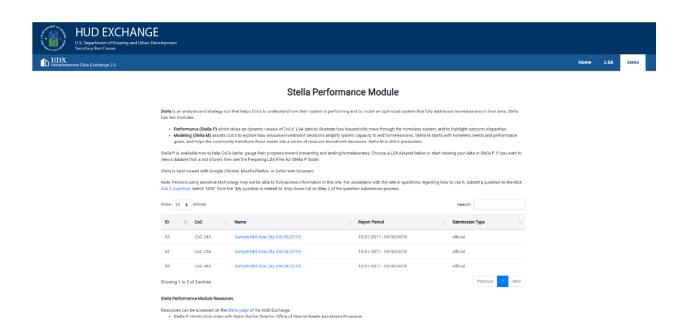


U.S. Department of Housing and Urban Development

Understanding System Performance for Household Types Using the Stella Performance Module

Updated: June 27, 2019



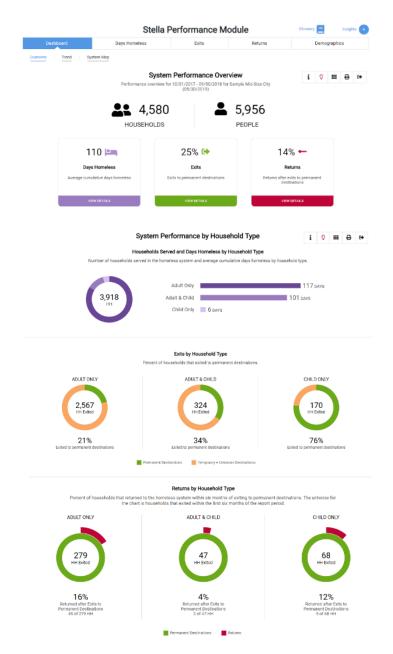
Welcome to a presentation on Understanding System Performance for Household Types Using the Stella Performance Module (Otherwise known as Stella P). Stella is a strategy and analysis tool that helps Continuums of Care (CoC) understand how their system is performing. It relies on dynamic visuals of CoCs' data to illustrate how households are served by the homeless system, and highlights disparities in their outcomes. Stella does the analytical heavy lifting, so the CoC can focus on planning and improving its crisis response system.



Learning Objectives:

- Learn the purpose of Stella Performance module
- Learn to key concepts used in the Stella Performance module
- Use the Stella Performance module to access performance data
- Understand how the Stella Performance Module can be used for performance analysis

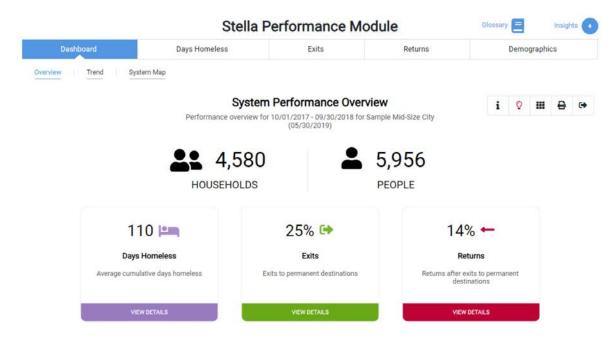
This presentation is an introduction to the Stella performance module and the key concepts it uses. It will show users how to access performance data and demonstrate how that information can be used for performance analysis.



Stella uses visual representations of a CoC's Longitudinal Systems Analysis – or LSA – data. The LSA is a new report that replaces the table shells that CoCs used to submit for the Annual Homeless Assessment Report.

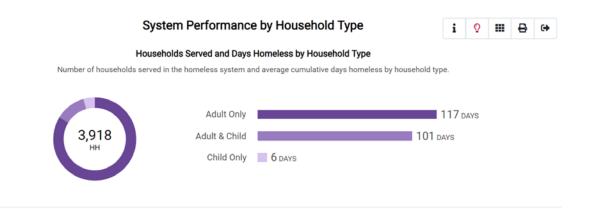
This is the main Stella P System Performance Overview Dashboard. It provides information about the overall system performance for three critical measures: Number of days homeless, Exits from the homeless system, and Returns to the homeless system

Remember that these are system-level measures, not project-level measures— and that Stella looks at data on Households, not data on individuals. Stella is intended to support system planning and provides details about household level performance since housing and services are usually geared toward specific household types and population groups



Stella's System Performance Overview chart shows the system universe that Stella will be visualizing and a system wide overview of the three performance measures.

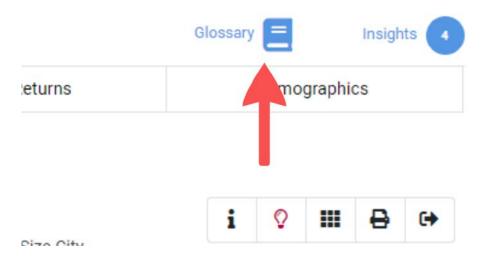
It is important to note that Stella does not currently contain any Street Outreach, Supportive Services Only, Other Permanent Housing, or Coordinated Entry data, but HUD may add these additional data in the future as more accurate and complete data becomes available. Stella also doesn't include data that is not entered in HMIS such as Domestic Violence shelters or other projects that do not participate in HMIS.



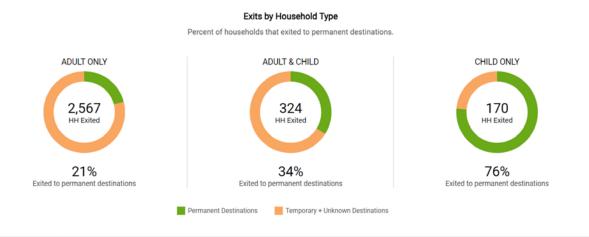
On Stella's Dashboard Overview, system performance is displayed by three household types: Adult Only, Adult and Child, and Child Only.

This chart displays the number of households served in the homeless system as well as the average days homeless for each household type.

The dashboard shows the CoC that the average cumulative days homeless for adult & child households was 101 days. Days Homeless refers to the number of days that households were served in emergency shelter, safe havens, or transitional housing projects or in rapid re-housing or permanent supportive housing projects prior to move-in.



It is important to note that each performance measure has a different client universe. A full definition of all measures and data universes is included in the glossary that accompanies Stella.



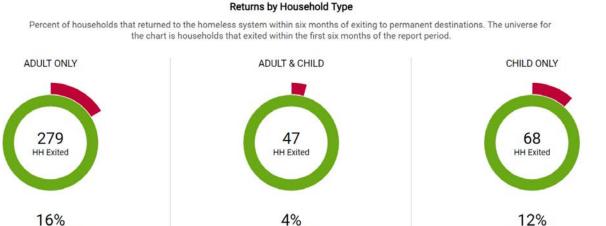
Also, on the Stella Performance Dashboard is an overview of exits by household type.

The data universe for this chart is all households who exited the system during the report period – some households who were in the system did not exit, which explains the difference in the total number of households displayed for each measure's universe.

In this sample community, 34% of Adult and Child households exited to permanent destinations, while the other 66% exited to temporary or unknown destinations.

Returned after Exits to Permanent Destinations

45 of 279 HH



Returned after Exits to

Permanent Destinations

2 of 47 HH

Returns

The last measure on the Stella Performance Dashboard Overview is "Returns by Household Type".

Permanent Destinations

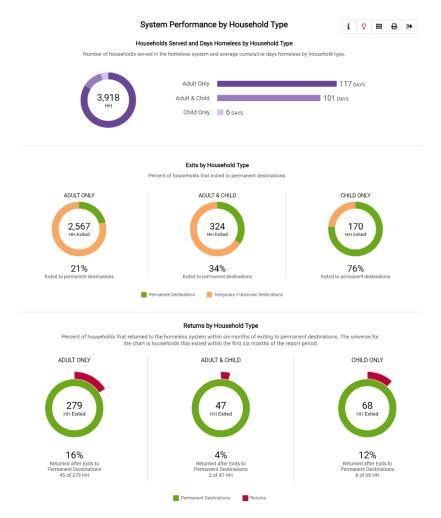
The universe is the number of households that exited the homeless system to a permanent destination in the first six months of the reporting period, and the performance measure is the percentage that subsequently returned to the system within six months of exiting. This chart limits the universe so that communities can look at recent data on how households are maintaining their permanent housing.

In this sample community - 47 Adult and Child households exited to a permanent destination, and two households - or 4% - were not able to maintain their permanent destination and returned to the homeless system.

Returned after Exits to

Permanent Destinations

8 of 68 HH



The full System Performance Dashboard allows the CoC to look at all three measures by household type. This is important because the measures are intended to be analyzed together for a complete picture of how a system is functioning. As an example, the Adult and Child households could have a low percentage of returns to homelessness, which is good, but also not achieving the performance targets for exits to permanent destinations and length of time homeless. This could indicate that housing placements aren't happening as fast or as effectively as they could be.

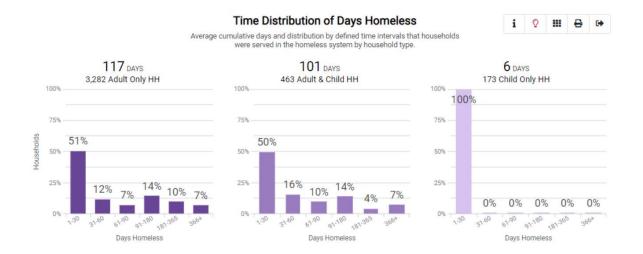
While understanding the overall System Performance Overview is important, the CoC will need to dig deeper into the data to prioritize areas for system performance improvement. Stella P is a starting point for performance analysis and can help to answer questions such as:

What combinations of project types did these households use?

How are those combinations of project types performing?

Which combinations produce more exits to permanent destinations?

Are there combinations that yield fewer returns to homelessness?



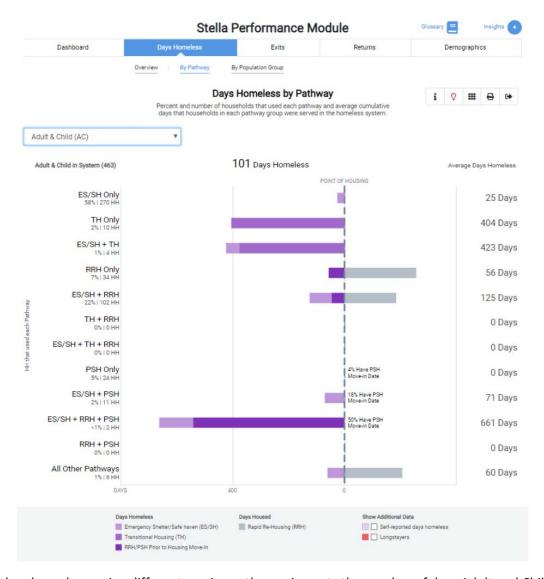
So, let's dig into how Stella helps to answer these questions. We'll start by reviewing the Days Homeless measure overview.

The Days Homeless overview page compares average days homeless across household types, similar to the dashboard. This chart shows that the average days homeless for Adult and Child households is 101 days, which is slightly lower than Adult Only households. It also breaks down what percentage of households experienced homelessness for different time intervals. So here we can see that the average is 101 days, but the time distribution tells you more. Here you can see that half of the adult and child households are homeless 30 days or less, while over a third of Adult and Child households are homeless longer than 60 days, with 7% homeless longer than a year.

While HUD has not set performance targets, communities may have their own targets for the whole system or for specific household types – and Stella can help inform how communities are performing towards their goals.

Average Number of	117 days /	101 days /	6 days /
days / HH Type	2,282 Adult Only HH	463 Adult & Child HH	173 Child Only HH
1 – 30 days	51%	50%	100%
31 – 60 days	12%	16%	0%
61 – 90 days	7%	10%	0%
91 – 180 days	14%	14%	0%
181 – 365 days	10%	4%	0%
365+ days	7%	7%	0%

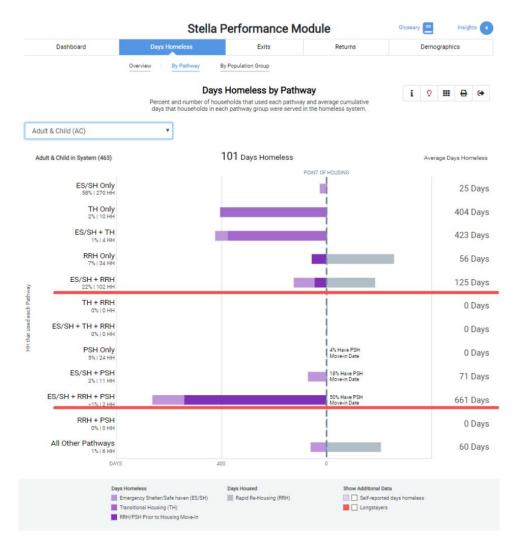
]



Stella also shows how using different service pathways impacts the number of days Adult and Child households are homeless, and we can see this on the Days Homeless by Pathway tab.

Before we dig into this dashboard, you might be wondering what a "service pathway" is. It is a combination of project types that a household is served by before exiting the homeless system. Stella has pathway charts for each performance measure to visualize how households are served by the system and how these pathways generate different outcomes. Using Stella P, the CoC can see which pathways are effective and which are not, and focus performance improvement efforts on pathways that are not achieving the intended outcomes.

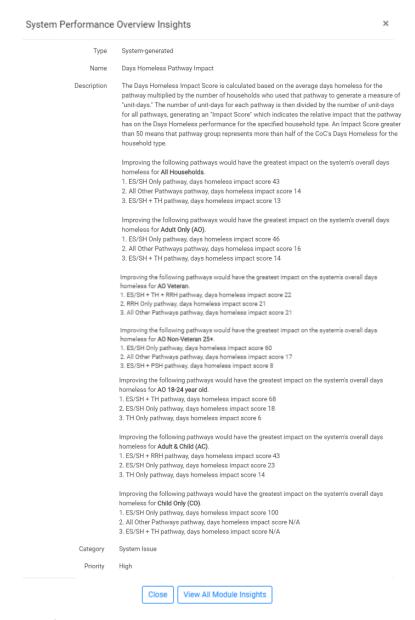
Households can use projects in any combination – the chart looks linear, but the pathway concept doesn't mean that the projects were used in a certain order, just that during the reporting period, that combination of project types was used by a household.



In this dashboard, when filtering for Adult and Child households, the long purple bar stands out and your eye is drawn to it. On a closer look, you can see that it represents just 2 households who have been homeless for an average of 661 days. This could be a data quality issue and should be explored within the HMIS as it may be artificially inflating the Days Homeless performance measure. If it is correct, there is an opportunity to identify and better understand the experience of those households and make improvements to program models or other tweaks that ensure that households won't get "stuck" in the system so long. The community might decide instead to focus on the ES/SH + RRH pathway. While its average time homeless is much less – 125 days – it represents over 20% of all Adult and Child households so it has more of an impact on the overall average.



But you don't have to figure this out on your own. To see which pathways are impacting system performance the most, click on the insights icon, shown as a light bulb, in the set of icons on the top righthand side of the screen.



Here you can see the performance insights available to you. Stella provides these system- generated insights to highlight both data quality and performance issues to consider when interpreting the charts and information provided and deciding which areas of your system you want to focus on improving.

Type System-generated

Name Days Homeless Pathway Impact

Description

The Days Homeless Impact Score is calculated based on the average days homeless for the pathway multiplied by the number of households who used that pathway to generate a measure of "unit-days." The number of unit-days for each pathway is then divided by the number of unit-days for all pathways, generating an "Impact Score" which indicates the relative impact that the pathway has on the Days Homeless performance for the specified household type. An Impact Score greater than 50 means that pathway group represents more than half of the CoC's Days Homeless for the household type.

Improving the following pathways would have the greatest impact on the system's overall days homeless for All Households

- 1. ES/SH Only pathway, days homeless impact score 43
- 2. All Other Pathways pathway, days homeless impact score 14
- 3. ES/SH + TH pathway, days homeless impact score 13

The Day Homeless insight provides an impact score for pathways and household types to help focus attention on the top three pathways that have the greatest impact on the Days Homeless performance for the specified household type. The impact scores are unique for each measure. The pathways with the higher impact scores are the ones with the largest negative influence on system performance.

The Days Homeless Impact Score is calculated using the average days homeless and the number of households who used that pathway to generate the score, which indicates the relative impact that the pathway has on the Days Homeless performance. A full explanation of the calculation is available in the insight itself.

Transcription of System Performance Overview

The Days Homeless Impact Score is calculated based on the average days homeless for the pathway multiplied by the number of households who used that pathway to generate a measure of "unit-days." The number of unit-days for each pathway is then divided by the number of unit-days for all pathways, generating an "Impact Score" which indicates the relative impact that the pathway has on the Days Homeless performance for the specified household type. An Impact Score greater than 50 means that pathway group represents more than half of the CoC's Days Homeless for the household type.

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- 3. ES/SH + TH pathway, days homeless impact score 13

Improving the following pathways would have the greatest impact on the system's overall days homeless for Adult & Child (AC).

- 1. ES/SH + RRH pathway, days homeless impact score 43
- 2. ES/SH Only pathway, days homeless impact score 23
- 3. TH Only pathway, days homeless impact score 14

For Adult and Child households, the Emergency Shelter/Safe Haven + Rapid Re-Housing pathway has the largest impact score – 43 – which means that decreasing the time in this pathway would have a significant positive impact on the CoC's overall performance for days homeless for Adult & Child Households.

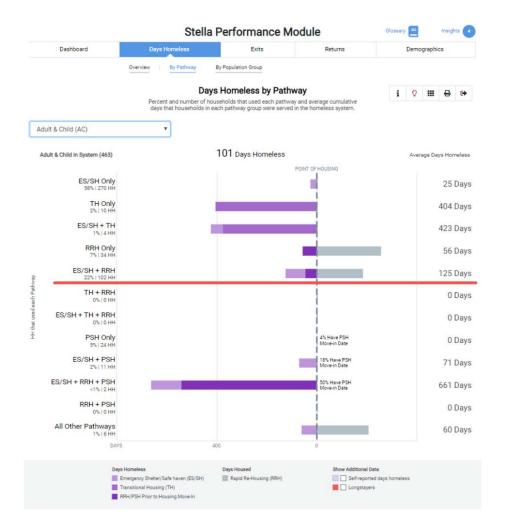
Insights are a tool to help focus communities' attention on their system performance, but they are just a starting point. CoCs will need to gather more evidence to understand what is contributing to these outcomes in order to design the most impactful improvement strategies. For example, are program practices impacting days homeless? Are providers having trouble finding landlords willing to rent to families which is extending their time in shelter? Or are there a lack of housing-focused services in emergency shelter projects?

Depending on the answers to these questions, you'll pursue different improvement strategies.

Transcription of System Performance Overview

Improving the following pathways would have the greatest impact on the system's overall days homeless for Adult & Child (AC).

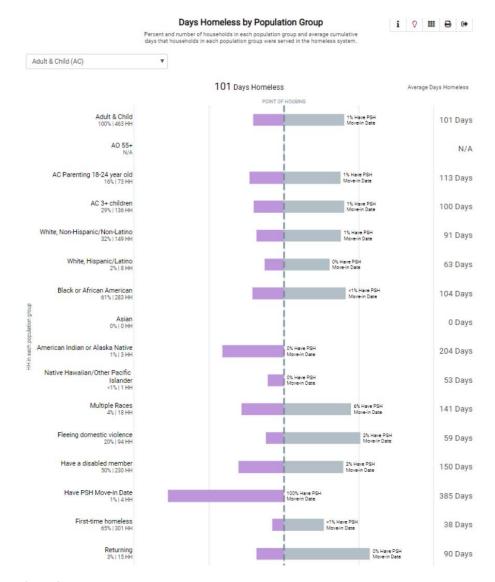
- 1. ES/SH + RRH pathway, days homeless impact score 42
- 2. ES/SH Only pathway, days homeless impact score 22
- 3. TH Only pathway, days homeless impact score 13



Going back to our dashboard, now we know that the emergency shelter/safe haven + rapid re-housing pathway has the highest impact score – Stella shows this pathway has an average length of time homeless of 125 days and it accounts for 22% of Adult and Child households.

By hovering over the bars in the chart, Stella shows the average number of days the households were in each project type. For example, for emergency shelter/safe haven+ rapid re-housing, Adult and Child households are in emergency shelter for an average of 81 days, enrolled in the rapid re-housing project for 44 days prior to move-in, and then after move- in, and then after move in - housed with the project for 183 days.

If households are simultaneously enrolled in multiple projects, the count of days is not duplicated. Using this pathway as an example, if a household was first enrolled in Emergency Shelter and then enrolled in Rapid Re-Housing while still in Shelter, the days prior to moving into housing would be counted toward Emergency Shelter in the pathway chart.



Continuing to filter for Adult and Child households, Stella also allows the CoC to see the Days Homeless performance measure by population group.

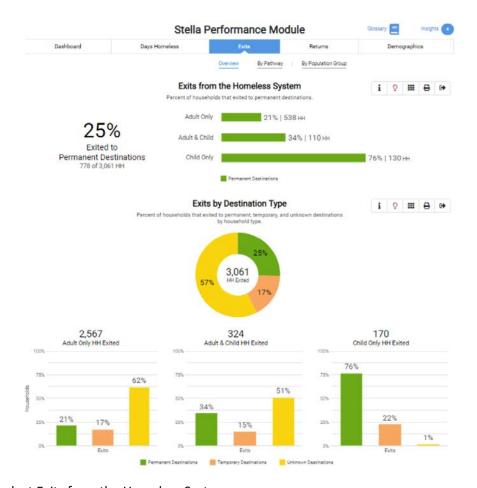
On the left, population groups are listed, including the % and number of households in each group. The groups include household composition, race and ethnicity, special populations (such as fleeing domestic violence), and system utilization (such as first-time homeless or returning).

These percentages do not add up to 100% - households can be in multiple population groups, for example both seniors and first-time homeless.



What can this tell the CoC about how different population groups are served in the system? As an example, this view shows half of the Adult and Child households have a family member with a disability, and those households are homeless 49 days longer than average.

As another example, the largest population in Adult and Child households are Black or African American at 61%, and they are homeless on average 13 days longer than white, non-Hispanic households. As your community works to identify racial and other disparities in your system, this dashboard gives you a way to identify where there could be disparities in your system, and a starting point for asking why these disparities exist.



Now let's look at Exits from the Homeless System.

Like Days Homeless, Stella provides an overview tab as well as by pathway and by population group.

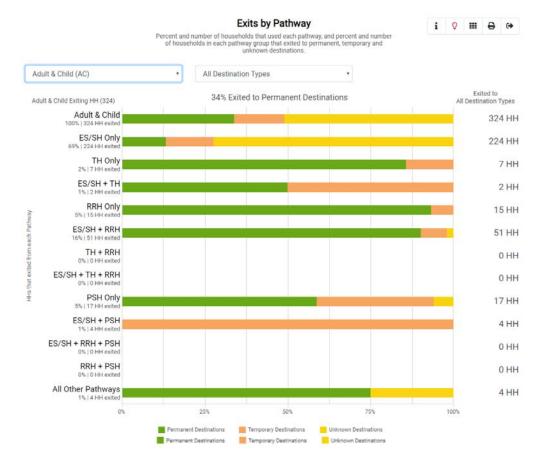
The exits overview gives the ability to compare exits across household types – which includes exits to permanent housing as well temporary and unknown destinations. Stella shows that 34% of Adult & Child Households exited to permanent destinations compared with just 21% of Adult Only Households – but communities must consider that there are many more Adult Only Households which will impact performance rates.

15% of Adult & Child Households exit to temporary destinations and 51% exit to unknown destinations. The high level of unknown destination data will affect the accuracy of the performance outcomes, which a CoC must keep in mind when interpreting these results.



Further down, there is a trend line for permanent exits over three years.

By hovering over the data points, Stella shows that permanent exits for Adult & Child Households were at 39% in 2016, decreased to 32% in 2017, then increased to 34% in 2018 – showing a slight downward trend over the past few years.

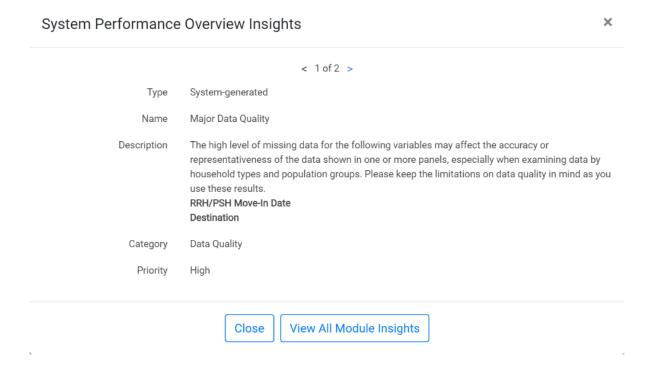


The exits overview allows users to compare across household types. Stella also provides much more detailed information on exit destinations in the pathway and population group tabs, allowing communities to dig deeper into their data.

The Exits by Pathway show the percent and number of households in each pathway that exited to permanent, temporary, and unknown destinations.

What can Stella show about how different pathways are performing?

First, let's check the pathway impact scores by clicking on the insights icon.

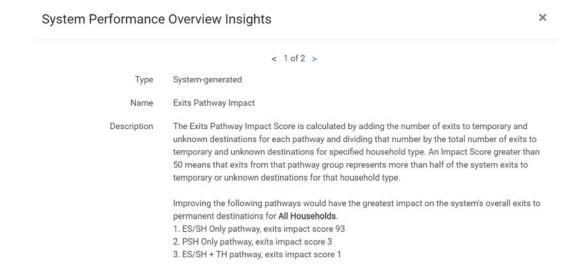


The first insight shows that there is a high level of missing data for both Destination and Rapid Rehousing/Permanent Supportive Housing Move in Date. This missing data may affect the accuracy or representativeness of the data shown in Stella – but can also allow the CoC to quickly identify and target specific areas of poor data quality.

Transcription of System Performance Overview Insight

The high level of missing data for the following variables may affect the accuracy or representativeness of the data shown in one or more panels, especially when examining data by household types and population groups. Please keep the limitations on data quality in mind as you use these results.

RRH/PSH Move-In Date Destination



The insights for this measure show the impact score for different household types and pathways, highlighting where communities can focus efforts to improve system performance on exits to permanent destinations.

Transcription of System Performance Overview Insight for Exists Pathway Impact

The Exits Pathway Impact Score is calculated by adding the number of exits to temporary and unknown destinations for each pathway and dividing that number by the total number of exits to temporary and unknown destinations for specified household type. An Impact Score greater than 50 means that exits from that pathway group represents more than half of the system exits to temporary or unknown destinations for that household type.

Improving the following pathways would have the greatest impact on the system's overall exits to permanent destinations for All Households.

- 1. ES/SH Only pathway, exits impact score 93
- 2. PSH Only pathway, exits impact score 3
- 3. ES/SH + TH pathway, exits impact score 1

Improving the following pathways would have the greatest impact on the system's overall exits to permanent destinations for Adult & Child (AC). 1. ES/SH Only pathway, exits impact score 91 2. PSH Only pathway, exits impact score 3 3. ES/SH + RRH pathway, exits impact score 2 Improving the following pathways would have the greatest impact on the system's overall exits to permanent destinations for Child Only (CO). 1. ES/SH Only pathway, exits impact score 100 2. All Other Pathways pathway, exits impact score 0 3. ES/SH + TH pathway, exits impact score 0 Category System Issue Priority High View All Module Insights Close

The Adult & Child household pathway of Emergency Shelter/Safe Haven, with an impact score of 91, has the largest influence on this measure. This pathway represents the largest proportion of Adult & Child Households, with the lowest rate of exits to permanent destinations. The impact score shows that improving outcomes in this pathway would have the greatest impact on overall system performance on exits for Adult & Child Households.

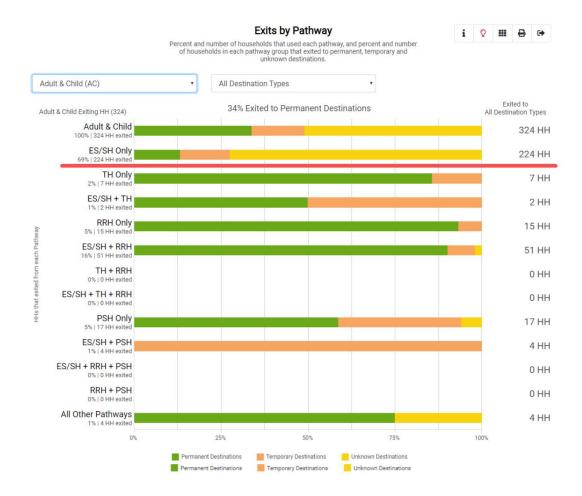
Looking at the Days Homeless and Exits insights together – the Emergency Shelter + Rapid Re-Housing Pathway had the largest negative impact on Days homeless performance.

However, in the exits measure that pathway is performing well on exiting families to permanent housing. Communities will have to take multiple measures into account as they determine which pathways and population groups need improvements the most.

Transcription of System Performance Overview Insight for Exists Pathway Impact

Improving the following pathways would have the greatest impact on the system's overall exits to permanent destinations for Adult & Child (AC).

- 1. ES/SH Only pathway, exits impact score 91
- 2. PSH Only pathway, exits impact score 3
- 3. ES/SH + RRH pathway, exits impact score 2

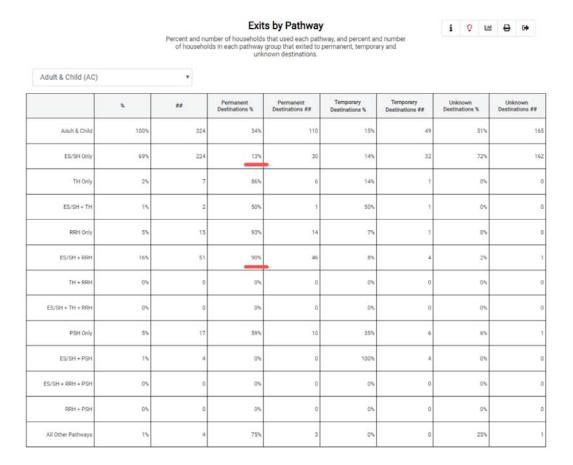


The insights showed that the Emergency Shelter/Safe Haven pathway has the highest impact score. Looking at that pathway, the majority of Adult & Child Households, 69%, use that pathway – and only have a 13% rate of exiting to permanent destinations.

The insights warned about the high rates of missing data for destinations for Adult & Child Households, and this shows the majority of exits are to unknown destinations. Communities will need to further investigate the reasons that so many households are exiting to unknown destinations, and identify strategies for improving data quality.



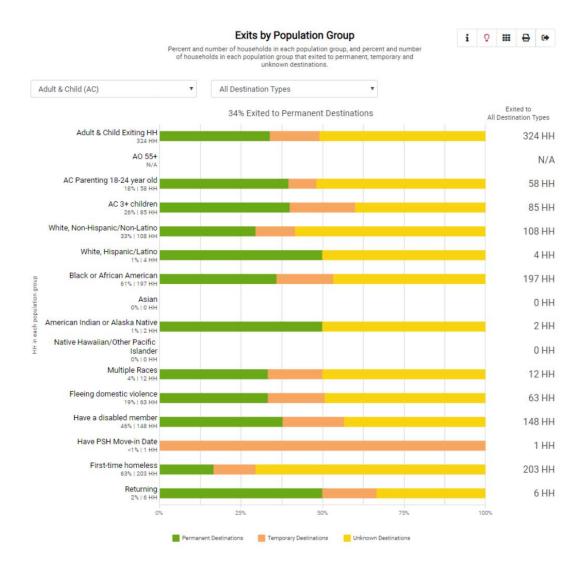
The data in this chart can be seen in a table format by clicking on the Tabular View icon.



The Tabular View is available across all dashboards and can be used to examine the data behind the charts. Some users might find that this representation better accommodates their learning style, and find the data easier to understand.

The tabular view has the same data as the charts, but in table form. You can see here that the Emergency Shelter/Safe Haven + Rapid Re-Housing pathway is exiting Adult & Child Households to permanent destinations 90% of the time, while in comparison, Emergency Shelter/Safe Haven only is at 13%.

To Exit the Tabular View, click on the Tabular View icon again.



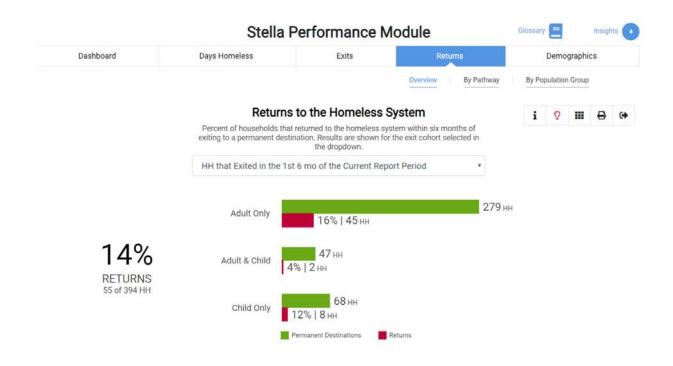
What can communities learn by looking at exits by population group?

Like the Days Homeless measure, the groups include household composition, race and ethnicity, special populations, and system utilization.



Here, both White, Hispanic / Latino and American Indian or Alaska Native groups have an exit rate to permanent destinations of 50% - however these two groups are made up of only 6 total households. Due to the number representing less than 2% of the overall Adult & Child Households, these groups will not have a large impact on overall system.

The largest Adult & Child Household population group shown are those that are first time homeless, and represent 63% of the population and have an unknown exit rate of 70%.

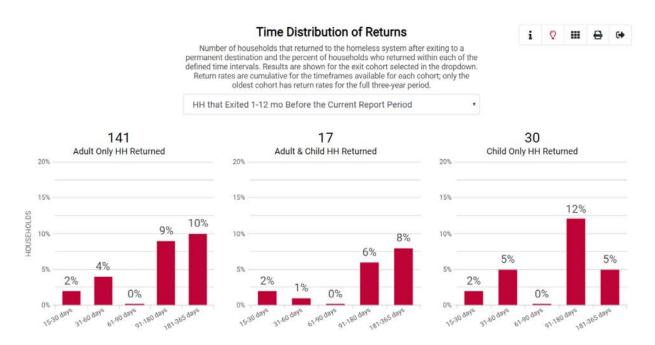


The final measure to review is Returns to the Homeless System.

Like the previous two measures, Stella provides an overview, as well as data by pathway, and by population group.

The universe of returning households is an "exit cohort" that exited during a particular time period. Stella allows users to filter "exit cohorts" by the first six months of the current report period, 1-12 months before the current report period, or 13-24 months before the report period.

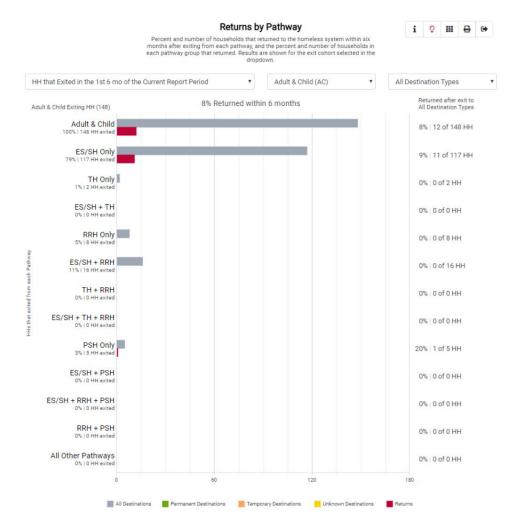
Household Type	Percentage Return	Number of Households
All Households	14% return	55 out of 394
Adult Only Households	16% return	45 out of 279
Adult and Child Households	4% return	2 out of 47
Child Only Households	12% return	8 out of 68



The time distribution of returns can help identify patterns of when people are returning to homelessness which could inform system improvements.

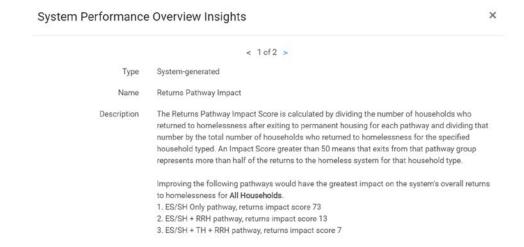
In the Adult & Child Household type Stella shows the highest rate of returns is happening between 181 and 365 days. What's happening during that time period to cause those returns, and how can the system better target resources to prevent households from falling back into homelessness? Stella points communities to additional questions that must be answered in order to understand factors contributing to returns.

Household Type	141 Adults Only HH	17 Adults and Child HH	30 Child only HH
1 – 30 days	2%	2%	2%
31 – 60 days	4%	1%	5%
61 – 90 days	0%	0%	0%
91 – 180 days	9%	6%	12%
181 – 365 days	10%	8%	5%



Returns by Pathway show the percent and number of households in each pathway and the percent that returned to homelessness. Like the previous chart, Stella allows filtering by Exit cohort, HH type, and destination type.

Let's check the pathway impact scores by clicking on the insights icon.



Any impact score over 50 means that returns from that pathway group represent over half of the returns to the homeless system for that particular household type. This can help the community prioritize areas for improvement that are having the greatest impact on overall performance on returns for Adult & Child Households.

Transcription of System Performance Overview Insight for Returns Pathway Impact

The Returns Pathway Impact Score is calculated by dividing the number of households who returned to homelessness after exiting to permanent housing for each pathway and dividing that number by the total number of households who returned to homelessness for the specified household typed. An Impact Score greater than 50 means that exits from that pathway group represents more than half of the returns to the homeless system for that household type.

Improving the following pathways would have the greatest impact on the system's overall returns to homelessness for All Households.

- 1. ES/SH Only pathway, returns impact score 73
- 2. ES/SH + RRH pathway, returns impact score 13
- 3. ES/SH + TH + RRH pathway, returns impact score 7

Improving the following pathways would have the greatest impact on the system's overall returns to homelessness for AO 18-24 year old.

- 1. ES/SH Only pathway, returns impact score 100
- 2. All Other Pathways pathway, returns impact score 0
- 3. ES/SH + TH pathway, returns impact score 0

The insights for the returns pathway shows that Adult & Child Households in the Emergency Shelter/Safe Haven pathway have the highest impact score – 100 – which tells the community that households using that pathway are the most likely to return to homelessness.

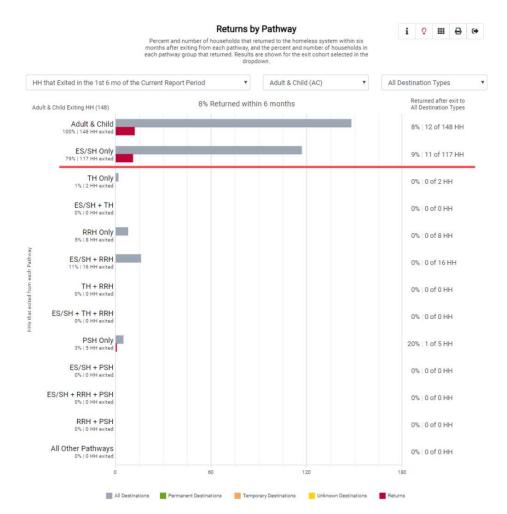
The data reviewed so far illustrates that while families only using Emergency Shelter have relatively short lengths of stay in homelessness, they also have the highest impact score for returns, meaning they are more likely return to the homeless system after being housed.

However, the extremely high proportion of unknown destinations skews our understanding of where many of these families are going, which must be investigated further.

Transcription of System Performance Overview Insight for Returns Pathway Impact

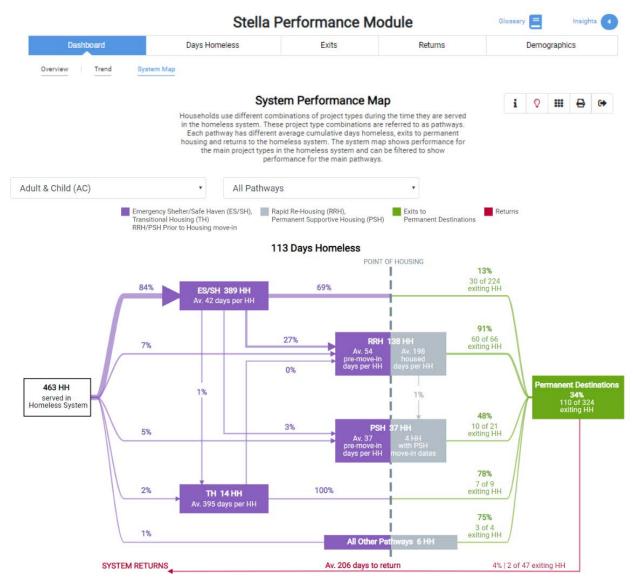
Improving the following pathways would have the greatest impact on the system's overall returns to homelessness for AO 18-24 year old.

- 1. ES/SH Only pathway, returns impact score 100
- 2. All Other Pathways pathway, returns impact score 0
- 3. ES/SH + TH pathway, returns impact score 0



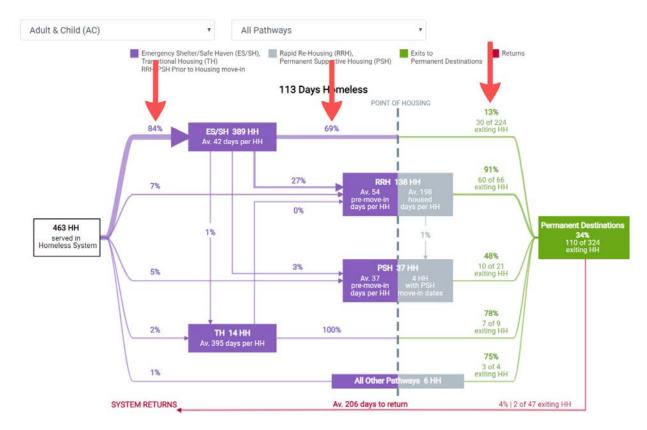
Using the impact score to guide the focus on this chart points users to the Emergency Shelter/Safe Haven pathway. This represents 79% of all Adult & Child Households, with a return to homelessness rate of 9%.

Again, it is important to not look at any one measure in isolation—looking only at returns to homelessness, it would appear as if the Emergency Shelter/Safe Haven only pathway for Adult & Child Households was performing well with an average return rate of only 9%.



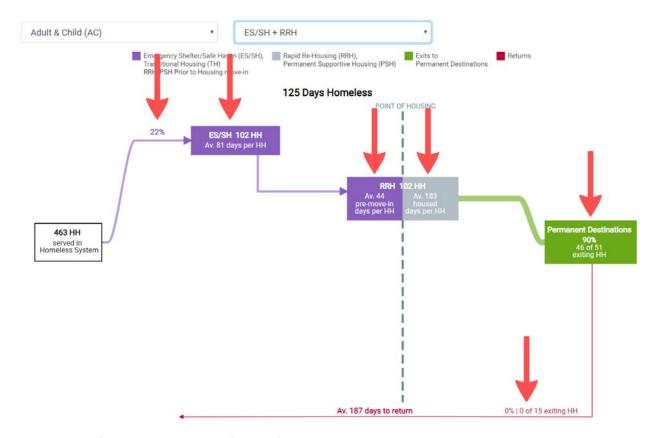
Stella allows users to look at all measures and pathways together in the system performance map.

Important to remember on the system map is that households can use projects in any combination and the pathways don't mean the projects were used in a certain order, also that the universes for each measure are different.



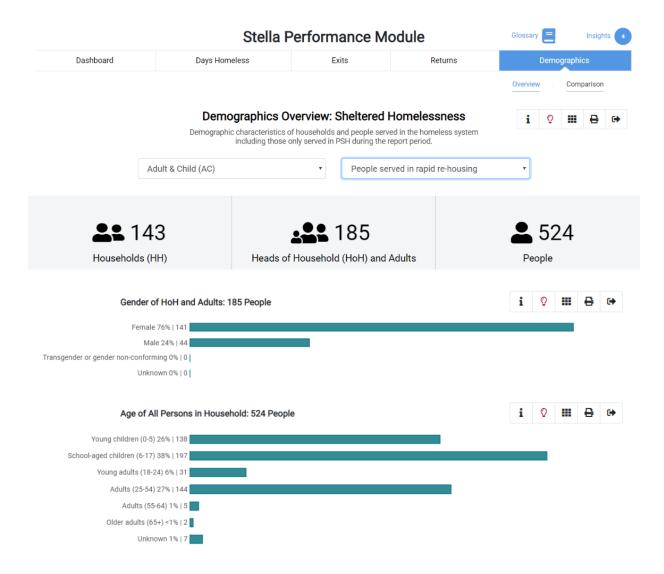
This shows that 84% of Adult & Child Households used emergency shelter or safe haven and stayed there an average of 42 days.

69% of households served in the homeless system during the report period only used that pathway, and of those exiting 30 – or 13% - exited to a permanent destination.



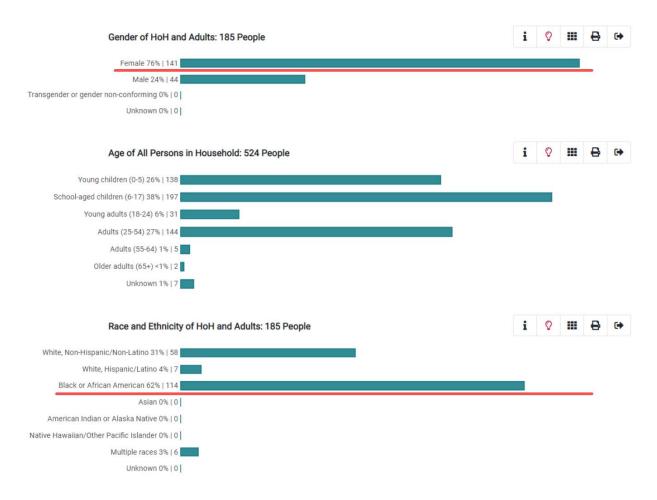
The Stella Performance Map, when filtered for Adult & Child Households and the Emergency Shelter/Safe Haven + Rapid Re-Housing pathway, shows that 22% of households served utilized this pathway. These households had an average of 81 days in Emergency Shelter and 44 days in Rapid Re-Housing before their move-in date. Households stayed in Rapid Re-Housing for an average of 183 days, and exited this pathway to permanent destinations at a rate of 90%.

The returns to homelessness are also displayed on the bottom of the screen, with none of the Adult & Child Households in this pathway returning to the system.



The final tab in Stella is the Demographics tab which contains rich information that allows communities to better understand the households in their system.

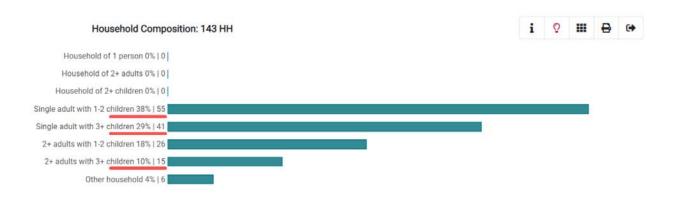
The demographics overview section allows filtering on household type. Where the demographics tab is different from the others is that it allows users to view information based on the type of project in which the households were served including Emergency Shelter and Transitional Housing projects combined, Rapid Re-Housing projects, and Permanent Supportive Housing projects.



How can communities use this to get a better understanding of who is being served in their system?

Looking at those served in Rapid Re-housing. Stella lets users see who is being served in those projects:

76% of the Heads of Household and adults served by Rapid Re-Housing are female, and 62% of Heads of Household are Black or African American.



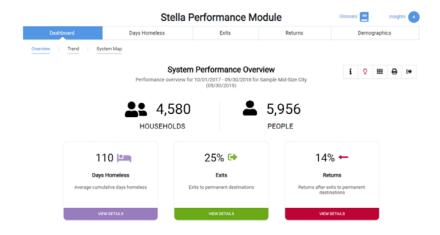
Stella also lets users see that:

67% are headed by single parents.

And 39% of families have three or more children in the household.

This last piece of information is important for CoCs in planning to make sure they can secure units with enough bedrooms for these larger households.

Stella allows communities to use this information in conjunction with their local system knowledge to make data informed decisions about how they can structure their programs and engage in more strategic resource planning.



- √ 58% of all Adult & Child Household's only utilize the Emergency Shelter/Safe Haven pathway with an average length of time homeless of 25 days
- √72% of those HHs exit to unknown destinations
- √ 9% of those HHs return to homelessness
- √ 63% of Adult & Child Households are experiencing homelessness for the first time

Through Stella, this community has learned that:

- 58% of all Adult & Child Household's just utilize the Emergency Shelter/Safe Haven pathway with an average length of time homeless of 25 days
- 72% of those HHs exit to unknown destinations
- 9% of those HHs return to homelessness
- 63% of Adult & Child Households are experiencing homelessness for the first time

These data lead to additional questions such as: What other service systems are first time homeless families connected with?

Can we build stronger bridges with these systems in an effort to reduce the inflow of new families entering the system?

Is it true that such a low proportion of families are exiting to permanent destinations or is this only a reflection of poor data quality?

Can more be done to safely divert families from shelter given their brief stays?

Using this as a first step in conjunction with local system knowledge, CoCs can start to design data informed improvement strategies.



Thank you for your interest in Stella, and for more information, please visit the HUD Exchange at the links below.

Stella: https://www.hudexchange.info/homelessness-assistance/stella/

SNAPS Data TA Strategy to Improve Data and Performance:

https://www.hudexchange.info/resource/5748/snaps-data-ta-strategy-to-improve-data-and-performance/