Children	Total PIT Count of Number of Persons Served

Transitional Housing Programs

Provider	TH Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with*** Dependent Children	Total PIT Count of Number of Persons Served

Transitional Housing Programs

Provider	TH Facility Name	Client Type	Participation Status	Bed Capacity	PIT Count of Persons in Households ***without*** Dependent Children	PIT Count of Persons in Households ***with*** Dependent Children	Total PIT Count of Number of Persons Served

Tab 3: Extrapolating Subpopulation Data from Participating Programs

Client Subpopulation	Total Number of ES Beds in CoC	Number of Participating ES beds in CoC	Number of ES Clients in Participating programs who are in the Subpopulation	Extrapolating Participating Bed data to Entire ES Population
Emergency Shelters (ES)				
Chronically Homeless	0	0		**0**
Severely Mentally Ill				**0**
Chronic Substance Abuse				**0**
Veterans				**0**
Persons with HIV/AIDS				**0**
Victims of Domestic Violence				**0**
Unaccompanied Youth (under 18)				**0**

Client Subpopulation	Total Number of TH Beds in CoC	Number of Participating TH Beds in CoC	Number of TH Clients in Participating programs who are in the Subpopulation	Extrapolating Participating Bed data to Entire TH Population
Transitional Housing (TH)				
Severely Mentally Ill	0	0		**0**
Chronic Substance Abuse				**0**
Veterans				**0**
Persons with HIV/AIDS				**0**
Victims of Domestic Violence				**0**
Unaccompanied Youth (under 18)				**0**

Tab 4: CoC Point-in-Time Homeless Population and Subpopulation Chart		
Part 1: Homeless Population	Sheltered	
	Emergency	Transitional
1. Number of Households **with** Dependent Children.	Calculate on your own	Calculate on your own
1a. Total Number of Persons in these Households (adults and children).	**0**	**0**
2. Number of Households **without** Dependent Children.	Calculate on your own	Calculate on your own
2a. Total Number of Persons in these Households.	**0**	**0**

Part 2: Homeless Subpopulations (Adults only, except **g.** below)	Sheltered
a. Chronically Homeless	**0**
b. Severely Mentally Ill	**0**
c. Chronic Substance Abuse	**0**
d. Veterans	**0**
e. Persons with HIV/AIDS	**0**
f. Victims of Domestic Violence	**0**
g. Unaccompanied Youth (under 18)	**0**

Notes:

Tab 5: Calculating the Bed Coverage Percentage for Each Group

Generally, you need at least 75 percent coverage to extrapolate accurately, although you can extrapolate with a minimum of 50 percent coverage understanding that the error rates of the results will be significantly higher. If your coverage rate is lower than 50 percent for a group of providers, you should not extrapolate from your data because your error rates will be too high to be useful.

	HMIS Coverage Rate based on Bed Capactiy				
	Number of ***Participating Beds*** in…	Total Number of ***Beds for all providers in***…	Estimated ***Bed Coverage*** for...	***Sufficient Bed Coverage*** for Extrapolation?	Notes
...Emergency Shelters serving Individuals	0	0			
...Emergency Shelters serving Persons in Familes	0	0			
...Emergency Shelters serving Mixed Populations	0	0			
…Transitional Housing serving Individuals	0	0			
...Transitional Housing serving Persons in Familes	0	0			
...Transitional Housing serving Mixed Populations	0	0			

Tab 6: Extrapolate for Population Estimates

This page will extrapolate for population estimates of sheltered homeless persons, assuming you have adequate coverage percentages. The page will calculate population estimates separately for each provider group.

	Extrapolating to Find the Total Number of Persons Served in All Providers by Provider-Type					
	Number of ***Persons Served*** by Providers that are participating	Total ***Bed Capacity*** for participating providers	Average Number of ***Persons Served*** per Bed for participating Providers	Total ***Bed Capacity*** of Non-participating Providers	Estimated Number of ***Persons Served*** by Non-participating Providers	Estimated Number of ***Persons Served*** by participating and Non-participating Providers
Emergency Shelters serving Individuals	0	0	0.0	0	0	**0**
Emergency Shelters serving Persons in Familes	0	0	0.0	0	0	**0**
Emergency Shelters serving Mixed Populations	0	0	0.0	0	0	**0**
Transitional Housing serving Individuals	0	0	0.0	0	0	**0**
Transitional Housing serving Persons in Familes	0	0	0.0	0	0	**0**
Transitional Housing serving Mixed Populations	0	0	0.0	0	0	**0**

	Determining the Proportion of Persons served who are in Households with Dependent Children vs. Households without Dependent Children					
	Percentage of individual ES that serve…	Percentage of family ES that serve…	Percentage of mixed ES that serve…	Percentage of individual TH that serve…	Percentage of family TH that serve…	Percentage of mixed TH that serve…
Persons in Households with Dependent Children	0%	0%	0%	0%	0%	0%
Persons in Households without Dependent Children	0%	0%	0%	0%	0%	0%