

2022 Health Center Patient Survey Dashboard Instructions

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1. Introduction

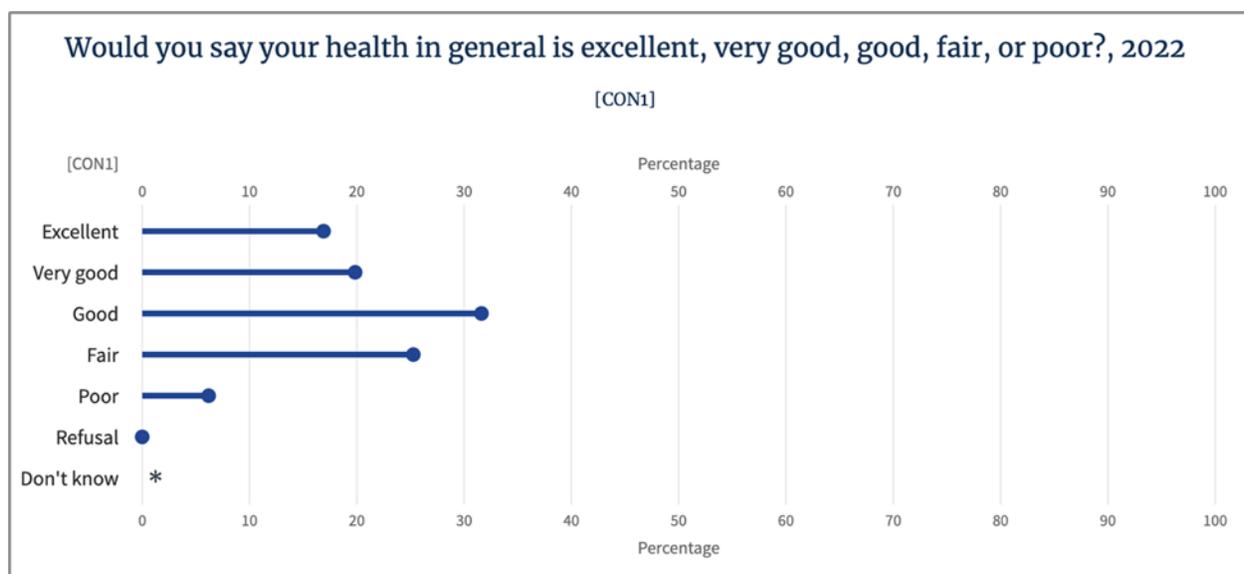
The 2022 Health Center Patient Survey (HCPS) dashboard provides a user-friendly way to create charts and tables summarizing the data found in the HCPS public-use file (PUF). The HCPS provides valuable data about patients' experience with care and services they receive at health centers funded under Section 330 of the Public Health Service Act. For more information about the survey, please visit the 2022 HCPS landing page at <https://data.hrsa.gov>.

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2. Using the Dashboard

The dashboard's core feature allows you to create a chart displaying the frequency distribution of a survey question. To illustrate what a frequency distribution is, consider the survey question, "Would you say your health in general is excellent, very good, good, fair, or poor?" Its frequency distribution shows that 17% of the health center patient population say their overall health is "Excellent," 20% say it is "Very good," 32% say it is "Good," and so on. The dashboard displays those numbers in a bar chart. Figure 2.1 is a screenshot from the dashboard showing the bar chart for this survey question's frequency distribution.

Figure 2.1 Example Bar Chart Displaying a Survey Question's Frequency Distribution



The following sections describe this core feature and additional dashboard features in more detail.

2.1 How do I use the Primary Question?

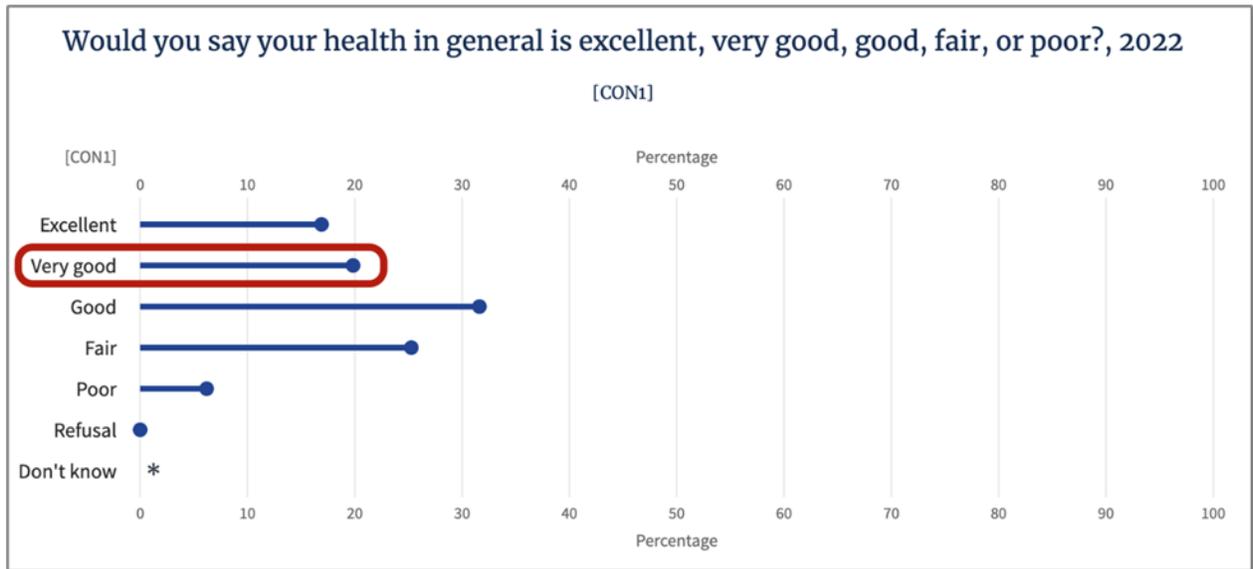
To create a chart displaying the frequency distribution for a survey question, you should select a Primary Question by following these steps:

1. Find the Primary Question section of the dashboard and click Select.
2. A pop-up will appear. This pop-up contains a list of all available survey questions divided into thematic groups such as Demographics or Cancer Screening.
3. To see which questions are in a group, click the group name. The group will expand to display the survey questions in that group.

4. If you are interested in a specific question or keyword, you can search for it by entering a search term in the search box. The list of survey questions matching your search term will be visible. If you are working with the PUF, you can search for a survey question using its PUF variable name, such as "CON1" for the question asking about general health status.
5. Click on a question to display additional details. These details include the following:
 - The question's response categories. For example, the response categories for the question asking about general health status are "Excellent," "Very good," "Good," "Fair," "Poor," "Don't know," and "Refusal."
 - The question's corresponding variable name in the PUF. If you are using the PUF in conjunction with the dashboard, this variable name is the link between the two.
 - The question's applicable population. Some questions apply to the entire health center patient population, but others apply only to a portion of the health center patient population. For example, questions about mammograms apply only to patients aged 40 and older whose sex was female. The applicable population is discussed in more detail in the section "How can I determine the applicable population for my analysis?" on page 2-8.
6. To accept a survey question as the Primary Question, click the Apply button that is visible after expanding the question to see its details.

Once you select a Primary Question, the dashboard will display a bar chart showing the frequency distribution for the selected question. Suppose you selected the question, "Would you say your health in general is excellent, very good, good, fair, or poor?" Figure 2.2 is a screenshot from the dashboard showing the resulting bar chart. The chart includes a bar for each of the question's response categories ("Excellent," "Very good," "Good," "Fair," "Poor," "Don't know," and "Refusal"). The length of a bar indicates the percentage of the health center patient population whose health status is represented by that bar. For 2022 data, for example, the "Very good" bar extends to about 20%, meaning about 20% of health center patients in 2022 would say their health is very good.

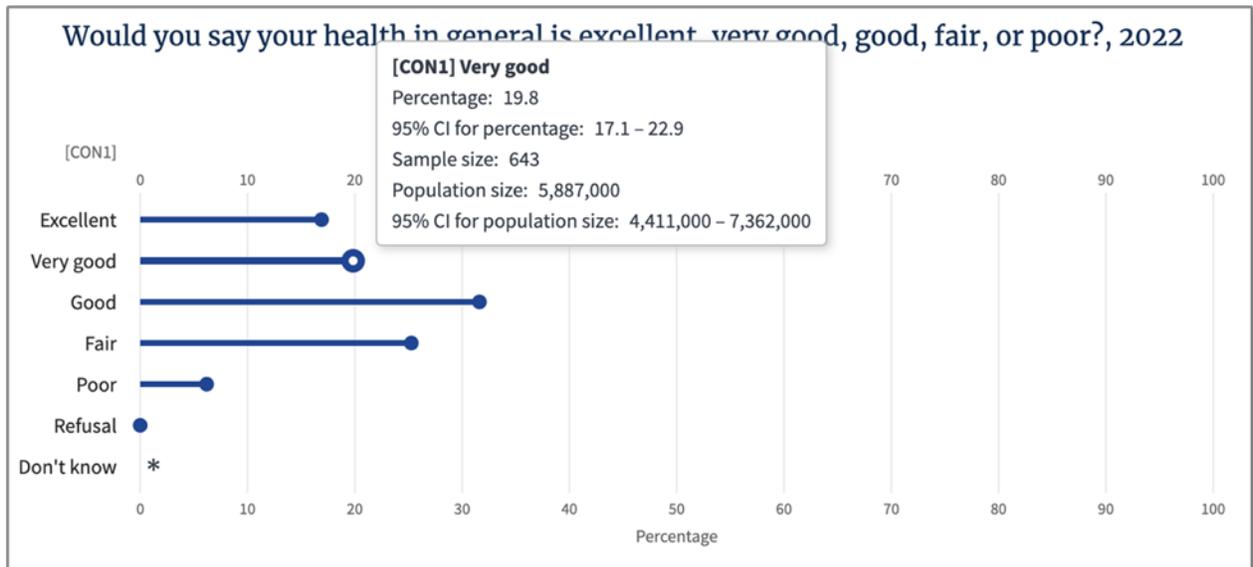
Figure 2.2 Example Bar Chart After Selecting a Primary Question



Note: A red box has been drawn around the bar for very good health status, which extends to about 20%.

You can hover your mouse over a bar to see the exact numbers in a small pop-up window known as a tooltip. Figure 2.3 is a screenshot from the dashboard showing a tooltip.

Figure 2.3 Example Tooltip that Appears When Hovering Over a Bar in the Bar Chart



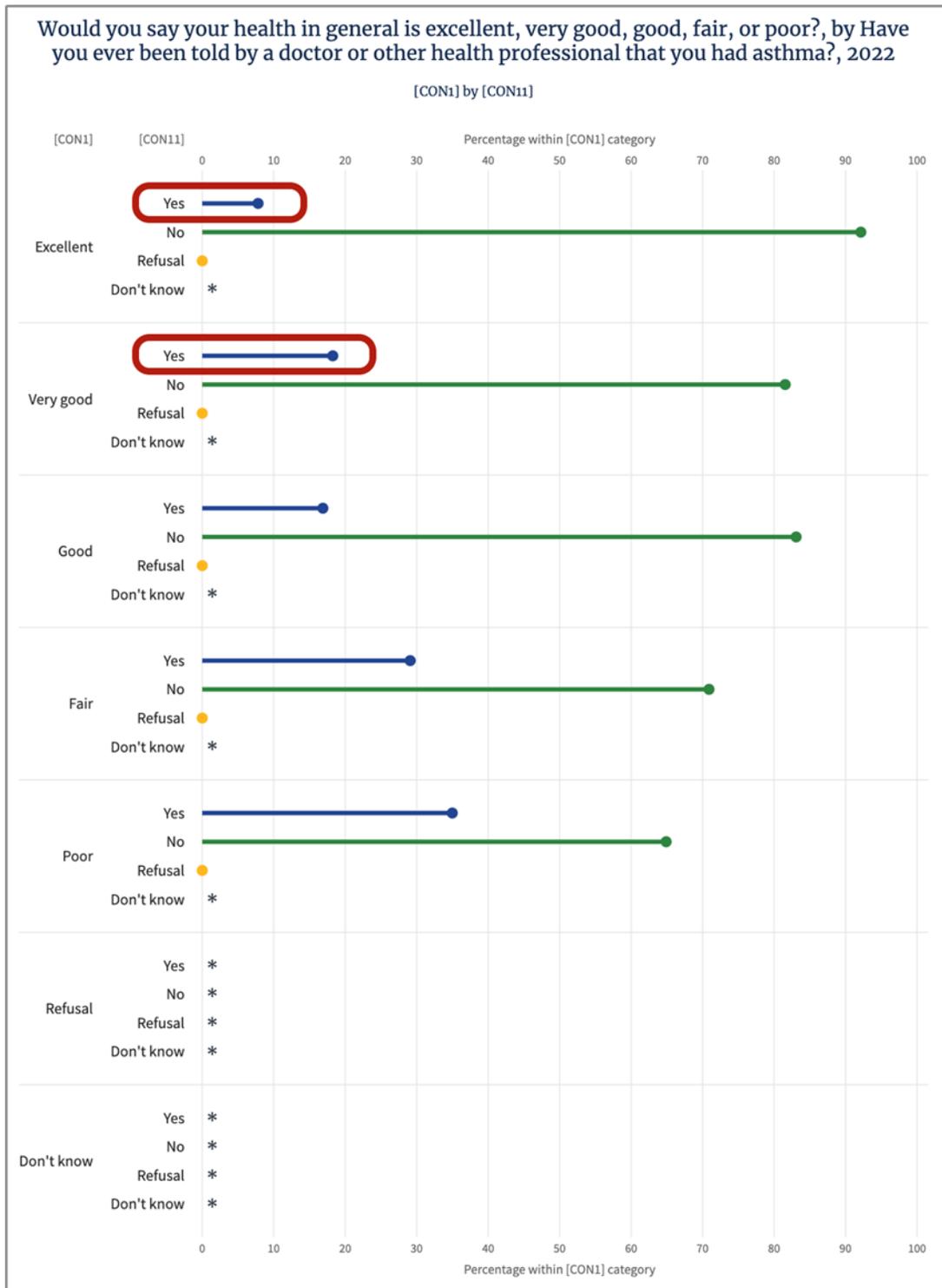
2.2 How do I use the Comparison Question?

Suppose you would like to see how a survey question's frequency distribution changes depending on the response to another survey question. For example, you might be interested in how the percentage of patients who have ever had asthma changes depending on their general health status. To do this, select the general health question as the Primary Question (see the section "How do I use the Primary Question?" on page 2-1) and the asthma question as the Comparison Question. The method for selecting a Comparison Question is identical to the method for selecting a Primary Question, except you should start by clicking Select in the Comparison Question section of the dashboard instead of the Primary Question section.

Once you make these selections for your Primary Question and Comparison Question, the dashboard will display a bar chart with subgroups. Figure 2.4 is a screenshot from the dashboard showing this bar chart. Each subgroup corresponds to a response category from the Primary Question. In this case, because the Primary Question is about general health status, the subgroups are labeled "Excellent," "Very good," and so on. Inside each subgroup, the chart displays the frequency distribution for the Comparison Question, which in this case is the question about ever having asthma. For example, inside the subgroup for the "Very good" health status, the chart displays the frequency distribution for ever having asthma but only among patients who say their health is very good. For the 2022 data, you will see that the "Yes" bar in the "Very good" subgroup extends to about 18%. This means that among health center patients who say their health is very good, about 18% have ever had asthma. Comparing across subgroups, you will see that patients who say their health is excellent are less likely to have ever had asthma (about 8%) than patients who say their health is very good (about 18%).

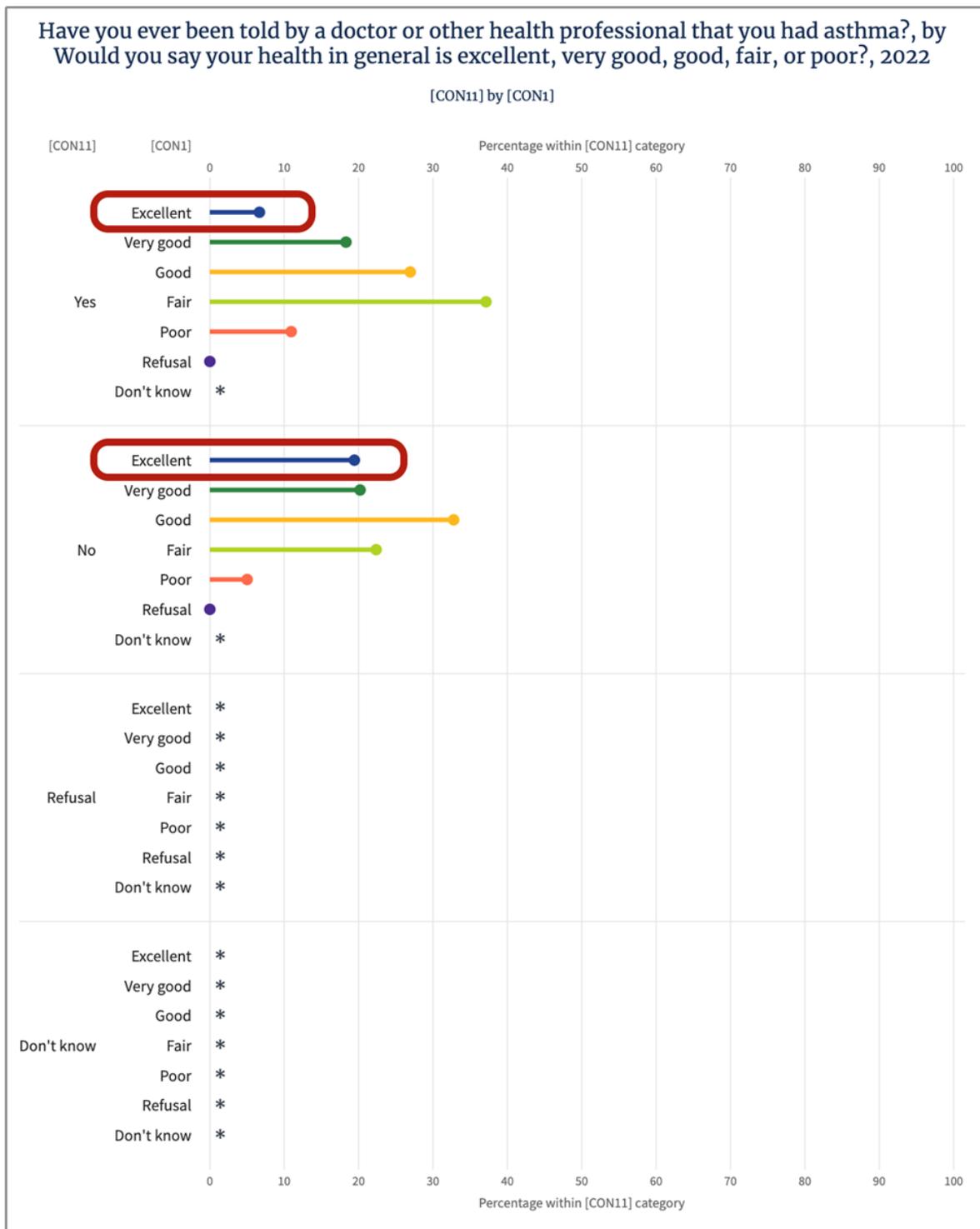
After you select Primary and Comparison Questions and review the chart, you may decide that you would prefer to swap the questions. The dashboard provides a "Swap primary/comparison questions" button that lets you swap questions with one click. If you swap the questions in the current example, the subgroups of the bar chart will change to "Yes," "No," "Don't know," and "Refusal," which are the response categories for the question about ever having asthma. Figure 2.5 is a screenshot from the dashboard showing the resulting bar chart. Within those subgroups, the chart displays the frequency distribution of general health status. For example, in the "Yes" subgroup, you will see that the bar for "Excellent" extends to about 7%. This means that among health center patients who have ever had asthma, about 7% say their health is excellent. Comparing across subgroups, you will see that patients who have ever had asthma are less likely to say their health is excellent (about 7%) than patients who have never had asthma (about 19%).

Figure 2.4 Example Bar Chart After Selecting a Primary Question and a Comparison Question



Note: Red boxes have been drawn around the bar for patients who have ever had asthma among those with excellent health, which extends to about 8%, and the bar for patients who have ever had asthma among those with very good health, which extends to about 18%.

Figure 2.5 Example Bar Chart After Swapping the Primary Question and Comparison Question



Note: Red boxes have been drawn around the bar for patients with excellent health status among those who have ever had asthma, which extends to about 7%, and the bar for patients with excellent health status among those who have never had asthma, which extends to about 19%.

2.3 How do I use the Population Filter?

Suppose you would like to view a question's frequency distribution, but you would like to see it only among a subset of the population. Using the dashboard, you can do this by selecting a Population Filter. This allows you to filter the analysis by any of the available survey questions, such as age category or employment status. For example, you may only want to see the frequency distribution for the question "Would you say your health in general is excellent, very good, good, fair, or poor?" among patients aged 45 or older.

To create this chart in the dashboard, first select the asthma question as the Primary Question (see the section "How do I use the Primary Question?" on page 2-1). The dashboard will display an unfiltered chart, meaning it shows the frequency distribution for general health status among patients of all ages. Then, to filter to patients aged 45 or older:

1. Find the Population Filter section of the dashboard and click Select.
2. Just like when selecting a Primary Question, a pop-up appears containing all available survey questions divided into thematic groups.
3. Find the "Age" question and expand it to see its details.
4. The details section for a Population Filter question has one important difference from the details section for a Primary Question: for a Population Filter question, each response category is associated with a checkbox.
5. Enable the checkbox for every category you want to include in the filtered population. For the "Age" question, the available categories are "0 to 17 years old," "18 to 44 years old," "45 to 64 years old," "65 to 74 years old," "75 or more years old," "Refusal," and "Don't know". If you want to filter to patients aged 45 and older, enable the checkboxes for the "45 to 64 years old," "65 to 74 years old," and "75 or more years old" categories.
6. Click Apply.

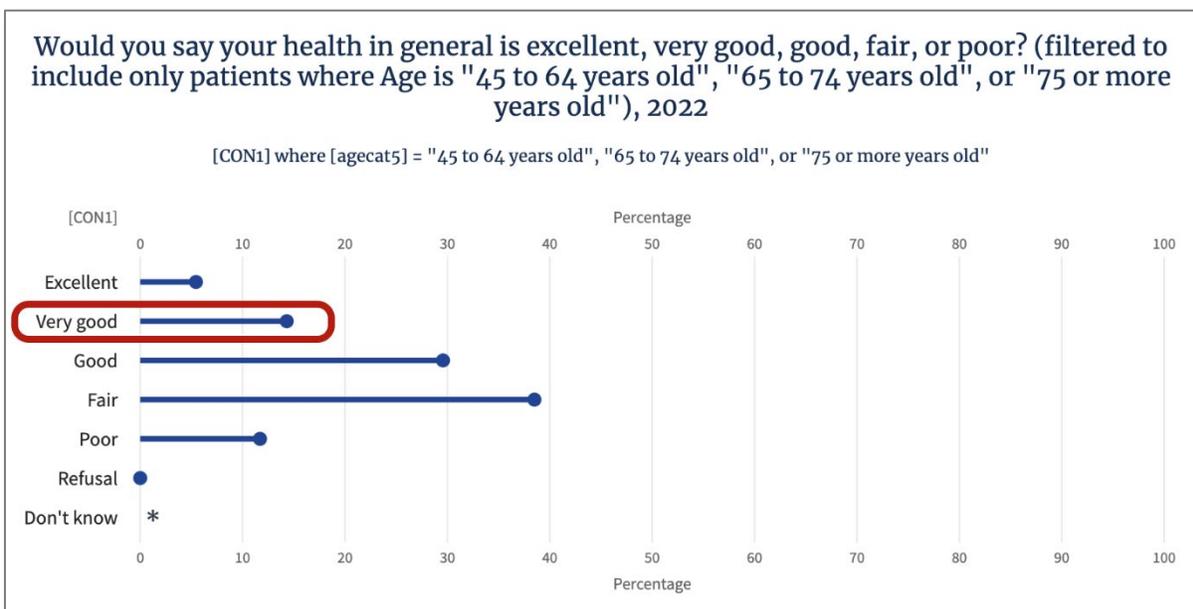
The dashboard will update the chart so that all the results apply only to patients aged 45 or older. Figure 2.6 is a screenshot from the dashboard showing the resulting bar chart. Here, the bar for "Very good" health status extends to about 14%, meaning about 14% of health center patients aged 45 or older in 2022 would say their health is very good.

In this example, you selected a Primary Question and then applied a Population Filter. You can also apply a Population Filter after selecting both a Primary Question and a Comparison Question. The filter has the same effect in both cases: All numbers displayed in the chart apply only to patients matching the filter condition.

As you did in this example, you can add multiple categories to the filter. However, all the categories must come from the same question. You cannot add categories from multiple questions. For example, the dashboard does not support filtering to unemployed patients aged 45 or older, because that requires categories from two questions: you would need to

add the "Unemployed" category from the "Current employment status" question in addition to the three categories from the "Age" question, but the dashboard will not let you do that.

Figure 2.6 Example Bar Chart After Selecting a Primary Question and a Population Filter



Note: A red box has been drawn around the bar for very good health status, which extends to about 14%.

2.4 How can I determine the applicable population for my analysis?

Every survey question has an applicable population. Recognizing the applicable population is very important when properly interpreting the results displayed by the dashboard. The dashboard displays the applicable population in two places:

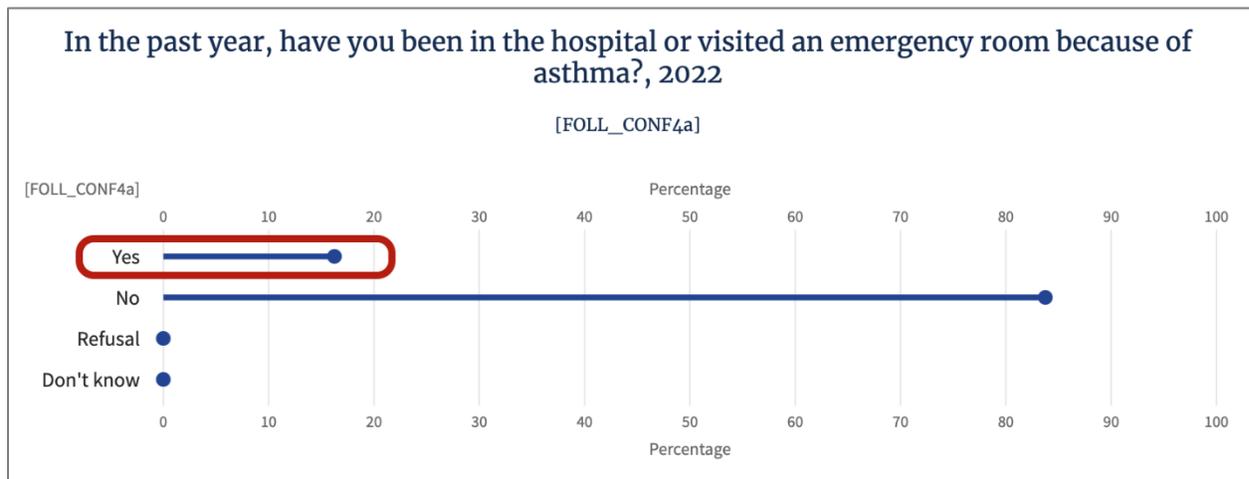
- the question details when selecting a question
- the footnotes below the chart or table

In many cases, a question's applicable population is all health center patients. This means the question applies to all patients. But in other cases, the question does not apply to all patients. For example, the question, "In the past year, have you been in the hospital or visited an emergency room because of asthma?" applies only to health center patients who have asthma. Its applicable population is therefore patients who have asthma.

Using 2022 data, the dashboard shows that about 16% of patients have been in the hospital or visited an emergency room because of asthma in the past year. Figure 2.7 is a screenshot from the dashboard showing the bar chart after selecting this as the Primary Question. Because the applicable population is patients who have asthma, the 16% figure

should be interpreted as follows: **Among patients who have asthma**, 16% have been in the hospital or visited an emergency room because of asthma in the past year. This is very different from the alternative (and incorrect) interpretation that ignores the applicable population: **Among all patients**, 16% have been in the hospital or visited an emergency room because of asthma in the past year. One would expect the percentage among all patients to be much lower than 16%, because most patients do not have asthma.

Figure 2.7 Example Bar Chart After Selecting a Primary Question That Does Not Apply to All Patients



Note: A red box has been drawn around the bar for yes, which extends to about 16%.

When you create a chart that includes a Comparison Question or a Population Filter in addition to a Primary Question, you must account for the applicable population for all selected questions. The overall applicable population will be the intersection of each individual question's applicable population. The dashboard displays the applicable population for each question separately; you are responsible for finding the intersection to identify the overall applicable population. For example, suppose the applicable population for the Primary Question is patients who have asthma, for the Comparison Question is female patients aged 40 or more, and for the Population Filter is all patients. Then the dashboard would display the following as a footnote below the chart and table:

The estimates in this analysis are representative of a subset of the health center patient population, because one or more selected survey questions apply to a subset of the population:

- [FOLL_CONF4a] applies only to: patients who currently have asthma.
- [CAN3] applies only to: female patients aged 40+.

Questions are omitted from this footnote when their applicable population is all patients, which is why only two questions are displayed in this footnote instead of three. In this example, the intersection of the applicable populations is female patients aged 40 or older who have asthma. Every number displayed in the chart applies only to this overall applicable population.

2.5 What are some considerations when choosing a survey year?

The Health Resources and Services Administration (HRSA) released a PUF for both the 2022 HCPS and the 2014 HCPS. The dashboard lets you choose which of the two data years to analyze. To change the data year, find the dropdown menu labeled "Data Year" and select a different year.

Warning: Comparing results from 2022 to results from 2014 is not recommended. Data collection procedures were changed during the 2022 survey because of the COVID-19 pandemic. These changes are a potential confounding factor in any differences observed between 2022 and 2014.

The dashboard will not make direct comparisons between 2022 and 2014. To further discourage you from comparing results across years, the dashboard clears all selected questions and filters when you select a different year.

2.6 Why might I view the frequency distribution in a table?

By default, the dashboard displays the frequency distribution as a bar chart. However, you can view it in a table if you prefer. The chart allows you to quickly spot trends and outliers, and the table allows you see all the numbers associated with each estimate. The table might also be preferable to those who use a screen reader to interact with the dashboard. To view the frequency distribution in a table, find the "View As" setting and choose the "Table" option.

2.7 How do I view the percentage, population size, and sample size?

A frequency distribution can be expressed using either percentages or numbers of patients. To illustrate the difference, consider the survey question, "Would you say your health in general is excellent, very good, good, fair, or poor?" As percentages, its frequency distribution shows that 16.9% of the health center patient population say their overall health is "Excellent," 19.8% say it is "Very good," 31.6% say it is "Good," and so on. As numbers of patients, its frequency distribution shows that about 5,013,000 health center patients say their overall health is "Excellent," about 5,887,000 say it is "Very good," about 9,378,000 say it is "Good," and so on. Figure 2.8 shows these values in a table that is comparable to the one displayed by the dashboard.

Figure 2.8 Example Table Displaying a Survey Question's Frequency Distribution

[CON1]	Percentage	Sample Size	Population Size
Excellent	16.9	405	5,013,000
Very Good	19.8	643	5,887,000
Good	31.6	1,518	9,378,000
Fair	25.3	1,429	7,496,000
Poor	6.2	407	1,837,000
Refusal	0.0	0	0
Don't Know	*	*	*

* Result has been suppressed.

In both cases, the frequency distribution represents the health center patient population. The percentage represents the percentage *within the health center patient population*, and the number of patients represents the number of patients *within the health center patient population*. As a shorthand, we refer to these as the percentage and the population size, respectively. In contrast to the population size, a frequency distribution can be also expressed using the *sample size*, which counts the number of survey participants. The dashboard provides the sample size for reference, but keep in mind that you should not use it to draw conclusions about the health center patient population, because it represents only the smaller group of survey participants.

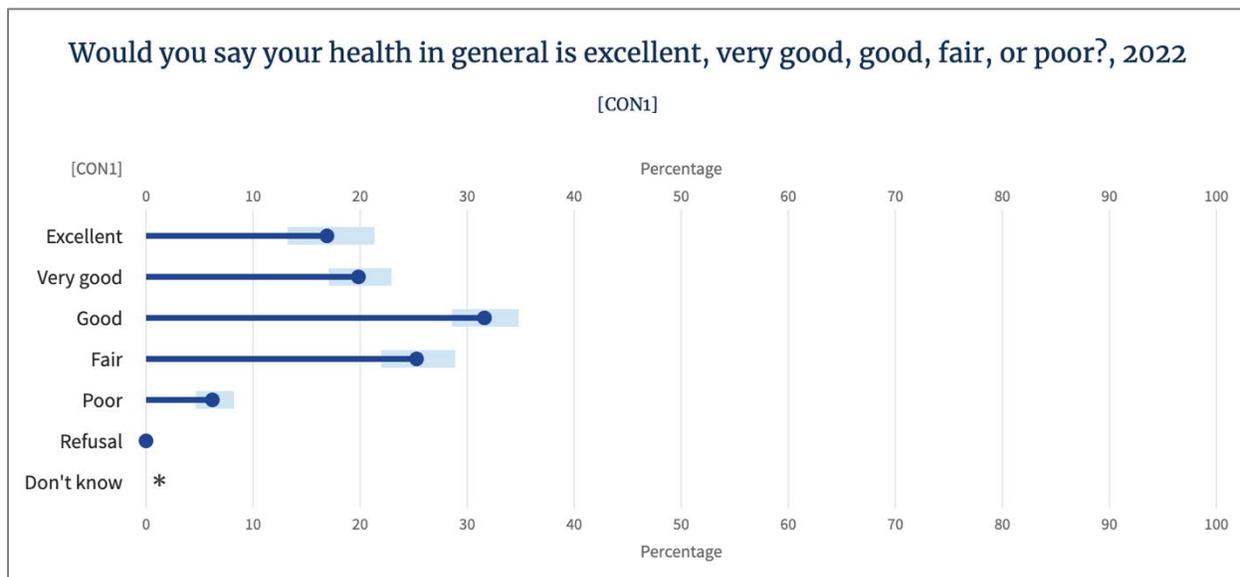
By default, the dashboard's chart displays the frequency distribution as a percentage, but you can display it as a population size instead. To do this, find the "Chart Unit" setting and choose the "Population Size" option. Regardless of the chosen chart unit option, the bar chart tooltips display the percentage, population size, and sample size. Similarly, the table includes the percentage, population size, and sample size.

2.8 How do I view confidence intervals?

A random sample of the health center patient population participated in the survey. The results displayed in the dashboard are calculated from the responses provided by that sample of patients. Because the dashboard results are based on a sample, they are *estimates* of the true values. Each estimate has some amount of uncertainty. This uncertainty is sometimes called the margin of error and is represented in the dashboard as a confidence interval.

To view the confidence intervals, find the "Confidence Intervals" setting and select the "On" option. In the chart, the confidence intervals are represented by a blue band around each estimate. Figure 2.9 is a screenshot from the dashboard showing how the confidence intervals appear in the chart.

Figure 2.9 Example Bar Chart with Confidence Intervals



In the table, the confidence intervals appear in additional columns. Figure 2.10 shows the confidence intervals in a table that is comparable to the one displayed by the dashboard.

Figure 2.10 Example Table with Confidence Intervals

[CON1]	Percentage	Lower Bound of 95% CI for Percentage	Upper Bound of 95% CI for Percentage	Sample Size	Population Size	Lower Bound of 95% CI for Population Size	Upper Bound of 95% CI for Population Size
Excellent	16.9	13.2	21.4	405	5,013,000	3,446,000	6,581,000
Very Good	19.8	17.1	22.9	643	5,887,000	4,411,000	7,362,000
Good	31.6	28.6	34.8	1,518	9,378,000	7,704,000	11,052,000
Fair	25.3	22.0	28.9	1,429	7,496,000	5,891,000	9,101,000
Poor	6.2	4.6	8.2	407	1,837,000	1,227,000	2,447,000
Refusal	0.0	n/a	n/a	0	0	n/a	n/a
Don't Know	*	*	*	*	*	*	*

* Result has been suppressed.

The dashboard displays 95% confidence intervals. Roughly speaking, the 95% confidence interval is the range where you can expect to find the true value with about 95%

confidence. Estimates with a wide confidence interval have more uncertainty than estimates with a narrow confidence interval.

2.9 How do I download the chart or table?

After creating a chart or table, you can download the chart as an image file in .png format, or you can download the table as a text file in .csv format. These could be useful for pasting into another application. To download the chart as a .png file, find the "Download" option and click "Chart PNG." To download the table as a .csv file, find the "Download" option and click "Table CSV."

2.10 How do I interpret suppressed results?

In some cases, results calculated by the dashboard fail to meet its conditions for statistical reliability. This happens when the uncertainty around a result is too high or when a result was calculated using the responses from a small number of survey participants. HRSA strongly discourages you from using such results to draw any conclusions. In fact, the dashboard hides these results from you. This is known as suppression. The dashboard uses an asterisk (*) in both the chart and the table to indicate a suppressed result.

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3. Data Sources

The dashboard takes its data from the 2022 and 2014 HCPS PUFs. Of the 465 variables available in the 2022 PUF, 453 are also available in the dashboard. The exceptions are as follows:

- *zrid*—This is a randomly assigned survey participant identifier and has no analytic value.
- *Final_strata*—This identifies the stratification in the survey's sample design. The dashboard uses this variable when calculating certain results, but it is not available for direct analysis.
- *GranteeID*—This identifies the clustering in the survey's sample design. The dashboard uses this variable when calculating certain results, but it is not available for direct analysis.
- *analwt*—This is the analysis weight, which helps ensure that the dashboard's calculations represent the full health center patient population. The dashboard uses this variable when calculating certain results, but it is not available for direct analysis.
- *CON9x* and *CON9x_UNITS*—These two variables are meaningful only when analyzed together; they cannot be interpreted when analyzed alone. Because the dashboard has no mechanism to force a pair of variables to be analyzed together, they were dropped from the dashboard to avoid producing results that cannot be interpreted.
- *CON9y* and *CON9y_UNITS*—See *CON9x* and *CON9x_UNITS*.
- *CON9z* and *CON9z_UNITS*—See *CON9x* and *CON9x_UNITS*.
- *CON9z1* and *CON9z1_UNITS*—See *CON9x* and *CON9x_UNITS*.

Of the 584 variables available in the 2014 PUF, 580 are also available in the dashboard. The exceptions are as follows:

- *zrid*—This is a randomly assigned survey participant identifier and has no analytic value.
- *vestr*—This identifies the stratification in the survey's sample design. The dashboard uses this variable when calculating certain results, but it is not available for direct analysis.
- *verep*—This identifies the clustering in the survey's sample design. The dashboard uses this variable when calculating certain results, but it is not available for direct analysis.
- *ANALWT*—This is the analysis weight, which helps ensure that the dashboard's calculations represent the full health center patient population. The dashboard uses this variable when calculating certain results, but it is not available for direct analysis.

If you want to analyze the PUF yourself or perform analyses that go beyond what the dashboard offers, you can download the PUF from the 2022 HCPS landing page at

<https://data.hrsa.gov>. You can also find the HCPS Data File User's Manual at the landing page. The HCPS Data File User's Manual provides details on how to analyze the PUF.

The PUF was designed to prevent the public from using it to identify survey participants. Because the dashboard is derived from the PUF, its output also cannot be used to identify survey participants.

4. Technical Details

4.1 Missing Data

The dashboard excludes missing data when calculating results. A missing data value arises when a survey question does not apply to a respondent and the respondent is therefore not asked the question. For example, a question about mammograms does not apply to a respondent who is under 40 years old, so that question would be coded as missing for all respondents under age 40. In some cases, a respondent is asked a question but refuses to answer or does not know the answer. The dashboard does not classify these as missing data and does include them when calculating results.

4.2 Weighted Estimates

A random sample of the health center patient population took the survey: approximately 4,400 patients participated in the 2022 survey out of about 29 million patients in the population. The dashboard uses the survey's analysis weights to estimate the percentages, the population sizes, and the confidence intervals. Using the weights ensures that these estimates are representative of all patients served by HRSA-funded health centers.

4.3 Confidence Intervals

To calculate the confidence intervals, the dashboard uses a method that accounts for the complex sample design of the survey, which involves stratification, clustering, and weighting. The sample design is described in more detail in the 2022 HCPS Data File User's Manual. The 2022 HCPS Data File User's Manual also provides guidance on using specialized statistical software such as SUDAAN® for computing estimates and their confidence intervals. Although the dashboard does not use SUDAAN® for this purpose, it does use the same methods and produces the same results.

4.4 Suppression

The dashboard uses a rule to identify estimates that may be statistically unreliable and suppresses the display of these estimates. The rule states that an estimate's percentage, sample size, population size, and confidence intervals are suppressed if the percentage's denominator is based on fewer than 50 survey responses or if the relative standard error (RSE) of the percentage is greater than 30%. The RSE of the percentage is defined as follows:

- If the percentage is greater than 0% and less than 50%, then the RSE is a ratio where the numerator is the standard error of the percentage and the denominator is the percentage. This ratio is expressed as a percentage.
- If the percentage is greater than or equal to 50% and less than 100%, then the RSE is a ratio where the numerator is the standard error of the percentage and the denominator is 100 minus the percentage. This ratio is expressed as a percentage.

- If the percentage is equal to 0% or 100%, then the RSE is undefined. In this case, the RSE component of the suppression rule is ignored.