Flex Monitoring Team

HOSPITAL USERS:

A STEP-BY-STEP GUIDE TO USING CAHMPAS

CAHMPAS
Critical Access Hospital Measurement & Performance Assessment System

ABOUT CAHMPAS

CAHMPAS is a free tool developed by the Flex Monitoring Team to help you identify areas of strength and weakness for your hospital. CAHMPAS allows you to explore financial, quality and community benefit performance data for your hospital—and compare that data across peer groups. With this tool, you can create graphs that compare your hospital's values to state and national medians and even show trends over time.

This step-by-step Guide will walk you through the basics of the CAHMPAS system. We encourage you to explore the nuances of the data and develop strategies to address CAH performance. We hope that this tool will help you make the most relevant performance comparisons, collaborate with peers, and effectively allocate funding.

We are continually updating and improving CAHMPAS to best meet the needs of our users. We intend to ensure that this Guide reflects any large changes made to CAHMPAS, however not all minor updates will be reflected immediately in this Guide. Please email the CAHMPAS team (monitoring@flexmonitoring.org) if you have any questions or feedback.

To begin using CAHMPAS, follow the steps below.

GETTING STARTED

1) LOG IN

To access CAHMPAS, click here or visit http://cahmpas.sirs.unc.edu. Enter your username and password on this screen. If you need login credentials, please contact us at monitoring@flexmonitoring.org.

2) GET STARTED

Once you log in, you will be directed to the CAHMPAS home page. Notice that the email to contact us is available on this home page as well. You may navigate back to this page at any time by clicking the home button on the grey navigation bar [under the blue arrow].

Click the yellow, highlighted 'Get Started' button to begin.

For hospital users, there are six available graph types and tools:

- Compare individual hospitals using a bar graph
- Compare group trends using a line graph
- Compare relative position of all indicators using a percentile bar graph
- View Financial Distress Index
- Download Hospital Data
- View Indicator Report

BAR GRAPH

1) SELECT A GRAPH TYPE

The first graph, the bar graph titled "Compare Individual Hospitals," allows you to compare a financial indicator of your choice for your hospital to other hospitals in the US, your state, or a peer group of your choice. We will begin with this graph type.

Click the yellow, highlighted 'Bar Graph' button to select this graph.
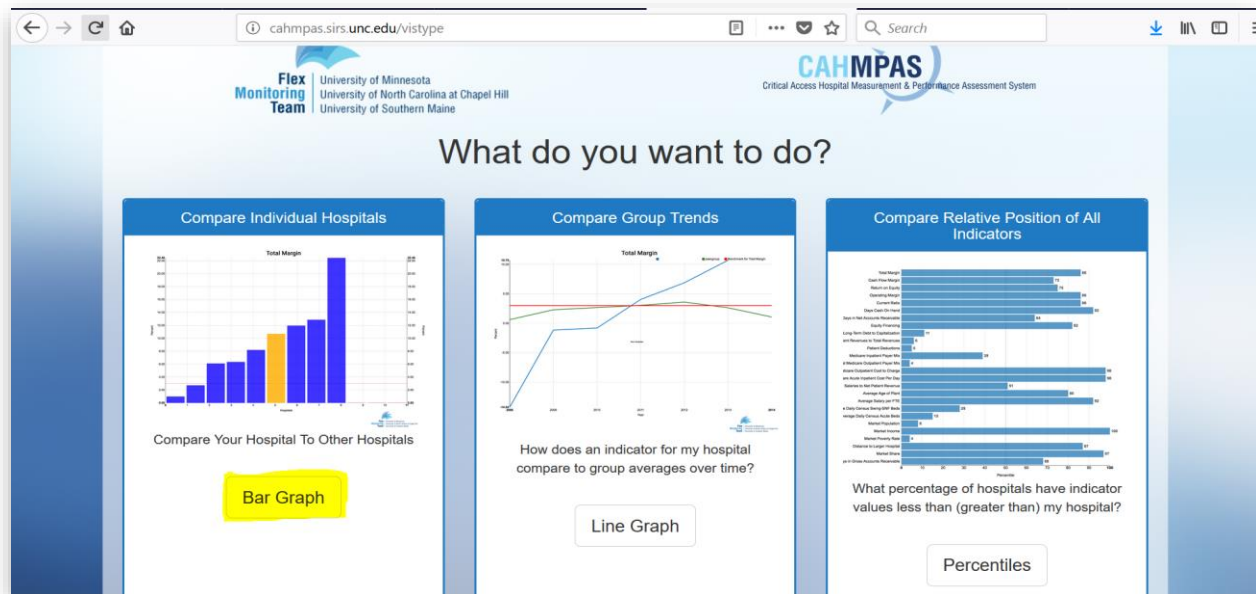
2) SELECT AN INDICATOR

go

CAHMPAS offers a number of financial measures and ratios for your use. These indicators include profitability, liquidity, capital structure, outpatient, inpatient, growth, labor, other and financial distress metrics. For more information on these indicators and how best to use them, see the *CAH Financial Indicators Primer and Calculator Resource*s by visiting here.

Notice that the grey navigation bar at the top of the screen has "followed" your progress through the system.

If you want to return to the graph options screen, for example, you need only to click 'Set Graph Type' (below the blue arrow) to return to that screen.

Let's take a look at a common profitability indicator, operating margin. Click the button in the red box.

CAH Measurement and Performance Assessment System (CAHMPAS)   Home >   Set Graph Type >   Set Indicator >

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University of North Carolina at Chapel Hill
University of Southern Maine

CAHMPAS
Critical Access Hospital Measurement & Performance Assessment System

Select an indicator to graph:

Finance Indicators

Profitability Indicators
Total Margin
Cash Flow Margin
Return on Equity
Operating Margin

Liquidity Indicators
Current Ratio
Days Cash On Hand
Days in Net Accounts Receivable
Days in Gross Accounts Receivable

Capital Structure Indicators
Equity Financ
Debt Service Cov
Long-Term Debt to Ca

Revenue Indicators
Outpatient Revenues to Total Revenues
Patient Deductions

Cost Indicators
Salaries to Net Patient Revenue
Average Age of Plant

Utilization Indicators
Average Daily Census Sw
Average Daily Census

3) SELECT A COMPARISON GROUP

On the right side of your screen, you will see your hospital's characteristics. This box displays all the characteristics that make up your peer group: these are hospitals like yours based on revenue and other factors identified by the Flex Monitoring Team. These factors include your region, state, net patient revenue, government ownership, system affiliation, operation of a rural health clinic, and provision of long-term care.

In the middle of this screen, you will see several options: here, you are prompted to create or select a comparison group for your hospital. By clicking any of the options highlighted in the yellow box, you can compare your hospital to other hospitals in the state, to your peer group, or to a custom group of your choice.

- The "My State" button: CAHMPAS will create a graph that displays your hospital compared to all of the CAHs in your state

- The "My Peer Group" button: CAHMPAS will create a graph that displays your hospital against all other CAHs in the nation with the same net patient revenue and hospital characteristics (rural health clinics, government ownership, long-term care, system affiliation) as your hospital's

- The "Custom" button: CAHMPAS will create a graph that displays your hospital against all of the CAHs with the criteria you choose. For example, you might compare your hospital to other hospitals in your state with the same revenue, or you might want to know how hospitals with rural health clinics perform nation-wide

4) SELECT A CUSTOM GROUP

To create your own custom group, select the custom button and use the drop-down menus to select:

1. the scope as either state, regional or national
2. the specific state or region, if appropriate
3. net patient revenue type
4. whether hospitals will have a rural health clinic and long-term care provisions
5. whether hospitals will be government-owned
6. whether hospitals will be affiliated with a system
7. the data year

Name the graph in the highlighted field next to "Custom Group Name" and then click the highlighted "Draw Graph" button.

Note: CAHMPAS cannot graph a custom group if it has less than five hospitals in the sample. If you attempt to select a subgroup with too few hospitals, a red message will appear in the dark blue box. If this occurs, you may need to alter your selection criteria.

5) BAR GRAPH: OVERVIEW

In the image below, the single yellow column represents your hospital. To see your hospital's indicator value, hover over the yellow column.
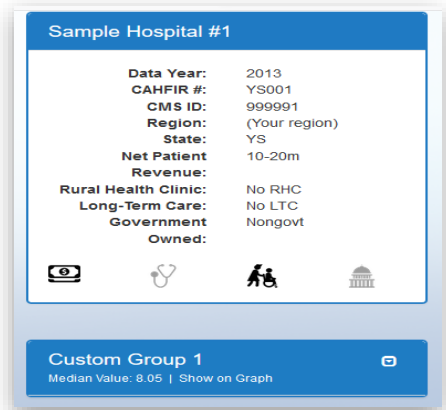
- The blue bars represent the other CAHs in your peer group. To see each hospital's indicator value, hover over the blue columns.
- The grey bars represent CAHs that did not report the financials needed for the graph. These values can be ignored, for most users' purposes.
- The red horizontal line represents the financial benchmark: in the case of our operating margin, your hospital's value would ideally be at or above this line. The black horizontal line represents the US median for the financial ratio.
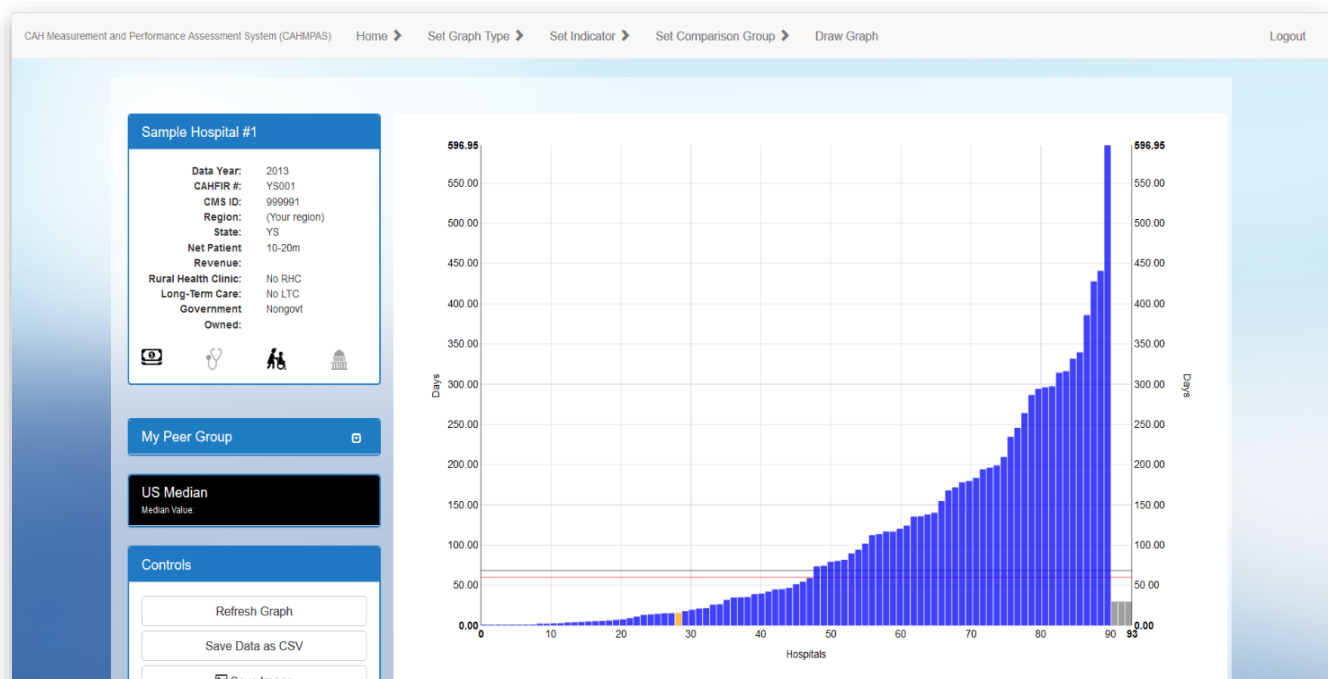
6) BAR GRAPH: SIDE BARS

On the left side of the screen, you will see a box with your hospital's characteristics. This is the same box that you saw when selecting a comparison group for your hospital on the previous screen. Below this box is a blue rectangle titled either "My State," "My Peer Group," or "Custom Name," depending on what type of peer group you chose.

If you select the dropdown button in this box, you will see a list of characteristics for the blue hospitals on the graph—such as their revenue type or ownership.
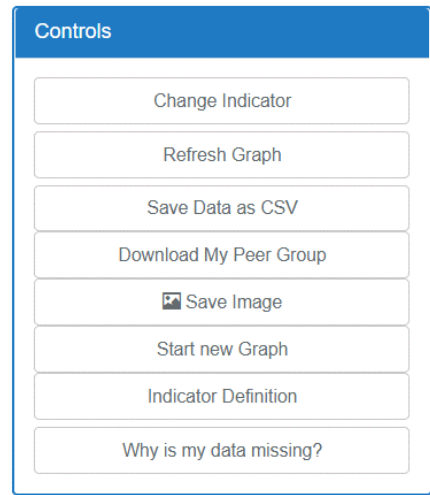
7) BAR GRAPH: CONTROLS

The control box on the bottom left corner of your screen allows you to change your indicator, refresh your graph, save the graphed data with Microsoft Excel (Save Data as CSV), save the graph as an image, download your peer group, return to the home screen to begin a new graph, understand the financial indicator you chose, and see reasons why your data may be missing. These capabilities are available both for the line and bar graphs.
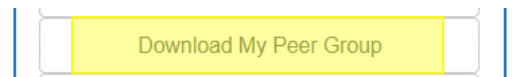
Note: When opening a saved image, convert it to a PDF or JPEG file. Images are automatically saved as PNG files, but the PNG files may not display clearly.

Controls

Change Indicator

Refresh Graph

Save Data as CSV

Download My Peer Group

Save Image

Start new Graph

Indicator Definition

Why is my data missing?

8) BAR GRAPH: DOWNLOADING YOUR PEER GROUP

To download your peer group, click "the download my peer group" button from the controls. Peer groups are based on whether a CAH: 1. has less than $5 million, $5-$10 million, or over $10 million in net patient revenue; 2. is owned by a government entity; 3. provides long-term care; 4. is operated by a provider-based Rural Health Clinic; and 5. is affiliated with a hospital system.

An excel file will download that includes the names, city, and state of hospitals that are similar to your hospital in relation to these four factors.

Download My Peer Group

9) RETURNING TO PREVIOUS SCREENS

The grey navigation bar at the top of your screen (and shown below) allows you to move throughout the CAHMPAS system seamlessly. Once you have a graph drawn, you may want to change the indicator—perhaps you want to show the cash flow margin rather than the operating margin—or you may even want to change from a bar to a line graph. This navigation bar allows you to return to those screens by clicking "Set Indicator" or "Set Graph Type."

To return to the graph type selection page, simply click the "Set Graph Type" button (underneath the blue arrow) on your grey navigation bar.
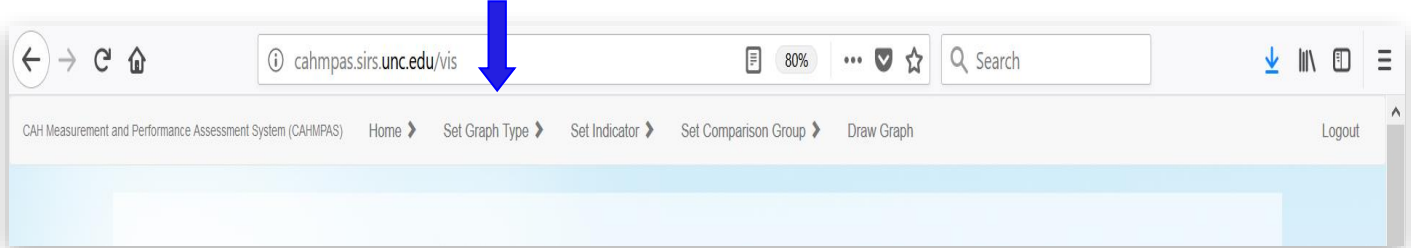
LINE GRAPH

1) SELECT A GRAPH TYPE

The "Set Graph Type" buttons returns us to a familiar screen, where we previously chose from one of three types of graphs:

- Compare individual hospitals using a bar graph
- Compare group trends using a line graph
- Compare relative position of all indicators using a percentile bar graph

Let's take a look at the line graph. Click the yellow, highlighted 'Line Graph' button to select this graph.

2) SET YOUR CRITERIA

Just like with the bar graph, you will now need to select your indicator and custom groups.

1. Select a specific indicator (i.e., Current Ratio)
2. Select a peer group (i.e., "My Peer Group")
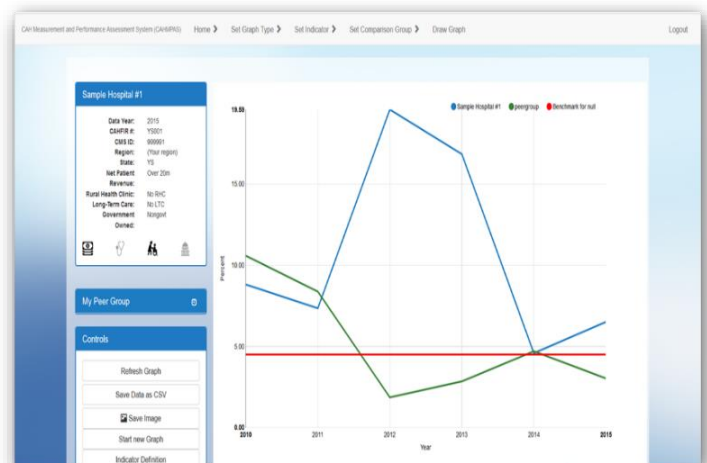3. Click "Draw Graph"
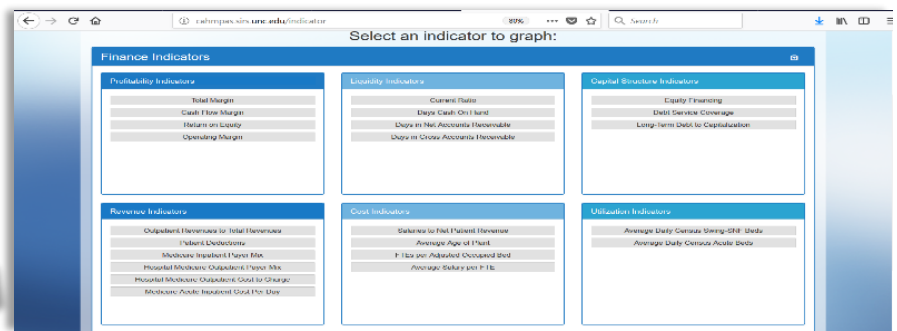
3) LINE GRAPH: OVERVIEW

Utilizing the key at the top right corner of your graph (and enlarged below), you will notice that the blue line represents your hospital, the green line represents all the CAHs in your peer group, and the red line represents the benchmark for your financial ratio. Note: Colors may vary.

You can also hover over or near the lines to see the indicator pop-up box. Notice also that the options panel to the left of your graph are the same for both the bar graph and the line graph. As mentioned previously, you can use the drop-down menu to recall your hospital's and your peer group's characteristics.
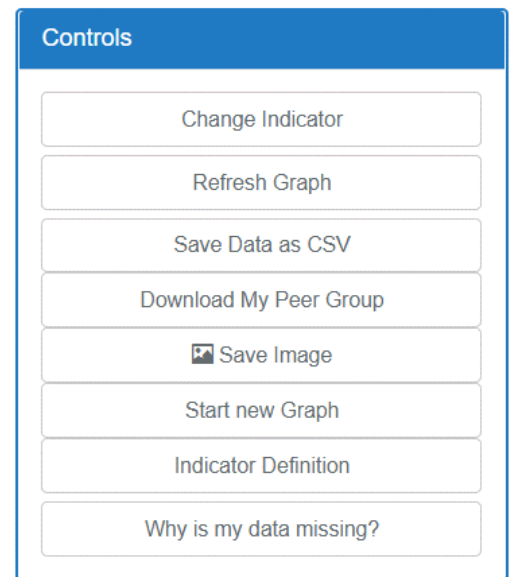
4) LINE GRAPH: CONTROLS

The control box on the bottom left corner of your screen allows you to change your indicator, refresh your graph, save the graphed data with Microsoft Excel (Save Data as CSV), save the graph as an image, download your peer group, return to the home screen to begin a new graph, understand the financial indicator you chose, and see reasons why your data may be missing. These capabilities are available both for the line and bar graphs.
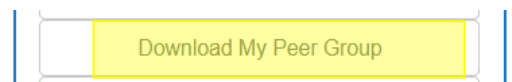
Note: When opening a saved image, convert it to a PDF or JPEG file. Images are automatically saved as PNG files, but the PNG files may not display clearly.
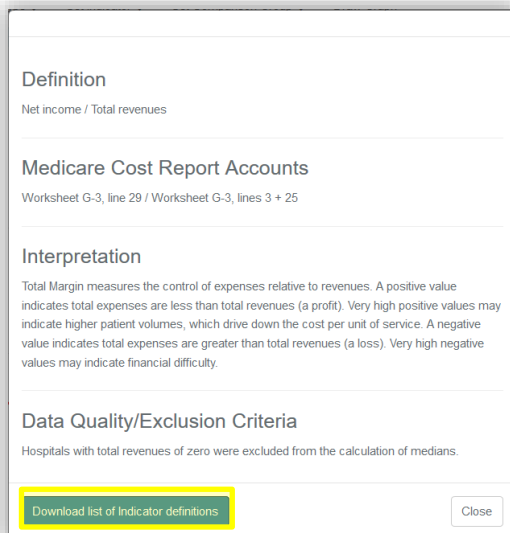
Controls

- Change Indicator
- Refresh Graph
- Save Data as CSV
- Download My Peer Group
- Save Image
- Start new Graph
- Indicator Definition
- Why is my data missing?

5) LINE GRAPH: DOWNLOADING YOUR PEER GROUP

To download your peer group, click "the download my peer group" button from the controls. Peer groups are based on whether a CAH: 1. has less than $5 million, $5-$10 million, or over $10 million in net patient revenue; 2. is owned by a government entity; 3. provides long-term care; 4. is operated by a provider-based Rural Health Clinic; and 5. is affiliated with a hospital system.

An excel file will download that includes the names, city, and state of hospitals that are similar to your hospital in relation to these four factors.

Download My Peer Group

6) UNDERSTANDING YOUR INDICATOR

Definition

Net income / Total revenues

Medicare Cost Report Accounts

Worksheet G-3, line 29 / Worksheet G-3, lines 3 + 25

Interpretation

Total Margin measures the control of expenses relative to revenues. A positive value indicates total expenses are less than total revenues (a profit). Very high positive values may indicate higher patient volumes, which drive down the cost per unit of service. A negative value indicates total expenses are greater than total revenues (a loss). Very high negative values may indicate financial difficulty.

Data Quality/Exclusion Criteria

Hospitals with total revenues of zero were excluded from the calculation of medians.

Download list of Indicator definitions   Close

Click on the "Indicator Definition" button from the "Controls" box in order to see a definition, equation, interpretation and quality explanation for your indicator. The image to the left explains how Return on Equity is calculated for a graph.

Click "download list of financial indicators", if you would like a list of the indicators used in CAHMPAS. This may be helpful if you plan on downloading and utilizing the data provided in CAHMPAS.

7) ALTER YOUR INDICATOR FROM THE GRAPH

Click the "Change Indicator" button in order to switch your chosen financial indicator to another, without returning to any previous screens. A dialogue box will appear, asking you to select your indicator type and then your specific indicator.

8) RETURN TO THE CHART SELECTION SCREEN

Click the "Start New Graph" button from the "Controls" box in order to return to the home page where we selected our graph types (bar, line, and percentile).

Controls

- Change Indicator
- Refresh Graph
- Save Data as CSV
- Download My Peer Group
- 🖼 Save Image
- Start new Graph
- Indicator Definition
- Why is my data missing?

PERCENTILES GRAPH

1) SELECT A GRAPH TYPE

The "Start New Graph" buttons returns us to a familiar screen, where we previously chose from one of three types of graphs:

- Compare individual hospitals using a bar graph
- Compare group trends using a line graph
- Compare relative position of all indicators using a percentile bar graph

Let's take a look at the percentile bar graph. Click the yellow, highlighted 'Percentiles' button to select this graph.

2) PERCENTILES GRAPH: OVERVIEW

In the image above, the bars indicate the percentile under which your hospital falls compared to its peers for each financial indicator. To see your hospital's indicator value, specific percentile, and a state/national median associated with the indicator, hover your cursor over bars. You may also change 1) the scope of the graph (state or national) and 2) the year for the data from the boxes on the left side of your screen.

3) PERCENTILES GRAPH: DOMAINS

From the left side of your screen, you may check or uncheck boxes based on what types of indicators you want to view on the graph. These include:

- Profitability
- Liquidity
- Capital Structure
- Outpatient
- Inpatient
- Growth
- Labor
- Other

Use the "clear all" and "select all" buttons to select and deselect all indicators at once.

FINANCIAL DISTRESS INDEX

1) SELECT THE FINANCIAL DISTRESS INDEX TOOL

Another feature of CAHMPAS is the Financial Distress Index. The Financial Distress Index Model (FDI) predicts the probability of rural hospital financial distress and subsequent closure within two years.

To see your hospital's FDI category, select Financial Distress Index highlighted in yellow on the image to the right.

For more info on how the model works, read: GM Holmes, BG Kaufman and GH Pink. Predicting Financial Distress in Rural Hospitals, *Journal of Rural Health*, Summer 2017;33(3):239-249.
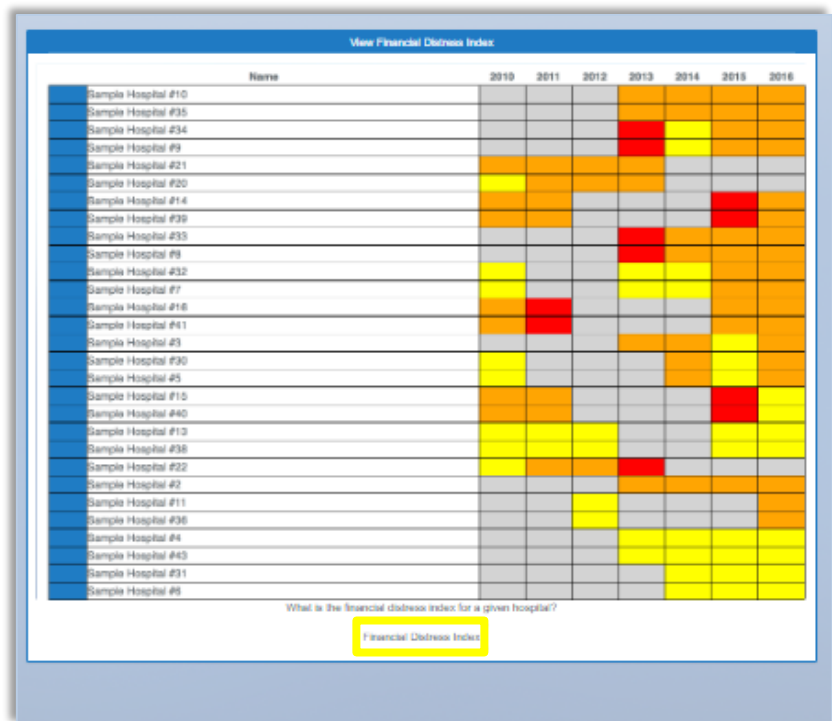
2) FDI OVERVIEW

The FDI Model results categorize hospitals into one of four risk categories:

- low (green)
- medium-low (yellow)
- medium-high (orange)
- high (red)

These risk categories are also shown in the color legend box on the middle left side of the page.

Risk categories are presented by year.
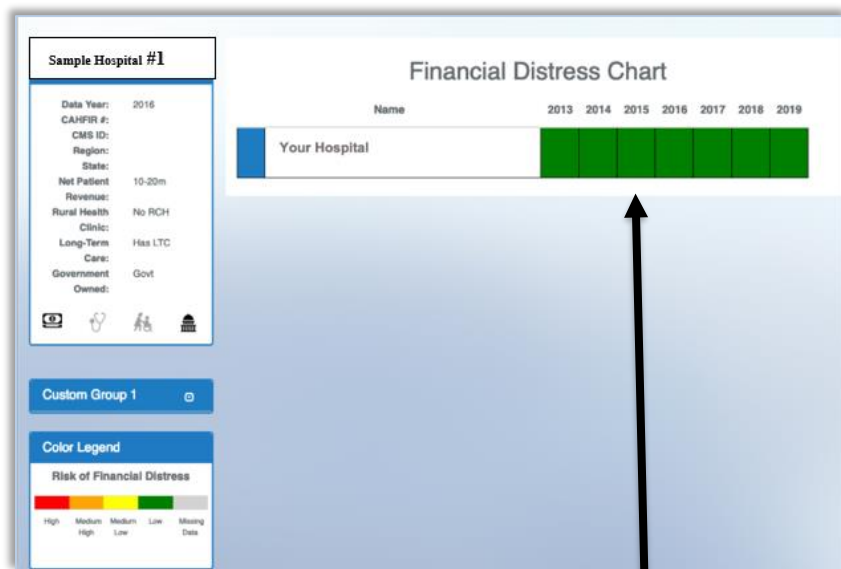
Predicted distress level by year

On the top left side of the page, the following information will be listed for your hospital:

- Data year
- CAHFIR #
- CMS ID
- Region
- State
- Net patient
- Revenue
- Rural health clinic
- Long-term care
- Government owned
- System affiliation

The control box on the bottom left corner of your screen allows you to save the graphed data with Microsoft Excel (Save Data as CSV), save the graph as an image, understand the financial indicator you chose, return to the home screen to begin a new graph, and see reasons why your data may be missing.

Note: When opening a saved image, convert it to a PDF or JPEG file. Images are automatically saved as PNG files, but the PNG files may not display clearly.
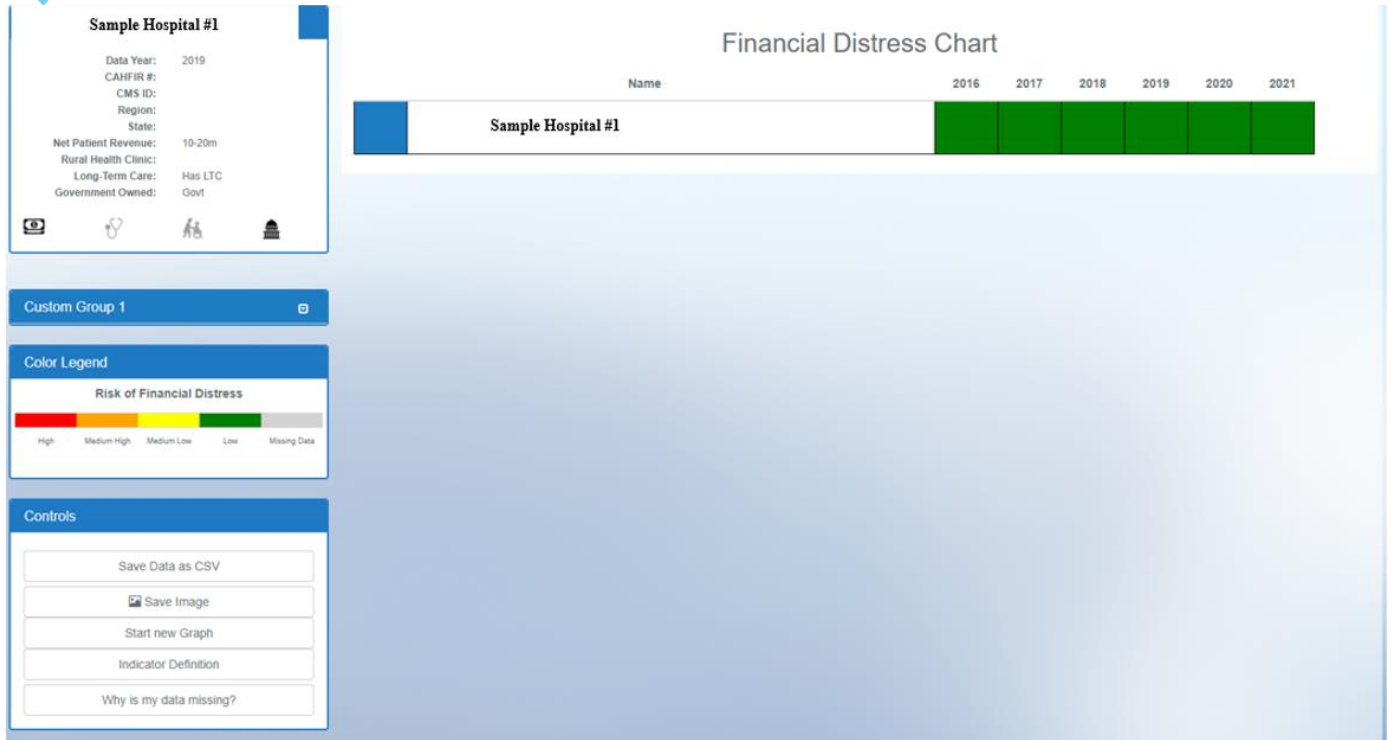
DOWNLOAD HOSPITAL DATA TOOL

1) SELECT DOWNLOAD YOUR HOSPITAL'S DATA TOOL

Another feature of CAHMPAS is the Download Your Hospital's Data Tool. The Download Your Hospital's Data Tool shows the metrics of an individual hospital's financial indicators over time.

Select reporting.
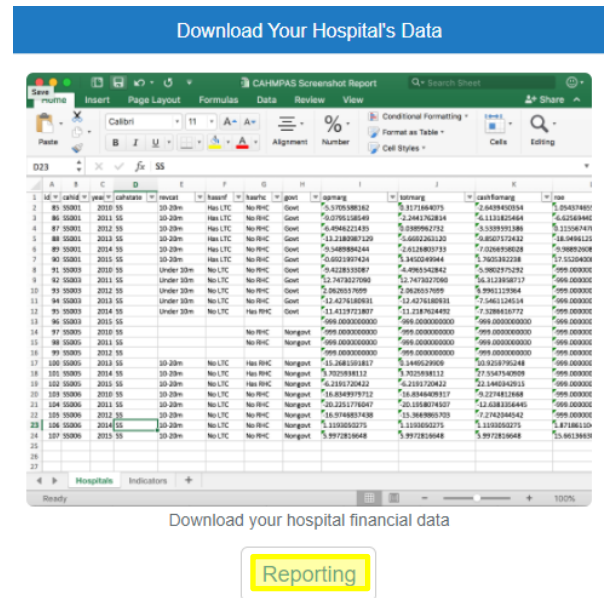
2) DOWNLOAD HOSPITAL DATA TOOL: OVERVIEW

A file named "CAHMPAS Report [your hospital identifier code] [date of download]" will then download. Double click the download to open the file.

On the "Hospitals" tab of the file, the downloadable hospital tool shows results for an individual hospital over time with the following financial indictors:

1. Total margin
2. Cash flow margin
3. Return on equity
4. Operating margin
5. Current ratio
6. Days cash on hand
7. Days net revenue in accounts receivable
8. Equity financing
9. Debt service coverage
10. Long-term debt to capitalization
11. Outpatient revenues to total revenues
12. Patient deductions
13. Medicare inpatient payer mix
14. Hospital Medicare outpatient payer mix
15. Hospital Medicare outpatient cost to charge
16. Medicare acute inpatient cost per day
17. Salaries to net patient revenue
18. Average age of plant
19. FTEs per adjusted occupied bed
20. Average salary per FTE
21. Average daily census swing-SNF beds
22. Average daily census acute beds
23. Financial Distress Index
24. Days gross revenue in accounts receivable
25. Uncompensated care
26. Medicaid payer mix
27. 1-year change in operating expenses
28. 1-year change in operating revenue
29. 3-year change in operating expenses
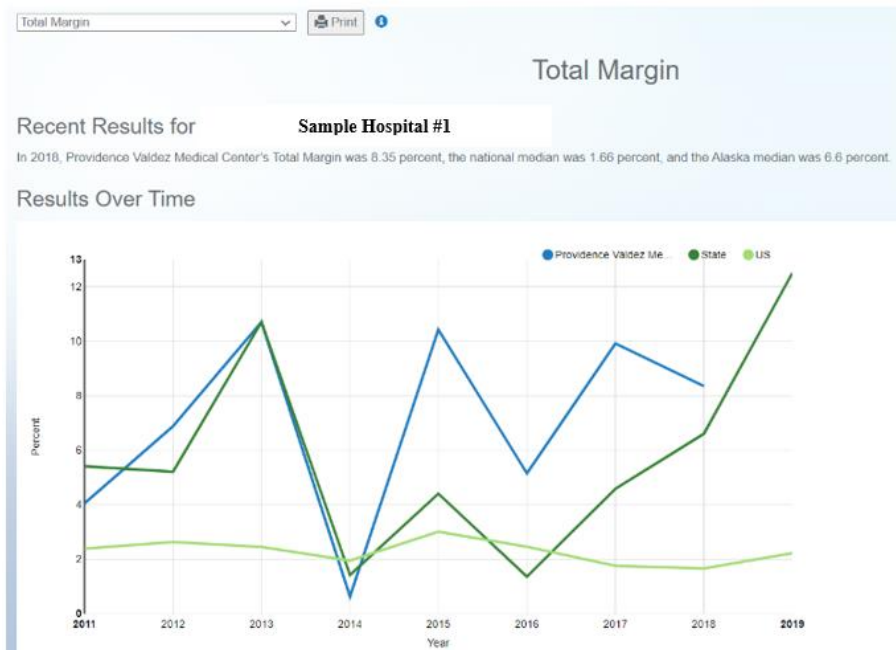30. 3-year change in operating revenue

The second tab, titled "Indicators," provides a list of the financial indicators used in CAHMPAS. Keep in mind, values of -999 represent data that is missing for that hospital or year.

INDICATORS REPORT

1) SELECT THE VIEW INDICATORS REPORT TOOL

Another feature of CAHMPAS is the Indicators Report Tool. The Indicators Report Tool shows the metrics of an individual hospital's financial indicators in comparison to other hospitals. There is also a download indicators report option which will be discussed after view indicators report.

Select View Indicators Report.

2) VIEW INDICATORS REPORT: OVERVIEW

The indicators report shows results for an individual hospital compared to other hospitals at both the state and national level over time with the following financial indictors:

1. Total margin
2. Cash flow margin
3. Return on equity
4. Operating margin
5. Current ratio
6. Days cash on hand
7. Days net revenue in accounts receivable
8. Equity financing
9. Debt service coverage
10. Long-term debt to capitalization
11. Outpatient revenues to total revenues
12. Patient deductions
13. Medicare inpatient payer mix
14. Hospital Medicare outpatient payer mix
15. Hospital Medicare outpatient cost to charge

16. Medicare acute inpatient cost per day
17. Salaries to net patient revenue
18. Average age of plant
19. FTEs per adjusted occupied bed
20. Average salary per FTE
21. Average daily census swing-SNF beds
22. Average daily census acute beds
23. Days gross revenue in accounts receivable
24. Uncompensated care
25. Medicaid payer mix
26. 1-year change in operating expenses
27. 1-year change in operating revenue
28. 3-year change in operating expenses
29. 3-year change in operating revenue

The results over time for the selected indicator are shown in comparison to national and state medians.

3) SET YOUR CRITERIA

You will now need to select your specific financial indicator to look at the results and the associated line graph.

Total Margin

Total Margin

Cash Flow Margin

Return on Equity

Operating Margin

Current Ratio

Days Cash On Hand

Days Net Revenue in Accounts Receivable

Equity Financing

Debt Service Coverage

Long-Term Debt to Capitalization

Outpatient Revenues to Total Revenues

Patient Deductions

Medicare Inpatient Payer Mix

Hospital Medicare Outpatient Payer Mix

Hospital Medicare Outpatient Cost to Charge

Total Margin   🖨 Print ⓘ

Total Margin

Recent Results for   **Sample Hospital #1**

In 2018, Providence Valdez Medical Center's Total Margin was 8.35 percent, the national median was 1.66 percent, and the Alaska median was 6.6 percent.

Results Over Time

4) INDICATOR GRAPH: OVERVIEW

The graph to your right depicts how indicator charts in CAHMPAS may look, with your hospital selected. Utilizing the key at the top right corner of your graph (and enlarged below), you will notice that the blue line represents a single selected hospital, the dark green line represents the state median, and the light green line represents the US median. Note: Colors may vary.
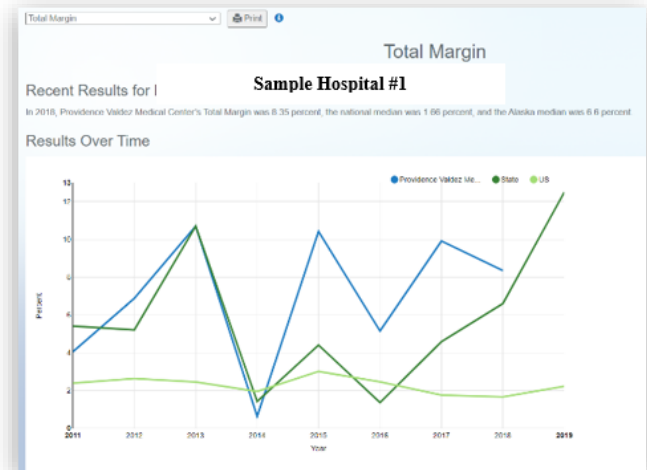
5) DATA TABLE

Below the graph, you will find a table that contains the indicator data by year, also represented in the line graph.

Total Margin (percent)									
	2011	2012	2013	2014	2015	2016	2017	2018	2019
Sample Hospital #1	4.05	6.88	10.7	0.63	10.42	5.15	9.91	8.35	null
Sample State	5.41	5.21	10.7	1.42	4.4	1.36	4.58	6.6	12.5
US	2.39	2.63	2.45	1.95	3.01	2.46	1.76	1.66	2.22

6) UNDERSTANDING YOUR INDICATOR

Underneath the graph and table, you will see the indicator definition, the location of the financial indictor components on the Medicare cost report accounts worksheet, an interpretation explaining how to use the indicator, and information about the quality of the data that may affect whether or not values are missing in the chart and table. The image below shows each of these for the Total Margin indicator.

Definition

Net income / Total revenues

Medicare Cost Report Accounts

Worksheet G-3, line 29 / Worksheet G-3, lines 3 + 25

Interpretation

Total Margin measures the control of expenses relative to revenues. A positive value indicates total expenses are less than total revenues (a profit). Very high positive values may indicate higher patient volumes, which drive down the cost per unit of service. A negative value indicates total expenses are greater than total revenues (a loss). Very high negative values may indicate financial difficulty.

Data Quality/Exclusion Criteria

For hospitals with total revenues of zero or with total margin values greater than or less than 100%/-100%, indicator values were set to missing.

7) PRINT & ALTER YOUR INDICATOR FROM THE GRAPH

To print the page, **you must do so before changing the indicator**. To print, you can click the "print" button to the right of the drop-down menu.

To change your selected financial indictor, click the drop-down arrow on the left side of the screen and select the new financial indicator you would like to view, without returning to any previous screens.
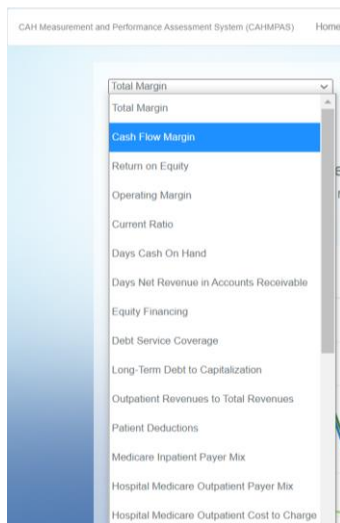
9) SELECT THE DOWNLOAD INDICATORS REPORT

The download indicators report tool allows you to download individual pdf reports for each financial indicator. You can select as little or as many financial indicators as you would like.

Select download Indicators Report.

9) DOWNLOAD INDICATORS REPORT: OVERVIEW

A white "Select Report Settings" box will pop up.

You may check or uncheck boxes based on what types of indicators you want to download. Selected indicators will be downloaded as individual pdfs corresponding to each indicator.

Use the "check all" and "unselect all" button to select and deselect all indicators at once.

Select Download Reports. You will see a reports processing loading screen. Once the report(s) have fully processed, you will see a report ready screen.

A Step-by-Step Guide to Using CAHMPAS

Click "download the zip here" to gain access to a zip file with all of your report(s).

10) VIEWING YOUR REPORT(S)

In the zip file you will see your hospital identifier. Click on your identifier to view the indicator reports for each indicator you selected.

Each indicator will show up as a separate pdf. The downloadable file will contain the indicator graph, a data table, and information that will help you understand your indicator. Refer to the Indicators Report tool instructions for more guidance.

Other questions?

If you have other questions about CAHMPAS refer to the navigation bar where we have links to other resources and frequently asked questions (FAQ)