

## Base Year Calculator User Guide

### Interim Version

### March 31, 2016

## Overview

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The Base Year Calculator (BYC) is a key component of the System-Wide Analytics and Prediction (SWAP) suite of tools. The BYC assembles data from a community's Point in Time Count (PIT); Housing Inventory Count (HIC); Homeless Management Information System (HMIS) data; and project budget data to create a "base year" of performance data from which to begin modeling. The modeling component demonstrates the impact of a variety of system change efforts, including strategies to better match interventions to people who need them, investing in the most cost effective interventions, reducing lengths of stay, and increasing rates of exit to permanent housing. The initial or base year of data is an invaluable tool that communities can also use to understand in depth how the existing system is configured and what it is accomplishing.

The user should access and complete the BYC **in the order presented**. Step 4: Input BYC Budget Data can be skipped if budget has not been collected or performed at any time after the HIC has been uploaded.

## Step 1: Creating a BYC model

### Log in

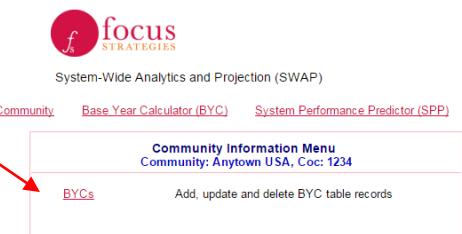
If you have not logged in before, contact Focus Strategies for a User ID and Password. This will give you access to create BYC models for your community; otherwise, log in with your user ID and password.

### Creating a new BYC Model

Once logged in, click on the Community tab and select BYCs to create a new BYC model.

To create a new BYC model, enter a title, chose your community, write a description, choose the analysis year, and select Add New.

Once the new model is added to the list proceed to the Base Year Calculator (BYC) page.



## HIC

The most recent Housing Inventory Count (HIC) is used to define projects to be included in the BYC and is the basis for project performance modeling. HMIS data is used to produce performance information by project

(and project type), therefore, all projects included in the BYC must be in HMIS. At a later point, the community has the opportunity to add projects (either projects that were not in the HIC or projects in the HIC without HMIS data) in the SPP.

## Step 2: Preparing the HIC

A complete and accurate HIC should be imported into the BYC. You will need to extract a custom HIC from HDX (see *Extracting the HIC from HDX* below). The Focus Strategies website ([Focusstrategies.net](http://Focusstrategies.net)) provides a template for uploading the HIC into the BYC (HIC for BYC). You must copy and paste your exported HIC into this template for upload into the BYC. The template will not perfectly align with the HDX export since the HDX export creates 3 columns for CH beds, 2 columns for youth beds, and 2 columns for Veteran beds. These columns should be summed and the original, multiple columns deleted so that there is one column for each type (CH, Veteran, Youth) before pasting into the HIC for BYC template. The HIC template has a column for Youth Age Group - if this column is not available in HDX enter 0 for the entire column in the HIC template for upload. *Note: the first row in the HIC contains column labels and the last row in the HIC is a sum row. Do not include these rows.*

### Extracting the HIC from the HDX

The BYC is organized to accept HIC data directly from the Homeless Data Exchange (HDX). The HDX allows the HIC to be exported into Excel, which is then transferred into the BYC.

A custom HIC export from HDX is needed to gather the specific columns needed for the BYC. Log into HDX (<http://www.hudhdx.info/Login.aspx>), and choose the “HIC” tab. Make sure you are looking at the most recent HIC as noted by the “Date of the Housing Inventory Count”. Next to the date will be three options:

- Change Date
- Choose Columns
- Show more search options

Select “Choose columns”

Click on an organization or project to view/edit/deliver details.

Date of the Housing Inventory Counts: 1/31/2014 [Change Date](#) [Choose Columns](#) [Show more search options](#)

Search  Year  Project  [Search Inventory](#) [Show All](#)

Beds HH	Units HH	Beds HH	Beds HH		Youth	Year-	Beds HH	Beds HH	Beds HH

When you select “Choose Columns”, a window opens prompting you to select the columns to export. Please select the columns as shown below (and only these columns).

**Choose Columns**

[Select All](#) [Select None](#)

<input type="checkbox"/> Starred	<input type="checkbox"/> Other Federal Funding: SSVF
<input type="checkbox"/> Row #	<input type="checkbox"/> Other Federal Funding: GPD
<input type="checkbox"/> Year	<input type="checkbox"/> Other Federal Funding: HCHV
<input checked="" type="checkbox"/> Project Type	<input type="checkbox"/> Other Federal Funding: CWT/TR
<input checked="" type="checkbox"/> Organization Name	<input type="checkbox"/> Other Federal Funding: BCP
<input checked="" type="checkbox"/> Project Name	<input type="checkbox"/> Other Federal Funding: TLP
<input type="checkbox"/> Geocode	<input type="checkbox"/> Other Federal Funding: MGH
<input checked="" type="checkbox"/> Inventory Type	<input type="checkbox"/> Other Federal Funding: HOPWA
<input type="checkbox"/> Bed Type	<input type="checkbox"/> Other Federal Funding: PIH
<input type="checkbox"/> Target Population A	<input type="checkbox"/> Other Federal Funding: Other
<input type="checkbox"/> Target Population B	<input checked="" type="checkbox"/> HMIS Beds for HH with Children
<input type="checkbox"/> McKinney-Vento	<input checked="" type="checkbox"/> HMIS Beds for HH without Children
<input checked="" type="checkbox"/> Year-Round Beds for HH with Children	<input checked="" type="checkbox"/> HMIS Beds for HH with only Children
<input checked="" type="checkbox"/> Year-Round Units for HH with Children	<input type="checkbox"/> % of HMIS Beds for HH with Children
<input checked="" type="checkbox"/> Year-Round Beds for HH without Children	<input type="checkbox"/> % of HMIS Beds for HH without Children
<input checked="" type="checkbox"/> Year-Round Beds for HH with only Children	<input type="checkbox"/> % of HMIS Beds for HH with only Children
<input checked="" type="checkbox"/> Year-Round Beds	<input checked="" type="checkbox"/> Total Seasonal Beds
<input type="checkbox"/> TH Unit Type	<input checked="" type="checkbox"/> Number of Seasonal Beds Available in HMIS
<input checked="" type="checkbox"/> Veteran Beds for HH with Children	<input checked="" type="checkbox"/> Availability Start Date
<input checked="" type="checkbox"/> Youth Beds for HH with Children	<input checked="" type="checkbox"/> Availability End Date
<input checked="" type="checkbox"/> CH Beds for HH with Children	<input checked="" type="checkbox"/> Overflow Beds
<input checked="" type="checkbox"/> Veteran Beds for HH without Children	<input checked="" type="checkbox"/> Hmis Overflow Beds
<input checked="" type="checkbox"/> Youth Beds for HH without Children	<input checked="" type="checkbox"/> PIT Count
<input checked="" type="checkbox"/> CH Beds for HH without Children	<input checked="" type="checkbox"/> Total Beds
<input checked="" type="checkbox"/> CH Beds for HH with only Children	<input checked="" type="checkbox"/> Utilization Rate
<input type="checkbox"/> Other Federal Funding?	<input type="checkbox"/> Last Update On
<input type="checkbox"/> Other Federal Funding: HUD-VASH	

**OK** **Cancel**

Click “OK” and then “Export to Excel” and HDX will create an Excel file containing the specified columns.

## Reviewing and Modifying the HIC Prior to Import to BYC

Before importing the HIC into the BYC, it is critical to thoroughly review the HIC in Excel to ensure the information is accurate and complete. After the HIC is in the BYC, there are limited changes that can be made. The following questions particularly need attention:

- Is the HIC complete? (e.g. are all projects the community has HMIS data for and wants to include in the SPP represented? Does it have additional projects that are not to be included in analysis?)
- Do all projects for analysis have an inventory type of “C”?
  - If the project is new or under construction as indicated by a “U” or “N” in inventory type then there is not likely to be 2 full calendar years of HMIS data associated with it. If a project is marked “U” or “N” but it has 2 years of HMIS data and should be included in the analysis change inventory type to “C” before inputting into the BYC.
- Are the project and organization names in the HIC correct?  
*\* Note: the BYC requires all project names to be distinct (e.g. you cannot have two projects called “Transitional Housing”).*

- Safe Haven projects should be changed to a different project type. Safe Havens often operate in a fashion similar to emergency shelter or transitional housing. Recode all Safe Haven projects as ES or TH depending on which best reflects the project's operation.
- Are total capacity and total HMIS capacity correct? The BYC allows the user to adjust the distribution of beds/units among subpopulations, but does not allow changes to total capacity. Count of HMIS beds should accurately reflect your expectations of projects in HMIS.
  - For projects that have family units, both “Beds HH w/ Children” and “Units HH w/ Children” should be populated.
  - In order for a project to be included in the analysis it must have a value greater than 0 in at least one of the following columns: N, O, P, R, V
- Seasonal projects should have dates in “Availability Start Date” and “Availability End Date”. These dates must be formatted as “short date” in Excel (mm/dd/yyyy).
- The HIC HDX export will have 3 CH bed columns, 2 Veteran beds columns, and two youth beds columns. These columns must be summed and the individual columns deleted so there is only 1 column for veteran beds, one column for CH beds, and 1 column for youth beds. The HIC data must align perfectly with the columns in the HIC for BYC template.

In addition to these general rules regarding HIC accuracy and completeness, two steps must be taken to prepare the HIC export for the BYC.

1. If projects are represented in two rows in the HIC, they should be merged. This most commonly occurs when there is an existing project that has expanded, and so some beds/units are in a row for the “current” inventory and a second row contains beds/units that are “new” or “under construction”. If the community wishes to include the entire project in the analysis, then the existing and new should be collapsed to one row in the HIC. Alternatively, if the community wishes to only include the existing beds/units, the project should remain as two rows, and the row containing the “new” or “under construction” beds/units should be excluded from the analysis in the BYC.
2. All of the columns containing a count of beds or units, including those enumerating the count of beds/units for subpopulations (Vets, DV), must contain a value for the BYC to work. Some communities actively input a “0” (zero) in every cell in the HIC. If your community does not do this, you will need to replace all the blank cells in columns E through R and U through X in the Excel export with a zero before putting it into the BYC. Columns S and T contain start and end dates for seasonal shelters and should be left blank for year round projects.

*The HIC you input should be an accurate reflection of the HMIS data you are using. There should neither be projects on the HIC that are not in your dataset nor projects in your HMIS dataset that are not on the HIC.*

Any corrections to the HIC should be done in the exported HIC file before importing into the BYC. Be sure to follow HIC protocol in regards to formatting and abbreviations (for example, a current project is designated with a capital “C” in the Inventory Type column).

## Step 3: Uploading HIC

### Base Year Calculator (BYC)

This is the main menu page for the BYC. This is where data is uploaded for a BYC, calculations are completed, and outcomes can be viewed. Follow the steps below to create a BYC.

1. Select the model created in previous steps from the **Manage Model Data** drop down menu

The diagram illustrates the workflow for uploading HIC data. It starts with the main menu page, which includes links for Community, Base Year Calculator (BYC), and System Performance Predictor (SPP). The BYC link is highlighted. A red arrow points from the 'Manage Model Data' section of the BYC menu to the 'Upload BYC Data' page. Another red arrow points from the 'Update BYC Data' link in the BYC menu to the same page. The 'Upload BYC Data' page contains fields for selecting a model and a file, and instructions for choosing and uploading an Excel file.

System-Wide Analytics and Projection (SWAP)

Community    [Base Year Calculator \(BYC\)](#)    [System Performance Predictor \(SPP\)](#)

**Base Year Calculator (BYC)**

Manage Model Data    Select a Model:

[Update BYC Data](#)    [Edit HIC Per User Data](#)  
[Project Name Recoding](#)    [Prior Living Recoding](#)  
[Destination Recoding](#)    [Edit BYC Budget Data](#)  
[Calculate Outputs](#)  
[HMIS Data Quality](#)    [Display, download HMIS Data Quality](#)  
[Project Cost Detail](#)    [Display Project Cost Detail](#)  
[Project Performance](#)    [Display Project Perf. Rpt. in web page](#)  
[Edit Population Inputs](#)    [Edit BYC Population Inputs in database](#)  
[Edit Population Assumptions](#)    [Edit BYC Population Assumptions in database](#)  
[Export Raw Data](#)    [Export BYC Data from Database to Excel file](#)

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**Upload BYC Data**

Select a Model to Upload To:

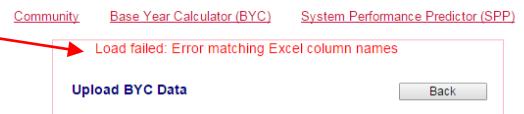
Select a File to Upload:

Select an Excel file for BYC Upload:

1 - Use the Browse... button to select the BYC XLS file -  
 No file chosen

2 - Then use the Upload BYC File button to Upload the file -

The model chosen on the previous page will appear in the first drop down menu. The second drop down menu, **Select a File to Upload**, includes three choices: **HIC**, **Budget**, and **HMIS**. Choose HIC and upload the HIC template using 1 – Choose file and then 2 – Upload BYC File.



If an error has occurred in uploading the data an error message will appear at the top of the screen.

An error can occur because:

- HIC was selected but HMIS file was uploaded
- HMIS was selected but HIC file was uploaded
- HIC/HMIS data templates (mentioned above) have errors
  - o Formatting errors are most common

If you need assistance, get in touch with us at [info@focussstrategies.net](mailto:info@focussstrategies.net).

## *Reviewing and Modifying the HIC in the BYC*

HIC information can, to a limited extent, be edited in the BYC using the [Edit HIC Per User Data](#) page.

One purpose of the HIC tab is to calculate a mutually exclusive count of beds and units for the subpopulations served by the project. As reported to HUD, the HIC includes information on subpopulations served, but not in mutually exclusive categories. For example, the HIC may show a project has ten veteran beds and ten chronic homeless beds, but does not indicate if some or all of the beds overlap (e.g. are for chronically homeless veterans). The BYC takes known information on a project's subpopulation(s) and household type(s) and divides the beds or units into mutually exclusive categories. **The community should review and modify the results of this logic if appropriate, based on the actual funding and operational requirements of each project.**

- **Utilization rate.** The utilization rate in the HIC is at a Point in Time, and represents the number of occupied beds or units on the night of the HIC. The BYC and SPP use an annual utilization rate calculated from actual usage data in HMIS to determine available capacity in each project. An important data quality measure is the difference between the utilization rate from the HIC (or as changed by the user in the HIC tab) and the calculated utilization rate from HMIS data. If the HMIS calculated utilization rate is substantially different than what was expected based on the HIC and/or known project operations, it may signal data quality issues. Therefore, **careful consideration should be given to whether the utilization rate on the night of the HIC is indicative of the annual utilization rate, and changes should be made as needed.**

*\*The concept of utilization rate as calculated in the BYC is not applicable to RRH projects. Therefore, RRH projects will assume a 100% utilization rate moving forward in the analysis regardless of what the HIC utilization rate is or what the user changes it to.*
- **Total HMIS beds.** The number in *Total HMIS Beds* sums the number of HMIS beds for HH without children (Column O of HIC template), number of HMIS beds for HH with children (Column N of HIC template), number of HMIS beds for HH with only children (Column P of HIC template), number of HMIS overflow beds (Column V of HIC template) and the number of HMIS seasonal beds (Column R of HIC template) directly from the HIC and is presented for information only. If this number is incorrect, please re-visit the HIC as extracted from HDX, make the appropriate adjustment(s) to one or more of the five HMIS bed count columns there, and re-input the HIC into the BYC.
- **Project type for analysis.** Includes two columns; *Per HIC* which shows the project type as indicated on the HIC that was uploaded and *Per User* which allows the user to change the project type. The

available selections in the *Per User* column are limited and are controlled by a drop down menu. In general, there are limited circumstances when changes to a project type are appropriate:

- The project is one of 23 Rapid ReHousing Demonstration projects, and, has the project type of "DEM". These projects should be changed to project type "RRH".
- The project is "Permanent Housing" with a subtype of "PSH", "RRH" or "OPH" (other permanent housing) in the HIC. These need to be re-categorized as either PSH or RRH. Projects with the subtype of "OPH" should also be categorized as either PSH or RRH, depending on which most closely matches the way the project operates.

The next portion of the HIC page calculates the categories of subpopulations served by each project. The columns are broken down first into four household types: Veteran HHs, TAY HHs, Child Only HHs and All other HHs. Next, within each household type, beds or units are distributed among Adult Only and Family households, and between overlapping subpopulations. The categories calculated are:

- Year round HMIS beds and units for Veteran Households
  - Adult only CH Vet HMIS beds
  - Adult only Vet HMIS beds (non-CH)
  - Family CH Vet HMIS Units
  - Family Vet HMIS Units (non-CH)
- Year round HMIS beds and units for TAY Households
  - Adult only TAY HMIS beds
  - Family TAY HMIS units
- Year round HMIS beds for child only HHs
- Year round HMIS beds and units for Other (now-Vet, non-TAY, non-Child Only) HHs
  - Adult only CH HMIS beds
  - Adult only HMIS beds (non-CH)
  - Family CH HMIS units
  - Family HMIS units (non-CH)

The community should carefully review each sub-category of beds/units for two reasons: (1) to validate that the split is appropriate; and (2) to ensure that the beds/units designated in the subpopulation categories add to the total HMIS beds/units. Both are especially important if changes are made by the user, as neither the HIC nor the BYC warn the user if a math error has been made.

## *Assumptions for the HIC in the BYC*

Because homeless systems of care are varied and complex, two assumptions were made to ensure the SWAP tools (including the BYC) would be useable by most communities. It is recognized that some nuances from particular projects may not be fully captured. The two assumptions that are carried through the SWAP tools are:

- Homeless, child-only households are infrequently found on the streets; in most communities, these projects represent a very small portion of the homeless population. Projects serving only children

under 18 are not analyzed in the BYC as they are not comparable to projects serving adults. If you wish to see performance outcomes for a child-only project you can edit the HIC to show all child-only beds as adult beds. While project performance might be valuable information, Focus Strategies does not recommend comparing child-only projects with projects that serve other populations (e.g., singles or families). Overflow beds are not considered separately in the BYC. If your project has overflow beds that are consistently available and should be included in the annual capacity, adjust the HIC (in the Excel export) to add the overflow beds to the total beds in the appropriate household category.

- The HIC does not request information about whether Seasonal beds serve families or individuals. The BYC assumes that Seasonal beds serve singles. If your system has a significant number of Seasonal beds for families, contact us and we will be happy to help problem-solve.

## Budget Data

We recommend that budget data used in the BYC is collected from each organization directly, and reviewed against known information on public funding sources. [Appendix B](#) contains detailed recommendations for collecting, reviewing and compiling budget information needed for the BYC at the project level.

The *Edit BYC Budget Data* page is used for compilation of budget information for each project and contains the following inputs:

- Total:** This is the entire project budget, inclusive of all public and private funds.
- CoC:** This is the value of the entire CoC grant amount, if applicable.
- ESG:** This is the value of the entire ESG grant amount, if applicable.
- Other Public:** This is the value of all other public funding (exclusive of CoC and ESG), if applicable, including local, state and federal funding sources.
- Other Private:** This is the value of all private funding, regardless of source.

*If budget has not yet been collected, skip to step 5. Budget data can be input after HMIS data or vice versa.*

## Step 4: Input BYC Budget Data

There are two ways to enter budget data.

- Upload budget data using the Budget TEMPLATE for upload on Focus Strategies website while following the same steps above for uploading HIC

*Note: The Budget TEMPLATE must have the same projects as the HIC. Project name, Organization name, and Project type must exactly match the HIC. If budget was not provided, the project, org, and type should be on the budget TEMPLATE with 0 entered into all budget columns.*

- Follow the instructions below to manually enter budget data for each project

The screenshot shows the Focus Strategies Base Year Calculator (BYC) interface. At the top, there's a logo for 'focus STRATEGIES' and navigation links for 'Community', 'Base Year Calculator (BYC)', and 'System Performance Predictor (SPP)'. Below that is a section titled 'Base Year Calculator (BYC)' with a sub-section 'Manage Model Data' where 'Anytown USA BYC' is selected. A large list of buttons includes: 'Update BYC Data', 'Edit HIC Per User Data', 'Project Name Recoding', 'Prior Living Recoding', 'Destination Recoding', 'Edit BYC Budget Data' (which is circled in red), 'Calculate Outputs', 'HMIS Data Quality', 'Project Cost Detail', 'Project Performance', 'Edit Population Inputs', 'Edit Population Assumptions', 'Export Raw Data', and 'Upload BYC Data from Excel file to Database', 'Edit HIC PerUser values in database', 'Project Name local syntax Recoding', 'Prior Living local syntax Recoding', 'Destination local syntax Recoding', 'Edit BYC Budget values in database', 'Display, download HMIS Data Quality', 'Display Project Cost Detail', 'Display Project Perf. Rpt. in web page', 'Edit BYC Population Inputs in database', 'Edit BYC Population Assumptions in database', and 'Export BYC Data from Database to Excel file'. At the bottom, it says '© Copyright 2013, Focus Strategies' and 'Web and Database Design by msaas.com'.

Choose [Edit BYC Budget Data](#) from the [Base Year Calculator \(BYC\) menu](#) to enter budget data collected as suggested above.

There are 5 columns for entry on this page: Total, CoC, ESG, Other Public, and Other Private. These categories align with the Budget template available on the [Focus Strategies web site](#). The list of projects here should match the projects included in the HIC that was uploaded in Step 3: Uploading HIC above.

Follow these steps to enter budget data:

1. Choose [Edit](#) at the left of the first row in order to input budget amounts into each of the yellow cells.
2. Enter whole dollar amounts into each yellow cell. Cells cannot be left blank; if budget was not provided or a particular category does not apply (e.g., transitional housing projects are not likely to have any ESG money) enter 0 in the corresponding cell.
3. Once all yellow cells have been completed (including entering zeros), hit [Save](#) at the left of the row
4. Repeat steps 1-3 until all budget has been entered.

The total amount entered in the first yellow column must be equal to the sum of the proceeding four columns. If these amounts are not equal to the total amount a red  will appear at the far right of the row indicating an error has been made. Only continue to the next step if there are no red X's on the budget page. Hit the **Back** button at the top of the page to return to the [Base Year Calculator \(BYC\) menu](#).

## HMIS Data and HMIS Recoding Work

Preparing HMIS data is important for the BYC results to be meaningful. The SWAP tools organize and use HMIS information in a particular way. HMIS data that does not fit within the tools, or means something different in the local context or vernacular will not be correctly organized. Results then can lose the meaning and power. The recoding steps allow for standardizing values that are non-standard HMIS answer choices. You have the opportunity to decide how non-standard answer choices used in your community will be interpreted in the performance analysis.

The Recoding pages are unique in that they work together to create new indicator variables and perform calculations to produce performance metrics for the “Base Year” of the dataset. They establish the project performance benchmarks from which users begin to model in the SPP. It is critical to follow these steps in the order indicated so that the calculations happen precisely as intended.

The next sections describe, in order:

- Extracting Data from HMIS
- Cleaning and Preparing HMIS Data for the BYC
- Uploading HMIS Data to the BYC
- Recoding HMIS Data

## Step 5: Extracting HMIS data

The BYC uses eleven variables from HMIS, all but two of which are Project Descriptor Data Elements or required Universal Data Elements. The table below details those variables and their use in the BYC and SPP:

Variable	Data Standards		Variable Use Detail	Potential Data Quality Concern(s)
	2010	2014		
Client ID	3.14	3.13	A unique ID number should be used for all stays by the same person in HMIS.	Every record must have a Client ID or will be excluded from analysis.
Project Type	2.8	2.4		Missing data in these fields is indicative of an error in data extraction.
Project Name	2.4	2.2		No record should be missing these descriptor elements.
Organization Name	2.2	2.1	Used as basis of analysis – performance is reported by project type and/or project name, but can also be displayed by organization.	
Prior Living	3.9	3.9	Used to establish rates of entry from various living situations; establishes the available spaces in projects for persons and families who are literally homeless.	Substantial numbers of missing or unknown responses will impact reliability of SPP modelling.
Entry Date	3.12	3.10	Entry and exit dates establish length of stay in projects, sequential and simultaneous stays and cost per person.	Every record must have an entry date or will be excluded from analysis.
Exit Date	3.13	3.11	Entry and exit dates establish length of stay in projects, sequential and simultaneous stays and cost per person.	Exit dates (or missing exit dates) that create length of stay beyond the typical project allowances may indicate data quality issues.
Destination	4.10	3.12	Exit destinations are used for determining successful housing outcomes by project type.	Substantial numbers of exits to incongruous destinations may indicate data quality issues.

Variable	Data Standards		Variable Use Detail	Potential Data Quality Concern(s)
	2010	2014		
HouseHold ID	3.15	3.14	Needed for aggregating data at the household level. Household ID must be constant throughout system. Your system may have a HHID assigned at each project entry as well as one that remains constant throughout the HH's life in the system, the latter is the HH ID needed for this analysis.	Required for all family HHs; Appendix C details how to create HH IDs for single adult HHs if the system does not do so.
Relationship to Household	N/A	3.15	Used to confirm/review aggregation of data at the household level. *Because this variable was not required in the 2010 standards (but is required in the 2014 standards. It is not used in the BYC, but can be used to check the aggregation work using HH ID).	Records with incompatible values (e.g., a "spouse" in relationship to a HH of "single adult") may indicate data quality issues.
DOB	3.3	3.3	Used to establish client age and then determine HH type (e.g. with children or without children and TAY HHs)	Records with odd date of birth (e.g., negative ages, ages over 90) may indicate data quality issues.

Use the HIC to guide which projects HMIS data is needed for, and pull all records that were open at any time during the most recent two complete calendar years. For example, if the BYC is being populated in February 2016, HMIS staff should pull all records with at least one day of a stay between (and inclusive of) January 1, 2014 and December 31, 2015. In other words, any client who spent one or more nights in any of the homeless projects between and including January 1, 2014 and December 31, 2015 should be incorporated.

The data should be extracted from HMIS into Excel in the order presented above. The first row should contain the column headers and subsequent rows should each reflect a project stay by a single person.<sup>1</sup> Be sure the data is ultimately put into Excel 2007 or later.

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<sup>1</sup> The export of data from HMIS can be made through another project (such as Access), and the cleaning instructions in [Appendix C](#) provide detail on how to deal with common issues that arise when the data is "passed through" another project into Excel.

## Step 6: Cleaning and preparing HMIS data

It is advised that the HMIS staff review the Excel data for general completeness and check for common issues that can occur during extraction. [Appendix A](#) contains an HMIS Data Extraction Checklist that provides one way to review the data. A series of cleaning steps may be needed, depending on how data is organized and/or was extracted from HMIS. [Appendix C](#) contains detailed instructions on these data cleaning steps for Excel. Before inputting the data into the BYC, the HMIS data must:

1. Have no additional characters or spaces
2. Be in the correct column order
3. Have no time stamps on dates
4. Have dates formatted as “short date” in Excel (mm/dd/yyyy)
5. Have no duplicate records
6. Have numeric only client IDs for all records
7. Have a household ID for all records, regardless of household composition
8. Have emergency shelter stays collapsed to project entry/exit (rather than bed night) stays
9. Have all blank cells coded as “BLANK”
10. Be sorted by entry date, oldest record first

The order and approach for getting the HMIS data ready for the BYC is critical; it is recommended that the HMIS staff responsible for these steps review [Appendix C](#) for details on how Focus Strategies approaches this work, and either follow these steps or incorporate similar logic into the processes being used to prepare the community’s data.

## Step 7: Uploading HMIS data to BYC

After collapsing and cleaning the HMIS export, the dataset can be uploaded to the BYC. Use the HMIS Template posted to <http://www.focusstrategies.net/swap>. Follow the same instructions as for uploading HIC and budget data.

## Step 8: Recoding (Project Name, Prior Living, Destination)

The BYC is dependent on standardized values for prior living and destination, and project names in the BYC that match project names in the HIC. The HMIS Recoding pages allows the user to “recode” these three variables. The task is to select the most appropriate recoded value for each HMIS value. If the HMIS value for prior living and destination matches the response categories in the HMIS data standards, the “recode” may have the exact wording as the HMIS value. Each “HMIS Value” answer choice must have an associated answer in the “Recoded Value” column. **If there is no “recode”, “HMIS Value” will be ignored in all analyses.**

*Note that the recoded values for prior living and destination are from the 2014 HMIS Data Standards. Also, it is possible for more than one HMIS value to have the same “recoded” value (e.g., HMIS data may have “BLANK” and “Missing” for missing values. Both of these values would be “recoded” to “Data not collected”.)*

1. Click [Project Name Recoding](#) for the Project recoding page. The Project Recoding page shows a list of all unique project names in the HMIS data that was uploaded on the left and blank cells on the right where HMIS project names will be match with project names on the HIC. Follow the steps below to recode project names.
  - a. Choose [Edit](#) for the first line at the top of the page
  - b. Choose the corresponding HIC project name from the drop down list
  - c. Click [Save](#)
  - d. Repeat this process until each HMIS project name is matched with a HIC project name
  - e. Once all HMIS project names have been matched click the Back button to return to the [Base Year Calculator \(BYC\) menu.](#)

It is common for one HIC project to have multiple HMIS projects (e.g., Project X enters clients into HMIS based on grants and therefore has 3 projects in HMIS for one project in operation). Each HIC name in the drop down menu can be matched to more than one HMIS project name.

2. Click [Prior Living Recoding](#) for the Prior Living recoding page. This page shows a list of all unique prior living values in the HMIS data that was uploaded on the left and blank cells on the right where Standardized HMIS prior living values will be matched. Follow the steps below to recode prior living values.
  - a. Click **Run Smart Matching** at the top of the page. Although this will successfully match most of the HMIS values it is important to double check all that were matched and matched correctly, please note that some edits may be needed to reflect system-specific differences.
  - b. Choose [Edit](#) for the first line at the top of the page
  - c. Choose the corresponding HUD HMIS Standard value from the drop down list
  - d. Click [Save](#)
  - e. Once all prior living values have been correctly matched click the Back button to return to the [Base Year Calculator \(BYC\) menu.](#)
3. Click [Destination Recoding](#) for the Destination recoding page. This page shows a list of all unique destination values in the HMIS data that was uploaded on the left and blank cells on the right where Standardized HMIS destination values will be matched. Follow the steps below to recode destination.

- a. Click **Run Smart Matching** at the top of the page. Although this will successfully match most of the HMIS values it is important to double check all that were matched, please note that some edits may be needed to include unique values.
- b. Choose Edit for the first line at the top of the page
- c. Choose the corresponding HUD HMIS Standard value from the drop down list
- d. Hit Save
- e. Once all destination values have been correctly matched click the Back button to return to the Base Year Calculator (BYC) menu.

## Potential Issues with Re-Coding

In many communities, HMIS project organization and data structure is determined by the organization of contracts with HUD. Unfortunately, HUD contract divisions do not always agree with how projects operate “on the ground”. For example, a transitional housing project may have two HUD contracts (one for operations, one for services) and will appear in HMIS as two distinct projects. Keeping the contracts separate when measuring performance is not useful for understanding the project’s impact or cost. Therefore, we recommend reviewing the organization and data structure in HMIS against the community’s Housing Inventory Count (HIC), and identify where project means project, and where it is more indicative of contract or organizational delineation. In the latter case, there will be fewer unique HIC project names than there are HMIS project names.

### What to do if one HIC project = two (or more) HMIS projects?

The BYC accommodates one HIC project with two (or more) HMIS projects. In this case, simply select the HIC project name from the Recoded Value drop down list for each associated HMIS value.

### What to do if one HMIS project = two (or more) HIC projects?

The BYC is not able to directly accommodate the instance where one HMIS project contains records associated with two (or more) HIC projects. This should rarely occur, but could if one HUD grant is administered for example across two regions or by two organizations (e.g., an SSVF grant funds one project implemented in two different jurisdictions, giving one HMIS project but two HIC projects, one for each jurisdiction). Two options exist for a community to deal with this circumstance, both needing to be done **before putting HIC or HMIS data into the BYC**. First, you can change the names of the two HIC projects into a single name, and merge the capacity and budget. This would treat the projects in the two jurisdictions as one large project. Alternatively, you can manipulate the HMIS data (using another variable like geocode or address) to break the single HMIS project into two sets, one reflecting each of the HIC projects. The additional HMIS variable will not be part of what is pulled for the BYC, so thinking this through before pulling HMIS data is critical.

## Step 9: Calculate Outputs

Once HIC and HMIS data have been successfully uploaded and all recoding is complete hit Calculate Outputs on the BYC main menu page.

Calculations Complete will appear at the top of the menu when calculations have successfully run.

The screenshot shows the BYC main menu. At the top right, there is a red arrow pointing to the word "Calculations Complete" which appears above the "Base Year Calculator (BYC)" tab. Below the tabs, there is a list of options. One option, "Calculate Outputs", is circled in red. To the right of the menu, there is some descriptive text for each option, such as "Upload BYC Data from Excel file to Database" for "Update BYC Data".

## Understanding Outputs

### HMIS Data Quality

The HMIS Data Quality tab is the first of three tabs that compile BYC data and present general project level outcomes for review. These tabs (shaded blue) are formatted to print and share with community leaders, CoC and project staff.<sup>2</sup> The HMIS Data Quality tab focuses on five common data quality issues associated with the data fields used, and does not substitute for a complete analysis of HMIS data quality. Each of the five issues is described below.

#### Missing Data

This table summarizes by project the number and percent of missing data (indicated by a “BLANK” in the cell) in each of three variables: prior living, destination and date of birth. If data is missing in any one of these variables, the record cannot contribute to any analysis that uses the variable. For example, if 100 records have exit dates, but only 80 have destinations, any analysis of exit rate to permanent housing destinations cannot possibly be more than 80%, as only 80 of the 100 records have a valid answer.

The table highlights the percent missing for each project as follows:

Green	Missing less than 5%
Yellow	Missing 5% - 9.99%
Red	Missing 10% or more

*Note that the percent missing for destination is only of exited cases, while percent missing of prior living and date of birth is of all records.*

<sup>2</sup> Please note that while the pages have been formatted for printing, a community with a large number of projects may need to adjust the print areas. To adjust the print areas, select the “View” ribbon, choose the “Page Break Preview,” and drag the bottom blue line down to capture all of rows of data.

If a project has more than 10% missing records on any of these fields, additional data quality work and re-populating the BYC is recommended. HMIS should have reports to help identify data quality issues, and further, the records or users contributing to the issue. If the HMIS data quality cannot be improved, the community may decide to continue with the BYC, knowing that data quality may impact the results. Alternatively, CoC leadership may remove projects with the poorest data quality from the BYC and add them in the SPP as a “new” project. The latter approach allows the BYC output to not be influenced by known data quality issues, and also allows the input of performance data generated elsewhere.

## Unknown Answers

This table summarizes the number and percent of unknown values by project in both prior living and destination. Unknown answers include missing data as well as answers of “Don’t Know”, “Refused” or “Other”. Although these are valid answers from the perspective of the HMIS data standards, they do not allow for meaningful data analysis and present the same challenges as missing data. The BYC and SPP specifically look for destinations to and entries from particular places, so unknown answers are not useful. Using the example from above, there are 100 records with exit dates, but only 80 have destinations (e.g. 20 are missing a destination), and an additional 50 have an unknown destination – there is a response, but it is “unknown”. In an analysis of rate of exits to permanent housing, the highest rate possible is 30% as only 30 of the 100 possible records have a “useable” answer. If any of the 20 missing or 50 unknown answers were actually to permanent housing, the project’s permanent housing exit rate will be much lower in the analysis than it is in actuality.

The table highlights the percent missing for each project as follows:

Green	Less than 5% unknown
Yellow	%5.1 - 9.99% unknown
Red	10% or more unknown

*Note that the percent missing for destination is only of exited cases, while percent missing of prior living and date of birth is of all records.*

In many communities, unknown answers are more common than missing data. Many communities have HMIS reporting capabilities to identify and fix missing data, and some are also able to determine the number of records with unknown answers. If a project has more than 10% unknown records in one or more of these fields, you may want to perform some additional data quality work and re-populate the BYC. Unknown answers can be harder to “fix”, outside of tracking down paper files and updating records one by one. However, especially as it relates to exit destinations, many “positive” exits (e.g. to a permanent housing location) can be lost in an unknown answer when clients only stay very short periods of time and files are not fully opened or populated.

If the HMIS data quality cannot be improved, the community may decide to continue with the BYC, knowing that data quality may impact the results. Alternatively, CoC leadership may remove projects with the poorest

data quality from the BYC and add them in the SPP as a “new” project. The latter approach allows CoCs to focus on improving data quality, while at the same time not eliminating a project from modelling in the SPP.

## *Length of Stay*

This table presents the minimum, maximum, mean (average) and median (middle value) length of stay by project. A project’s average length of stay is used for many of the performance measures, including the rates of bed/unit turnover and exit. Shorter lengths of stay coupled with higher exit rates to permanent housing lead to more efficient use of available community resources. Targeting funding to projects with short stays and positive exits may reduce the number of homeless people in the community with no new investment.

The HEARTH Act has determined the importance of shortening lengths of stay by setting the target that no person or family is homeless longer than 30 days. This means that the length of stay in emergency shelter and transitional housing projects should never be longer than 30 days. Current funding regulations, however, provide more leeway than HUD’s target and allow stays of up to 2 years in transitional housing. Therefore, the following HUD allowances are used in the BYC and the table highlights in purple any project whose mean (average) length of stay is above:

30 days	Emergency Shelter
540 days	Rapid Re-Housing
720 days	Transitional Housing
No max	Permanent Supportive Housing

Length of stay is only calculated for records that have exited. The length of stay for clients that are still enrolled in the project does not contribute to the project’s average.

Additionally, any length of stay calculations (e.g., minimum and/or mean length of stay) that are negative are highlighted in red. **Lengths of stay cannot be negative**, and, if any project has a negative length of stay, it must be corrected before proceeding to the SPP.

## *Utilization Rates*

This table compares each project’s utilization rate as reported in the HIC with the utilization rate calculated using HMIS records. This step serves as a litmus test to ensure the number of HMIS records included for each project is appropriate. The best proxy for determining the expected number of clients/households served is to compare the count of records expected to the count of records included, as indicated by utilization rates. Details on the calculation of both the expected utilization rate and the “base year” (observed) utilization rate can be found in the **Technical Guide to the BYC**.

In some cases, the calculated utilization rate (Column E) varies substantially from the reported utilization rate (Column B). The impact of this difference can be dramatic, as evidenced by the annual bed nights each

produces (Columns D and C, respectively). Column F shows the difference in bed nights using the two approaches and colors the outcome as follows:

Green	Less than 10% difference
Orange	10% to 19% difference
Red	20% or greater difference

## Annual Households Served

This table compares the number of households served by each project as counted from HMIS data and as calculated using PIT capacity, length of stay and calculated utilization rates. The SPP uses the calculated annual capacity to compare the base year and subsequent years, and the calculated capacity may be different than a simple count from HMIS data. The difference may be related to one or more of the following factors: (1) the discrepancy in the calculated versus reported utilization rate (see above); (2) use of an average length of stay that is skewed by a few very short or very long stays; or (3) HMIS data that does not accurately reflect project entries or exits. The user should investigate and diagnose discrepancies of concern and make needed data corrections before moving on.

This table contains calculations for both the annual capacity per HMIS and the “base year” annual capacity as calculated. The HMIS Households Served is simply the sum of all the households served in the analysis year, using the calculated indicator variable in column AC of the HMIS Data tab (see “[Logic in the Green Columns](#)”). Conversely, the Calculated Households Served is equal to:

$$A \times ((365 \times B) \div C)$$

Where:

A = Point in time capacity (per the HIC). If the project includes seasonal beds, the seasonal beds are annualized.

B = Utilization rate as calculated (see above)

C = Average length of stay

The table also includes a calculated difference between these two values, including the percent difference between them as follows:

Green	Less than 10% difference
Orange	10% to 19% difference
Red	20% or greater difference

Tables 4 and 5 in the HMIS Data Quality tab are inter-related. In general, differences between expected utilization rates and HMIS utilization rates will be related to differences between the counted and calculated annual capacity. The larger these differences, the closer review of the data that is warranted.

Because the SPP is a modeling tool, the data driven and calculated HMIS utilization rate is used as the basis for change in the SPP. This utilization rate is also the basis for calculating the number of households served in a

year and the capacity available in subsequent years to shelter/house homeless households. If there is concern that the calculated utilization rate or annual capacity is not accurate, the raw HMIS data should be revisited (specifically entry and exit dates), to determine why the number of bed nights in HMIS does not match expectations.

## Project Cost Detail

Using data from the HIC, HMIS and Budget tabs, this tab summarizes information on project cost. The table is formatted for printing and can be used as a project level overview of cost data. Each project is listed, with its total HMIS capacity (annualized if the project includes seasonal beds), and summary budget and cost figures.

The impact of under-utilization (or over-utilization) and length of stay is reflected in cost per exit and cost per permanent housing exit, because cost is spread amongst bed nights used per HMIS and those households that exit. The following details the calculations for Average Cost per HH Exit:

- A. Number of nights used in analysis year (year 2) per HMIS data to calculate cost per unit per day
- B. Household length of stay

$$\text{Household Cost} = ((\text{Total Budget}/A) \times B)$$

Average cost per HH exit = Average of all HH costs for HHs who exited

Average cost per PH exit = Average of all HH costs for HHs who exited to permanent housing

## Project Performance

This tab summarizes project performance on several measures and is formatted for printing in five sections (be sure to review and adjust print areas before printing).

*If a community wants to display and present the data using a different format (e.g., by project type or performance output), you must copy the entire tab and paste “as values” into a new spreadsheet.*

These measures comprise the base for SPP modelling and should be carefully reviewed by HMIS, CoC and project staff. The **Technical Guide to the BYC** details how each project performance measure is calculated.

## Population Input

This tab uses information from the most recent sheltered and unsheltered Point-in-Time (PIT) counts done in the community. The most recent data should be used, even if the sheltered and unsheltered PITs were completed in different years. Users should input data as reported to HUD in the HDX in the yellow cells (do not use any adjusted community count, annualized counts, or other computations). Grey cells will automatically populate based on the entries.

For many communities, it may be the case that the most recent unsheltered and sheltered counts were in different years. The specific data required to be submitted to HUD may also have changed. For the data changes between 2013 and 2014, the BYC includes logic that “translates” total persons in unsheltered Veteran Households to breakdowns of Veteran persons and households as collected in the 2014 PIT. If your community has an unsheltered count that gets to the same breakdown of Veteran Households as was required in the 2014 sheltered PIT, you can contact Focus Strategies to have these input cells unlocked.

For a crosswalk of the most recent HUD PIT as reported in HDX and the Population Input tab visit:  
<http://focusstrategies.net/swap/>

## Population Assumptions

Once the entire BYC is populated and reviewed, this page contains the data related to population assumptions for the SPP. *Coming soon*

## Tab 11: Project Data for Transfer

Once the entire BYC is populated and reviewed, this page contains the data related to project performance to transfer to the SPP. *Coming soon*

## Tab 12: Population Data for Transfer

Once the entire BYC has been populated and reviewed, this page contains the data related to population to transfer to the SPP. *Coming soon*

## Appendices

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## Appendix A – Data Extraction Checklist

### Data Extraction Checklist

This checklist is a companion piece to the BYC Users Guide, which provides details for HMIS staff to export and organize the data required for the Base Year Calculator. The BYC (Appendix C) provides detailed instructions on how to clean the data to standardize missing values and number formats, remove duplicate records, assign household IDs to single person households, and ensure that the extracted data is in the necessary order and format for use in the BYC. However, these data cleaning steps cannot account for the integrity of the overall extraction – for example, if a project was erroneously excluded.

To help prevent issues related to the data extraction, Focus Strategies created this checklist for use by HMIS staff. We recommend that after exporting the data set and transferring it to Excel, that HMIS staff completes this checklist. HMIS staff should review their findings with project staff, to ensure that the dataset appears to be of the right size and proportion, given the size and types of projects in the system. While the checklist provides some suggestions for using the data to identify possible export errors, these are only suggestions and must be considered in light of the size and type of projects in your particular community.

If any of the answers to the checklist questions is “No”, you may want to more carefully review the dataset for possible extraction issues and/or data quality issues. The checklist cannot definitively identify data extraction issues, but can help the HMIS staff in a cursory review of the dataset before putting the data into the BYC.

*Instructions:* Open the Excel file, which should be fully populated per the instructions contained in the BYC ([Appendix C](#)) Turn filters on Row 1; you can use filter and count functions to complete most of the checklist items. Most of the checklist questions ask for counts of records or answer choices by project type (ES, TH, RRH, PSH). It is recommended that the HMIS staff first filter by Column B “Project Type” and then count records or answer choices in the other field(s) being reviewed.

## DATA EXTRACTION CHECKLIST

1	<p>Is the total number of client records in the dataset in line with what you expected over a two year time frame?</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 10%; padding: 2px;">A</td> <td style="padding: 2px;"><i>Number of records in dataset:</i></td> <td style="width: 10%;"></td> </tr> <tr> <td>B</td> <td><i>Average records/year in dataset (A ÷ 2):</i></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>			A	<i>Number of records in dataset:</i>		B	<i>Average records/year in dataset (A ÷ 2):</i>					<input type="checkbox"/> Yes <input type="checkbox"/> No									
A	<i>Number of records in dataset:</i>																					
B	<i>Average records/year in dataset (A ÷ 2):</i>																					
2	<p>Are there project records included in the dataset from <u>all</u> the projects in the most recent HIC?</p>			<input type="checkbox"/> Yes <input type="checkbox"/> No																		
3	<p>Is the total number of projects by type in line with the expected number?</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Project Type</th> <th style="width: 25%;"># of Projects</th> <th style="width: 25%;">% of all Projects</th> </tr> </thead> <tbody> <tr> <td>A <i>Emergency Shelters</i></td> <td></td> <td></td> </tr> <tr> <td>B <i>Transitional Housing</i></td> <td></td> <td></td> </tr> <tr> <td>C <i>Permanent Supportive Housing</i></td> <td></td> <td></td> </tr> <tr> <td>D <i>Rapid Re-Housing</i></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> </tr> </tbody> </table>			Project Type	# of Projects	% of all Projects	A <i>Emergency Shelters</i>			B <i>Transitional Housing</i>			C <i>Permanent Supportive Housing</i>			D <i>Rapid Re-Housing</i>			Total			<input type="checkbox"/> Yes <input type="checkbox"/> No
Project Type	# of Projects	% of all Projects																				
A <i>Emergency Shelters</i>																						
B <i>Transitional Housing</i>																						
C <i>Permanent Supportive Housing</i>																						
D <i>Rapid Re-Housing</i>																						
Total																						
4	<p>Is the total number of providers in line with the expected number?</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 75%; padding: 2px;"><i>Number of providers in dataset:</i></td> <td style="width: 25%;"></td> </tr> <tr> <td></td> <td></td> </tr> </table>			<i>Number of providers in dataset:</i>				<input type="checkbox"/> Yes <input type="checkbox"/> No														
<i>Number of providers in dataset:</i>																						

## DATA EXTRACTION CHECKLIST

	Are the earliest entry dates reasonable, given the project type?			
5	Project Type	Earliest Entry Date	Guidelines	
	<i>Emergency Shelters</i>		<i>No more than 3 months before the start date of the dataset</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<i>Transitional Housing</i>		<i>No more than 24 months before the start date of the dataset</i>	
	<i>Permanent Supportive Housing</i>		<i>There should be significant numbers of entry dates well before start date of dataset</i>	
6	<i>Rapid Re-Housing</i>		<i>No more than 18months before the start date of the dataset</i>	
	<p>*Guidelines are based on typical project rules of 90 day max stays at ES, 24 month max stays at TH and 18 month max stays at RRH. Individual project rules may vary, but if there are a significant number of records outside these expectations, this could signal a data extraction error.</p>			<input type="checkbox"/> Yes <input type="checkbox"/> No
6	Are there records with entry dates and exit dates in both two years of the dataset for all project types? In other words, can you find entry dates in both of the past two calendar years as well as exit dates in both of the past two calendar years among all project types?			

## DATA EXTRACTION CHECKLIST

	Are the number of “open” records (e.g. no exit date) reasonable, given the project type?					
5	Project Type	# of records	# open records	% of records in type open		
	A Emergency Shelters					<input type="checkbox"/> Yes <input type="checkbox"/> No
	B Transitional Housing					
	C Permanent Supportive Housing					
	D Rapid Re-Housing					
	Total					
<p>*In general, the percent of open records should correspond with the average or expected length of stay in the project type. For example, the majority of PSH records should be open (no expectation of project time limits) and very few of ES records should be open (given the expectation of short stays).</p>						
6	No analysis can be done if project(s) do not have an identified project type. Are there any records without a project type?					
	A Number of records with no project type:					<input type="checkbox"/> Yes <input type="checkbox"/> No
	B Number of records in dataset:					
	C % of records with no project type (A÷B):					

## DATA EXTRACTION CHECKLIST

	In general, there should not be many unaccompanied children in the dataset – records for most people under the age of 18 should be a part of a larger household. Are there significant numbers of unaccompanied children in the dataset?							
7	<table border="1"><tr><td># of records of minor children (under age 18) at entry</td><td></td></tr><tr><td># unaccompanied *</td><td></td></tr><tr><td>% of minor children who are unaccompanied</td><td></td></tr></table> <p><i>*Depending on your dataset, “unaccompanied” can be determined differently. For HMIS that do not establish HHs for single individuals, the best way is to search for child records with no HH ID. For HMIS that establish HH ID for all records, you should sort first by HH ID and then by DOB and look for any HHs that have only child records.</i></p>	# of records of minor children (under age 18) at entry		# unaccompanied *		% of minor children who are unaccompanied		<input type="checkbox"/> Yes <input type="checkbox"/> No
# of records of minor children (under age 18) at entry								
# unaccompanied *								
% of minor children who are unaccompanied								

## Appendix B – Collecting Budget Information

The Base Year Calculator (BYC) combines budget information with HMIS data to determine the cost of supporting clients in shelters, transitional housing, rapid re-housing, and permanent supportive housing (PSH), and to compare the relative cost and outcomes among the various project and client types. Data from the BYC can be used to present each agency and the community as a whole with performance information about the extent to which homeless projects in the community are ending homelessness of the individuals and families served. The BYC data is then transferred to the System Performance Predictor (SPP) to allow the community to model how changes to the homeless system could impact the overall extent of homelessness in their community.

It is recommended that budget information be collected at the project level directly from the organizations administering the projects. Organizations should be told that basic information on the project (name, capacity, subpopulations served, utilization rate) are being compiled from the HIC, and should be given the opportunity to review this information and provide comment on recommended changes.

Organizations should be asked to provide their annual project budget for each project to be included in the BYC. This should include all funding sources, public and private. The total annual project budget covers all costs including overhead and administration attributable to the particular project(s). Budgets should be project specific; therefore, two separate shelters should have two separate budgets.

Specific information to consider when collecting budget information includes:

**HUD CoC Grant:** The BYC collects the amount of HUD funding received through CoC separately. These amount(s) should be inclusive of administrative costs allowed by HUD, if that amount is known. This amount does not include other HUD funding (ESG, HOME, CDBG, HOPWA, HCV (Section 8), etc.) or any match.

**HUD ESG Grant:** The BYC collects the amount of HUD funding received through ESG awards separately. These amount(s) should be inclusive of administrative costs allowed by HUD, if that amount is known. This amount does not include other HUD funding (CoC, HOME, CDBG, HOPWA, HCV (Section 8), etc.) or any match.

**Other Public:** This includes all other public funding sources (non CoC and/or ESG HUD, other governmental funding, etc). Only include tenant based Housing Choice Vouchers that are dedicated to the project (e.g. the resident has a voucher that can only be used at specific rental property in the community with or services).

**Other Private:** This includes the total of all private funds from foundations, donors, fund raising, etc. that are dedicated to the project and included in the annual budget. If the project relies on in-kind donations and these donations are a part of the annual budget, include this amount. Conversely, if the project receives sporadic donations of good or services that are not a part of the annual budget, do not include this amount.

*Note the sum of the four categories above (HUD CoC Grant, HUD ESG Grant, Other Public, and Other Private) should be equal to the total project budget.*

## Additional Notes

**Property Related Costs** Only include funds that are part of the annual operating budget. If the project has acquisition or construction financing, but that debt does not have regular or annual payments, do not include these funds. Deferred payment loans, residual receipt payments, or other such payment structures should not be included.

**Shelter Plus Care** If you are a service provider with a contract to support Shelter Plus Care units, do not include housing costs or services for Shelter Plus care.

*Projects based or dedicated tenant based Housing Choice vouchers (Section 8):* Tenant based vouchers should only be counted if they are dedicated to the project (e.g. a set aside of the general pool). Do not include the voucher subsidy for residents with tenant based vouchers that are not dedicated to the project (e.g. the resident happens to have a voucher, but can use it at will at any rental property in the community, with or without services).

**Emergency Shelter** Please include the total cost to operate the shelter, including staffing, case management, operations and any costs associated with the physical structure.

**Hotel/Motel Vouchers** For projects that provide hotel/motel vouchers as a sheltering method, provide the costs for the actual vouchers as well as all costs associated with operating the project.

Visit <http://focusstrategies.net/swap/> to access budget collection documents

## Appendix C – Cleaning HMIS Data

The following details processes for cleaning HMIS data in Excel prior to inputting into the BYC. These are suggested steps that may be needed and it is possible to accomplish them in other ways (Access, SQL, etc.).

***Please note: The steps below are suggested with the assumption that they proceed in the order presented.*** If taken out of order, the specifics of a particular step are likely to differ.

*To start, we recommend a new Excel workbook be created that will contain a tab with the dataset resulting from each data cleaning step. The first tab in this worksheet should be called "Raw Data" and will be a copy of the data as imported into Excel. Each subsequent tab will then contain the full dataset with next cleaning step done and named accordingly (each step includes a recommended naming convention). Values resulting from one cleaning step should be copied and pasted into a new tab prior to beginning the next cleaning step. The final tab will be a dataset with all the cumulative changes.*

### a) Remove Leading Apostrophes

(Tab Name: No Apost) When Access is used as an intermediate step between HMIS and Excel, leading apostrophes are often inserted in cells. They are typically only visible in the formula bar and not in the cells themselves. The simplest way to remove the apostrophes is to use the Excel formula "CLEAN". In the second worksheet in the raw data workbook, in cell A1, type =CLEAN(Raw Data!A1). Drag this formula all the way across to column to the last column of data in "Raw Data" and down as many rows as there are rows in the Raw Data tab. This should produce a duplicate sheet with all the data, removing the apostrophes.

### b) Ensure Data is in the Correct Column Order

(Tab Name: Reordered) Review the Excel data to ensure that the variable order in the "raw" data is the same column order as the variable order in the [data table](#) above. If the orders differ, the variables should be re-ordered before transferring data into the BYC. This step is also used to (1) remove additional variables in the "raw" data that are not included in the BYC; OR (2) insert columns for any variables requested in the BYC that are not available. These steps ensure the imported data is aligned with the correct column in the BYC.

### c) Remove Time Stamps on Dates

(Tab Name: Dates Fixed) Three variables are in date format: entry date, exit date and date of birth. When data is transferred from HMIS, a date often includes a time (this will be visible in the formula bar in a format similar to this: 06/25/1976 07:25:16, but may not be visible in the cell). The time must be removed from the date so the BYC considers all dates on the same day as equal, regardless of time. To do this, staff will again need to use a formula in a new sheet. Rename the next new sheet – "Dates Fixed", and in cell A1, type =Reordered!A1. (If the preceding tab is not called "Reordered", then substitute the appropriate name.) Drag this formula across to last column of data and down to row 2 (the goal is to populate the header row and one row of data). Go back to columns F, G and K (these should be the three data columns - IF THEY ARE NOT, REVISIT THE ORDER INSTRUCTIONS ABOVE). In row two of these columns, enter =IFERROR(INT(Reordered!F2),"") (or G2 or K2). Again, If the preceding tab is not called "Reordered", then substitute the appropriate name. Highlight cells A2 through K2 and drag these formulas down as many rows as there are rows of data in the dataset.

d) Remove any Duplicate Records

(Tab Names: Dups Noted & Dups Removed) Review the dataset for duplicates - this step results in two tabs of data: one where the duplicate records are noted with an indicator (Dups Noted) and one where the duplicate records are removed (Dups Removed). Duplicates most often occur when data is pulled independently for each year, meaning that a stay that extends beyond one year has a complete record for each year the stay "touched". The best way to see these duplicates is to sort the data in client ID order and scan through the data. If you begin to see potential duplicates, the following details how to identify and remove them:

*Note: A duplicate record means every variable is the same for two rows of data. If a client stay has resulted in two rows of data; one containing "entry variables" and the second containing "exit variables" these should be collapsed into one row of data. These are not considered duplicates as they do not match on EVERY variable.*

- i. In the "Dups Noted" tab (which starts as a copy of the previous cleaning step), insert two new columns to the left of column A (client ID will now be column C and the final column of data will be column M)
- ii. Label column A "Duplicate?" and column B "Unique Code". Column A will ultimately contain a "Yes" for duplicate and blank for unique records, and Column B will contain a generated ID using the client ID, entry date, exit date and project name.
- iii. In cell B2 enter the following: =CONCATENATE(C2,H2,I2,E2). This will generate the ID described in (ii). Column A will use this ID (rather than just Client ID) to determine if the row is unique or duplicative of other rows in the dataset. Using this ID allows for multiple stays by the same client ID, but not multiple stays in the same project at the same time. Drag this formula down as many rows as there are rows of data.
- iv. In cell A2 enter the following: =IF(COUNTIF(\$B\$2:B2,B2)>1,"Yes","",). **NOTE THE DOLLAR SIGNS!!** This will produce a "Yes" in column A next to rows that are duplicative of a previous row. Drag the formula in cell A2 down as many rows of data as there are in the dataset.
- v. Create a copy of Dups Noted into a new tab (Dups Removed). Sort the worksheet by column A "A-Z" - be sure to choose "expand the selection" when sorting. The duplicate rows should be at the bottom of the worksheet - simply highlight and delete them all. Delete columns A and B, the "work" columns for the de-duplication.

e) Ensure all Client IDs are Numeric Only

(Tab Names: New ID work and New ID clean) The BYC requires that Client IDs be numeric. If Client IDs are alpha-numeric, new number-only client IDs need to be generated. To do this, copy the clean, de-duplicated version into a new tab called "New ID work". Insert a column to the right of column A (containing the HMIS Client ID numbers). Title this column Number ID. In cell B2 enter "=1". Then, in cell B3, enter the following formula:

=IF(VLOOKUP(A3,\$A\$2:\$A\${[last row of data]},1,FALSE)=A2,B2,B2+1)

Drag B3 down as many rows as there are records. Select all the data in the "New ID Work" tab and copy and paste values into a new sheet called "New ID Clean". Delete Column A with the HMIS Client IDs and rename your generated client ID row to ClientID.

f) Ensure all Records have a HH ID

(Tab Name: HH Identifier) In some cases, HMIS only generates HH IDs for households of more than one person, so individual "households" have no HH ID number. Because HH ID is integral to the data manipulation process, HH ID numbers must be created for those without them.<sup>3</sup> The following steps create HH IDs for those missing them:

- i. Review existing HH IDs, and note the smallest and largest number appearing in the dataset.
- ii. In the "Data" tab, under the Sort and Filter section, choose "Sort"
- iii. A new sort window will pop up, allowing you to sort by multiple variables, in certain order
- iv. In the first level, sort by HH ID, values largest to smallest. Add a level, and in the second level, sort by Client ID, values smallest to largest. This should result in the dataset with all the blank HH IDs at the bottom with the lowest Client IDs first, ascending upwards as the list goes on.
- v. "Filter" the HH ID field to hide all but the blank values.
- vi. Count the number of records missing HH ID.
- vii. In the first blank HH ID cell, input either 1 if the number of blank HH IDs is less than the lowest number among the exiting HH IDs. If the lowest existing HH ID is less than the number of blank cells, then input a number higher than the highest existing HH ID.
- viii. In the next blank HH ID cell (Column I), input:

*(Note: the example assumes there are 4,176 records with HH ID numbers (plus a header row), so row 4,178 is the first record (in Client ID # order) without a HH ID )*

=IF(A4179=A4178,I4178,I4178+1)

The red and blue numbers above follow this logic:

Red=

The row number in which you enter the formula

Blue=

The row number of the first blank HH ID, in which you input "1" (or the appropriate higher number)

- ix. Drag the formula down to the end of the spreadsheet
- x. Copy and paste values the HH ID column
- xi. Double check the work by counting the number of unique HH IDs among those that were originally blank (e.g. the single adult HHs). In a free cell, input the following:

=SUM(IF(FREQUENCY(A4178:A10000,A4178:A10000)>0,1))

The numbers colored above won't always match, but should logically follow this:

Purple = the first row that you re-numbered

Green = the last row of data

The result is the number of unique values, which is one less than the highest number assigned. The same formula can be run through the HH ID column and the same value should result.

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<sup>3</sup> If missing HH IDs are related to any other set up or HMIS use convention, this step will not fix the issue. Contact Focus Strategies for an individualized solution if use of HH ID is inconsistent, spotty, or related to more than just vendor specifications for single person households.

### g) Collapse Shelter Stays

Some emergency shelters record stays as “services” with each night in the shelter being a distinct service. Other shelters record a stay as all the consecutive bed nights between a project entry and project exit.<sup>4</sup> The first approach shows a person staying at a shelter five consecutive nights as having five stays, each of one day duration. The second approach shows the same person as having one stay of five days duration. The BYC and SPP utilize the latter approach for quantifying length of stay, so projects who record each service night as a stay need to collapse the data related to consecutive services into one project entry and exit. The following details the steps to take:

*Note: The process for collapsing bed nights assumes that all other variables are the same. It is possible for the first bed night entry to be missing destination with later entries missing prior living. In order to follow the steps below for collapsing bed nights into a stay all other variables should be the same. If they are not all the same take prior living from the first stay and destination from the last stay and apply those to all other stays.*

- a) Copy all records, by project, needing to be collapsed into stays into separate worksheets in a new Excel file (i.e., each project should be pasted into its own sheet).
- b) If stays are recorded as entry and exit on the same day, such as the following consecutive stays:

Client ID	Service Start	Service End
58	2/5/2013	2/5/2013
58	2/6/2013	2/6/2013
58	2/7/2013	2/7/2013

...you will first need to replace the exit dates with the date one day later, so that they look like:

Client ID	Service Start	Service End
58	2/5/2013	2/6/2013
58	2/6/2013	2/7/2013
58	2/7/2013	2/8/2013

To do this, create a helper column (column L) and enter the following formula in cell L2, telling Excel to create a new exit date if (and only if) the exit date is = the entry date.

=IF(G2=F2,G2+1,G2)

Drag this formula down as many rows as there are records. Be sure to format the cells as “short date” (in the “Home” ribbon under the “Number” section).

Copy and paste column L as values and then cut and paste the values into column G, replacing the old exit dates with the new, calculated versions.

---

<sup>4</sup> In Bowman, use of the Shelter Point system rather than Project Entry/Exit will result in this and in Adsysyech, use of the Service Start/End dates rather than Project Entry/Exit. Other HMIS systems may have similar approaches.

\* Please note that if you believe these consecutive, same day entries and exits are valid (e.g. the person showed up three nights in a row but never actually stayed at the shelter), do NOT perform this step, but consider removing these records from the dataset.

- c) Using the “Sort” function in the “Data” ribbon, “Sort and Filter” section, sort the data by client ID – smallest to largest and by entry date – oldest to newest:

ClientID	Project Type	Project	Organization	Prior Living	Entry Date	Exit Date	Destination	Household	Rel to HoH	DOB
58	Emergency				2/6/2013					
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
58	Emergency									
106	Emergency									
106	Emergency									
119	Emergency									
119	Emergency									
119	Emergency									
119	Emergency	Cold Weather City of Rich Emergency	Other (HUD)	2/6/2013	2/6/2013	Other (HUD)				6/31/1969
164	Emergency	Cold Weather City of Rich Other (HUD)	11/3/2012	11/4/2012	Don't Know (HUD)					6/29/1948

- d) Create three “helper” cells to the left of the Client ID – Columns A, B and C):
- Stay Number – this is the “actual” stay number (Column A)
    - In the first row of data (row 2), hard enter the number one (“1”)
    - In the second row of data (row 3), use this formula  
 $=IF(D3<>D2,A2+1,IF(AND(G2=G3,J2=I3),A2,A2+1))$
    - Copy the formula (starring in cell A3, not A2) down to last row of data
  - Part of Stay Number – this is the “part” of the actual stay number that the record represents
    - First row of data is always a hard entered “1”
    - Second row of data, use this formula (substituting cell references as needed)  
 $=IF(A3=A2,B2+1,1)$
    - Copy the formula (starting in cell B3, not B2) down to last row of data
  - Last Part of Stay – this is simply indicating, by record how many “parts” there are to the stay number. It allows Excel to later find the last exit date.  
 $=MAX(IF($A$2:$A$1000=A2,$B$2:$B$1000))$

Where the number “1000” in the formula is equal to the last row of data in your dataset.

Copy the formula down to last row of data

*\* Note that this formula is an array formula and must be entered by hitting “Control-Shift-Enter” at the same time. Depending on the size of the dataset and the number of processors in the computer being used, this formula may take some time to calculate.*

- e) Title column P “New Exit”. In this column, you will use the “part of stay” helper column to identify the “new” exit date associated with the record. Input in cell P2:

={INDEX(J2:\$J\$1000,MATCH(1,(C2=B2:\$B\$1000)\*(A2=A2:\$A\$1000),0))}

Where the number “1000” in the formula is equal to the last row of data in your dataset.

Copy the formula down to last row of data

*\* Note that this formula is an array formula and must be entered by hitting “Control-Alt-Enter” at the same time. Depending on the size of the dataset and the number of processors in the computer being used, this formula may take some time to calculate.*

Note that in this formula, you want the starting point for the indexed column and matched column to “move” with the row of data (e.g. you should always only look down, and never above the current row). Using the “\$” sign, Excel allows you to designate whether cell references are fixed or not; this formula “fixes” the bottom of the range, but moves the top of the range down a row with each row. This is why it is important that the data is sorted in entry date order!!

- f) Title Column O “New Entry”. In this column, you will use part 1 from the “part of stay” to identify the “new” entry date associated with the record. Input in cell O2:

={INDEX(\$I\$2:\$I\$1000,MATCH(1,(A2=\$A\$2:\$A\$1000)\*(1=\$B\$2:\$B\$1000),0))}

Where the number “1000” in the formula is equal to the last row of data in your dataset.

Copy the formula down to last row of data

*\* Note that this formula is an array formula and must be entered by hitting “Control-Alt-Enter” at the same time. Depending on the size of the dataset and the number of processors in the computer being used, this formula may take some time to calculate.*

Note that in this formula, unlike the previous, you want the starting point and ending point for the indexed column to remain constant. Using the “\$” sign, Excel allows you to designate whether cell references are fixed or not; this formula “fixes” both the top and bottom of the range.

- g) Copy and paste (values) data to a new sheet. Delete the helper columns (A, B and C) and cut and paste the “new” entry and exit dates from columns O and P into the “old” entry and exit dates (columns I and J).

- h) Now you need to remove duplicates (e.g. a stay that used to be 5 one night stays will now have 5 duplicated records of itself with a 5 day length of stay)

- (1) Name column L “Combined ID”. In cell L2, input:

=CONCATENATE(A2,F2,G2)

Copy the formula down to last row of data

This helps identify unique and duplicate records by combining the client ID, entry date and exit date into one string. If you rely only on client ID, you will delete (valid) records of the same client who returned to the project multiple times.

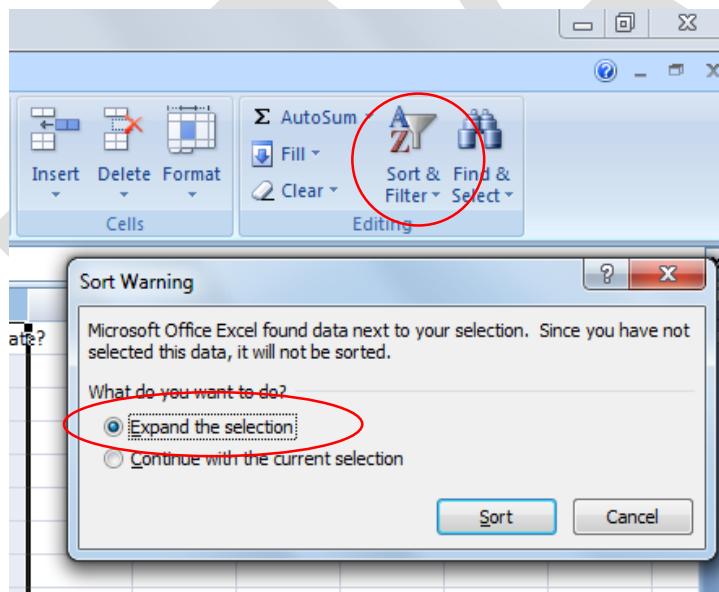
- (2) Name column M “Is Duplicate?” In cell M2, create a “helper” column, using the concatenated ID to have Excel tell you which ones are duplicates.

=IF(COUNTIF(\$L\$2:L2,L2)>1,"Yes","")

Copy the formula down to last row of data. A “Yes” will mean the row is a duplicate.

- (3) Copy and paste as values both of these columns (L and M), to ensure no formulas are recalculated during the sort.

- (4) Sort column M (“A to Z”), making sure to choose “expand the selection” in the pop up window:



This will put all the duplicate records at the bottom.

- (5) Select all the rows containing duplicate records, delete them. Then delete columns L and M, leaving you with a collapsed set of data for the project.

- (6) Copy and paste the collapsed records back to the larger dataset, with all of the other cleaned records.
- h) Recode Blank/Missing Cells**

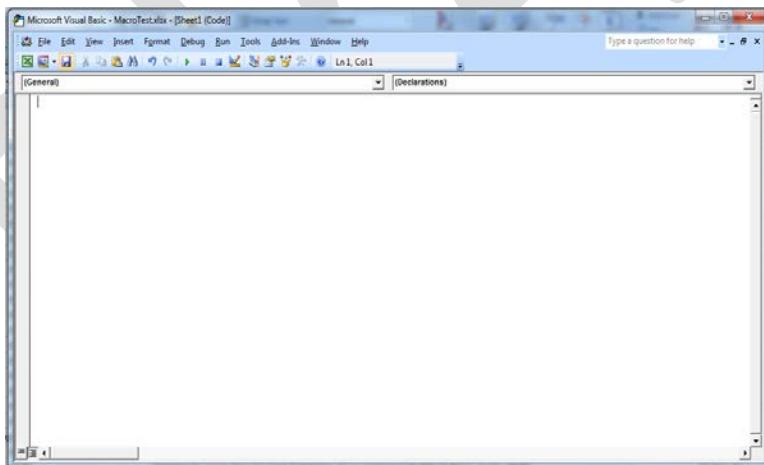
**(Tab Name: No Blanks)** Because missing values import differently from different HMIS systems, all missing/blank cells must be transformed to equal the word "BLANK" (without quotation marks). The Tool looks for this word as an indicator of missing values. To do this, select the entire set of values in the Excel file. Choose "Find and Select" from the "Home" tab and then "Replace". A window called "Find and Replace" will open. In the cell marked "Find what:", make sure there is no value and in the cell marked "Replace with:", type BLANK. Hit "Replace All" and Excel should change all missing/empty cells with the word BLANK.

Missing date values may appear as 1/0/1900 or something similar. These missing dates may not appear as a blank cell but should be recoded as "BLANK"

*In some cases, a cell will appear blank, but will actually contain a space or spaces. This is difficult to "see" and can generally only be discovered by selecting what appears to be a blank cell and highlighting the space/spaces in the formula bar. If you can "select" space in the formula bar, Excel will not recognize the cell as blank, and will not re-code it per the directions above. If you perform the step above and cells which appear blank are not re-coded as BLANK, you likely have this issue (assuming you have already removed apostrophes).*

The easiest way to remove these spaces (along with other troublesome spaces that may appear at the front end of a value) is through the use of a macro:

- ii) Right click the tab name of the "No Blanks" tab and select "View Code". A new window titled "Microsoft Visual Basic" will pop up looking like this:



- iii) Copy and paste the following into this window:

```
Sub TrimXcessSpaces()
```

*'Macro Purpose: To trim all excess spaces out of cells. This  
'eliminates issues where users have cleared the cell with a space,  
'and eliminates all extra spaces at the beginning or end of a string*

```
Dim cl As Variant
```

```
'Loop through cells removing excess spaces
For Each cl In Selection
    If Len(cl) > Len(WorksheetFunction.Trim(cl)) Then
        cl.Value = WorksheetFunction.Trim(cl)
    End If
    Next cl
End Sub
```

- iv) Keeping the macro window open, return to the main Excel sheet, and highlight the entire dataset. With the dataset highlighted, return to the macro window and select "run" using the green triangle button at the top of the window. The macro will run - allow a couple of minutes, depending on the size of the dataset. When it is through, the spaces in the "blank" cells should now be truly blank. Re-run the search and replace function (described above) and now all visibly blank cells should be over-written with the word "BLANK".
- i) Final Clean: After the final cleaning effort, create a copy (values only) of the final step called "Final Clean". Delete column A with the Number ID (if applicable). Sort this sheet data by entry date, oldest first. Save this file as "**CommunityName\_BYC\_FinalData\_Date**". (inserting your community name for the template "communityname" in red font)

## Appendix D – HMIS Data Dictionary

The following are, by column number and column name, the values associated with the calculated green columns in the HMIS Data tab.

#	Name	Values
M	Prior Living #	<ul style="list-style-type: none"> <li>1 Emergency shelter, including hotel or motel paid for with emergency shelter voucher</li> <li>2 Foster care home or foster care group home</li> <li>3 Hospital or other residential non-psychiatric medical facility</li> <li>4 Hotel or motel paid for without emergency shelter voucher</li> <li>5 Jail, prison or juvenile detention facility</li> <li>6 Long-term care facility or nursing home</li> <li>7 Owned by client, no ongoing housing subsidy</li> <li>8 Owned by client, with ongoing housing subsidy</li> <li>9 Permanent housing for formerly homeless persons (such as: a CoC project; HUD legacy projects; or HOPWA PH)</li> <li>10 Place not meant for habitation (e.g., a vehicle, an abandoned building, bus/train/subway station/airport or anywhere outside)</li> <li>11 Psychiatric hospital or other psychiatric facility</li> <li>12 Rental by client, no ongoing housing subsidy</li> <li>13 Rental by client, with VASH subsidy</li> <li>14 Rental by client, with GPD TIP subsidy</li> <li>15 Rental by client, with other ongoing housing subsidy</li> <li>16 Residential project or halfway house with no homeless criteria</li> <li>17 Safe Haven</li> <li>18 Staying or living in a family member's room, apartment or house</li> <li>19 Staying or living in a friend's room, apartment or house</li> <li>20 Substance abuse treatment facility or detox center</li> <li>21 Transitional housing for homeless persons (including homeless youth)</li> <li>22 Other</li> <li>23 Client doesn't know</li> <li>24 Client refused</li> <li>25 Data not collected</li> </ul>
O	Destination #	<ul style="list-style-type: none"> <li>1 Deceased</li> <li>2 Emergency shelter, including hotel or motel paid for with emergency shelter voucher</li> <li>3 Foster care home or foster care group home</li> <li>4 Hospital or other residential non-psychiatric medical facility</li> <li>5 Hotel or motel paid for without emergency shelter voucher</li> <li>6 Jail, prison or juvenile detention facility</li> <li>7 Long-term care facility or nursing home</li> <li>8 Moved from one HOPWA funded project to HOPWA PH</li> </ul>

#	Name	Values
		9 Moved from one HOPWA funded project to HOPWA TH 10 Owned by client, no ongoing housing subsidy 11 Owned by client, with ongoing housing subsidy 12 Permanent housing for formerly homeless persons (such as: a CoC project; HUD legacy projects; or HOPWA PH) 13 Place not meant for habitation (e.g., a vehicle, an abandoned building, bus/train/subway station/airport or anywhere outside) 14 Psychiatric hospital or other psychiatric facility 15 Rental by client, no ongoing housing subsidy 16 Rental by client, with VASH housing subsidy 17 Rental by client, with GPD TIP housing subsidy 18 Rental by client, with other ongoing housing subsidy 19 Residential project or halfway house with no homeless criteria 20 Safe Haven 21 Staying or living with family, permanent tenure 22 Staying or living with family, temporary tenure (e.g., room, apartment or house) 23 Staying or living with friends, permanent tenure 24 Staying or living with friends, temporary tenure (e.g., room, apartment or house) 25 Substance abuse treatment facility or detox center 26 Transitional housing for homeless persons (including homeless youth) 27 Other 28 No exit interview completed 29 Client doesn't know 30 Client refused 31 Data not collected
V & W	Collapsed Prior Living	1 Unsheltered 2 ES 3 TH 4 Permanent Housing 5 Institutional 6 Other 7 Unknown
X & Y	Collapsed Destination	1 PSH 2 PH (subsidized) 3 PH (unsubsidized) 4 ES 5 TH 6 Unsheltered 7 Other 8 Unknown

The following is a translation of the HMIS values for Prior Living (column M) and Destination (column O), along with their collapsed values (columns V, W, X and Y).

### Prior Living

HMIS Value (Un-Collapsed)	Collapsed Value
1 Emergency shelter, including hotel or motel paid for with emergency shelter voucher	2 ES
2 Foster care home or foster care group home	5 Institutional
3 Hospital or other residential non-psychiatric medical facility	5 Institutional
4 Hotel or motel paid for without emergency shelter voucher	6 Other
5 Jail, prison or juvenile detention facility	5 Institutional
6 Long-term care facility or nursing home	5 Institutional
7 Owned by client, no ongoing housing subsidy	4 Permanent Housing
8 Owned by client, with ongoing housing subsidy	4 Permanent Housing
9 Permanent housing for formerly homeless persons (such as: a CoC project; HUD legacy projects; or HOPWA PH)	4 Permanent Housing
10 Place not meant for habitation (e.g., a vehicle, an abandoned building, bus/train/subway station/airport or anywhere outside)	1 Unsheltered
11 Psychiatric hospital or other psychiatric facility	5 Institutional
12 Rental by client, no ongoing housing subsidy	4 Permanent Housing
13 Rental by client, with VASH subsidy	4 Permanent Housing
14 Rental by client, with GPD TIP subsidy	4 Permanent Housing
15 Rental by client, with other ongoing housing subsidy	4 Permanent Housing
16 Residential project or halfway house with no homeless criteria	6 Other
17 Safe Haven	6 Other
18 Staying or living in a family member's room, apartment or house	4 Permanent Housing
19 Staying or living in a friend's room, apartment or house	4 Permanent Housing
20 Substance abuse treatment facility or detox center	5 Institutional
21 Transitional housing for homeless persons (including homeless youth)	3 TH
22 Other	6 Other
23 Client doesn't know	7 Unknown
24 Client refused	7 Unknown
25 Data not collected	7 Unknown

## Destination

HMIS Value (Un-Collapsed)	Collapsed Value
1 Deceased	7 Other
2 Emergency shelter, including hotel or motel paid for with emergency shelter voucher	4 ES
3 Foster care home or foster care group home	7 Other
4 Hospital or other residential non-psychiatric medical facility	7 Other
5 Hotel or motel paid for without emergency shelter voucher	7 Other
6 Jail, prison or juvenile detention facility	7 Other
7 Long-term care facility or nursing home	7 Other
8 Moved from one HOPWA funded project to HOPWA PH	2 PH (subsidized)
9 Moved from one HOPWA funded project to HOPWA TH	5 TH
10 Owned by client, no ongoing housing subsidy	3 PH (unsubsidized)
11 Owned by client, with ongoing housing subsidy	2 PH (subsidized)
12 Permanent housing for formerly homeless persons (such as: a CoC project; HUD legacy projects; or HOPWA PH)	1 PSH
13 Place not meant for habitation (e.g., a vehicle, an abandoned building, bus/train/subway station/airport or anywhere outside)	6 Unsheltered
14 Psychiatric hospital or other psychiatric facility	7 Other
15 Rental by client, no ongoing housing subsidy	3 PH (unsubsidized)
16 Rental by client, with VASH housing subsidy	2 PH (subsidized)
17 Rental by client, with GPD TIP housing subsidy	2 PH (subsidized)
18 Rental by client, with other ongoing housing subsidy	2 PH (subsidized)
19 Residential project or halfway house with no homeless criteria	7 Other
20 Safe Haven	7 Other
21 Staying or living with family, permanent tenure	3 PH (unsubsidized)
22 Staying or living with family, temporary tenure (e.g., room, apartment or house)	7 Other
23 Staying or living with friends, permanent tenure	3 PH (unsubsidized)
24 Staying or living with friends, temporary tenure (e.g., room, apartment or house)	7 Other
25 Substance abuse treatment facility or detox center	7 Other
26 Transitional housing for homeless persons (including homeless youth)	5 TH
27 Other	7 Other
28 No exit interview completed	8 Unknown
29 Client doesn't know	8 Unknown
30 Client refused	8 Unknown
31 Data not collected	8 Unknown