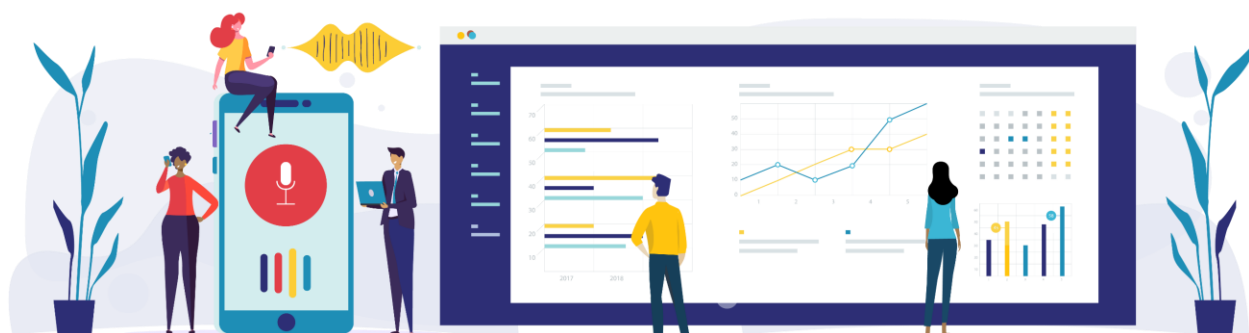


COMMUNITY
ADVOCACY
DASHBOARD

USER GUIDE

How to adapt the Community Advocacy Dashboard for new community-led monitoring initiatives



Contents

ABBREVIATIONS	3
System Requirements.....	4
Tableau Licenses	4
Navigating Tableau	6
Common Words Used in Discussing Tableau.....	6
The Tableau Workspace	8
Fields and Pills	9
Data Requirements	11
Data structure.....	11
Creating relationships between tables	12
Community Scorecard Data Table.....	13
Secondary Data Source Table.....	14
Health Facility Reference List	14
Calculations and Interactivity.....	15
How to Populate the Dashboard with New Data.....	17
Replacing the Sample Data	17
How to Refresh the Data.....	26
Tableau Learning Resources	28

ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
CSC	Community scorecard
CSO	Civil society organization
HIV	Human immunodeficiency virus
KP	Key populations
PEPFAR	President's Emergency Program for AIDS Relief



PEPFAR
U.S. President's Emergency Plan for AIDS Relief



This dashboard was produced with funding from Centers for Disease Control and Prevention (CDC), Division of Global HIV/AIDS & TB (DGHT) under Cooperative Agreement Number U2GGH001531.

Its contents are solely the responsibility of Cardno and Excella and do not necessarily represent the official views of CDC.

System Requirements

Key Takeaways:

- The dashboard is developed in Tableau as a packaged workbook, available for download from Tableau Public.
- If all data being visualized in the dashboard is publicly available and can be public facing, the dashboard can be updated using Tableau Public.
- If ANY of the data being visualized in the dashboard is sensitive and needs to be kept private, updating the dashboard requires the Tableau Creator software license.
- Tableau Creator licenses can be purchased or requested by eligible nonprofits through the Tableau Foundation donation program administered by TechSoup.
- Data can be managed in various formats compatible with Tableau. Additional data requirements are noted in the subsequent section.

The dashboard is available as a Tableau Packaged Workbook (.twbx) for download on ExcellaLabs.com.

To use the dashboard to visualize your scorecard data and related secondary datasets, you will need the following files and programs:

Community Scorecard Dashboard Tableau Packaged Workbook (.twbx)
Tableau Creator License with Tableau Desktop (at least v. 2019.3)

Tableau Licenses

Tableau is an industry leader in data visualization and business intelligence.

1. Nonprofit and Education License Donation Programs

The Tableau Foundation leads a license donation program for eligible non-profits. The current terms and requirements for eligibility are available on the Tableau website¹.

Donated licenses are provisioned by Tableau Foundation partner TechSoup in most countries. In order to request license contributions, the organization must register and be vetted by TechSoup based on current eligibility criteria.

Tips and recommendations when registering:

- ☐ Designate one individual to register with the TechSoup vendor for the country where the nonprofit is registered.
- ☐ Once registered with an individual account, the user completes the registration form and submits the required documents. **Do not have multiple registered individuals submit forms on behalf of an organization.**

¹ More information about Tableau Foundation's license program for nonprofits and a link to the license provisions partner for your country is available at <https://www.tableau.com/foundation/license-donations>

- ❑ After registering, users receive a confirmation of submission page and may be contacted for additional information or documentation. **Delays in responding to any email requests for additional information will slow the validation process.**
- ❑ Check back periodically to see if your organization has been validated and the Tableau license option is available to you. Organizations participating in the dashboard development process found communication from the TechSoup country partners was inconsistent and they were not always alerted regarding status changes.

Note that non-profit organizations that provide clinical care services are ineligible for license donations (as of February 2020, when this framework was compiled).

Community organizations advocating on health-related issues may be eligible though; any organization can apply on the TechSoup platform and an eligibility determination will be made. Academic institutions and students can also apply for Tableau licenses through the company's academic program².

2. Purchase a commercial license

Tableau Desktop is available as part of the Tableau Creator software-as-a-service subscription model from Tableau software. Up to date pricing and licensing terms can be found on tableau.com.

Consider this procurement approach if:

- you have **private data that will be loaded into the dashboard** that cannot be shared on a public server and
- **do not qualify for one of Tableau's license donation programs** for nonprofits or academic institutions.

3. Tableau Public

Tableau Public is a free version of the Tableau Desktop platform that is available for download and use on <https://public.tableau.com/>.

Consider this procurement approach if:

- your CSC data can be accessed by the public and stored on a public-facing server – **any data saved in a Tableau Public workbook is saved on a server anyone can access**
- the data you are loading into the dashboard **do not contain any sensitive data that should not be publicly shared** – data related to sensitive health topics, (e.g., key populations), and data from donor systems (like the PEPFAR MER data) should not be shared in a public facing dashboard
- you want to share and host your dashboard for wide viewing and use with an account on the Tableau Public Gallery (<https://public.tableau.com/en-us/gallery>)

² More information about Tableau's academic program for provisioning licenses to individuals affiliated with or students at institutions of higher learning is available at <https://www.tableau.com/academic>

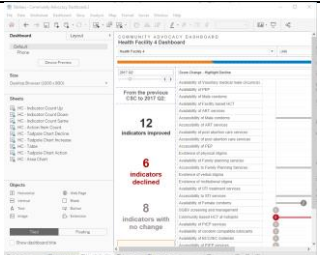
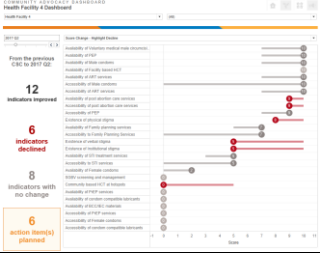

Navigating Tableau

Key Takeaways:

- Tableau allows users to drag and drop “pills” that represent underlying data in order to construct charts on individual worksheets.
- Charts with various filters and interactivity can be combined into dashboards.
- On the Tableau interface, color is used as a guide. For example, the color of the pills denotes if a field is continuous or discrete, and references to fields within calculations appear in color to indicate what kind of field is being referenced.
- Calculated fields are used to create additional dimensions and measures not originally in the data set. Think of them like the Tableau equivalent of typing a VBA formula into a cell within Excel and returning a number, but they can be applied in much more flexible ways.

Tableau is a visual analytics software product that can feel a bit disorienting when first learning to use the platform. Understanding the words used in Tableau and how to navigate the interface will help with adapting the dashboard to your own purposes.

Common Words Used in Discussing Tableau

Word	What it means in Tableau...	
Workbook	The entire .twb or .twbx file that is created by Tableau, which includes dashboards, sheets, data, and the visuals created. A workbook can contain multiple dashboards and worksheets .	
Dashboard	A collection of charts, text, and images on a single view. A dashboard can include multiple worksheets .	
Worksheet	An individual chart created in Tableau, used to construct a dashboard. Each workbook can have many marks .	

Marks

The dots, lines, bars, text, or other physical representations of data on the screen. The Marks Card in Tableau allows users to customize how these marks are displayed.



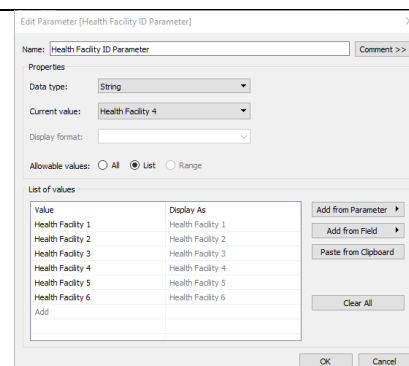
The example at right has marks in the form of orange dots and a line with shaded area – two different ways of encoding information.

Pill

When adding Dimensions or Measures (fields in your data) to a Worksheet, the fields look like green and blue “pills” that can be moved around the pane.

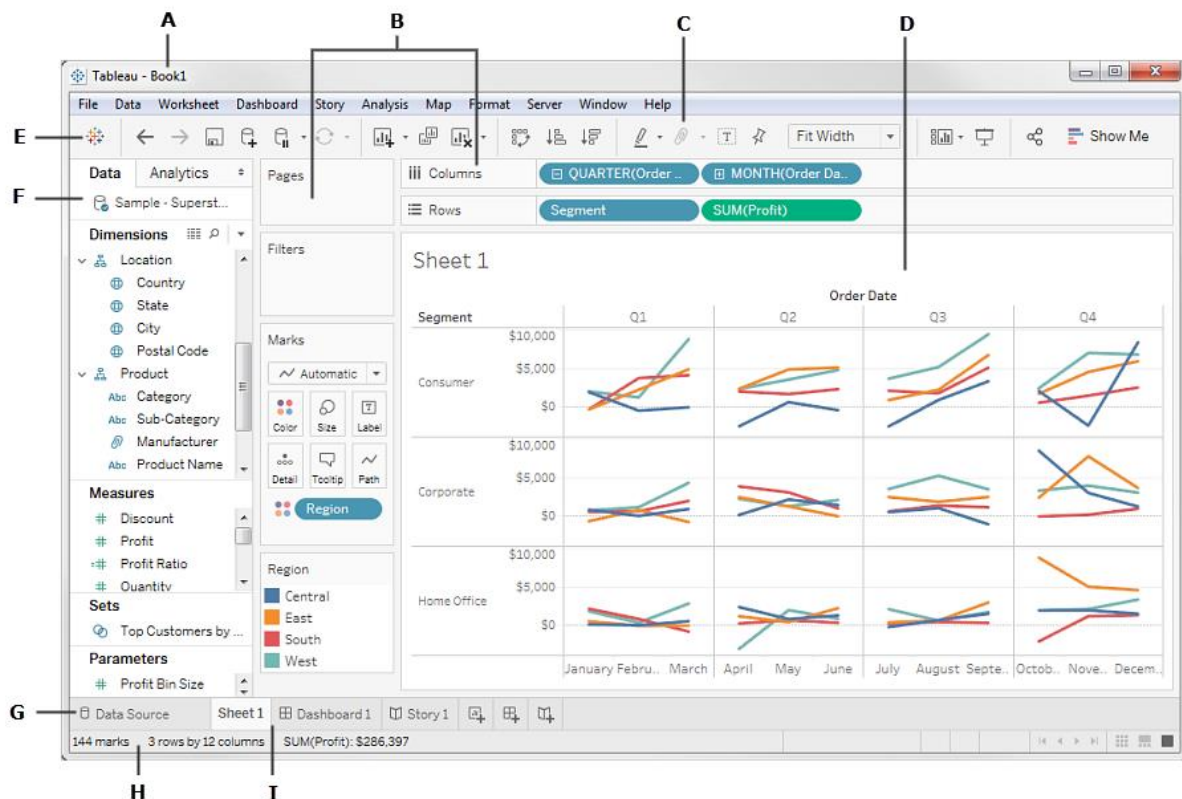
**Parameter**

A set of values defined by the developer creating the workbook, which can be used in calculated fields.

**Packaged workbook**

A .twbx file created by selecting a special export option from the file menu which packages the underlying dataset with the workbook.

The Tableau Workspace



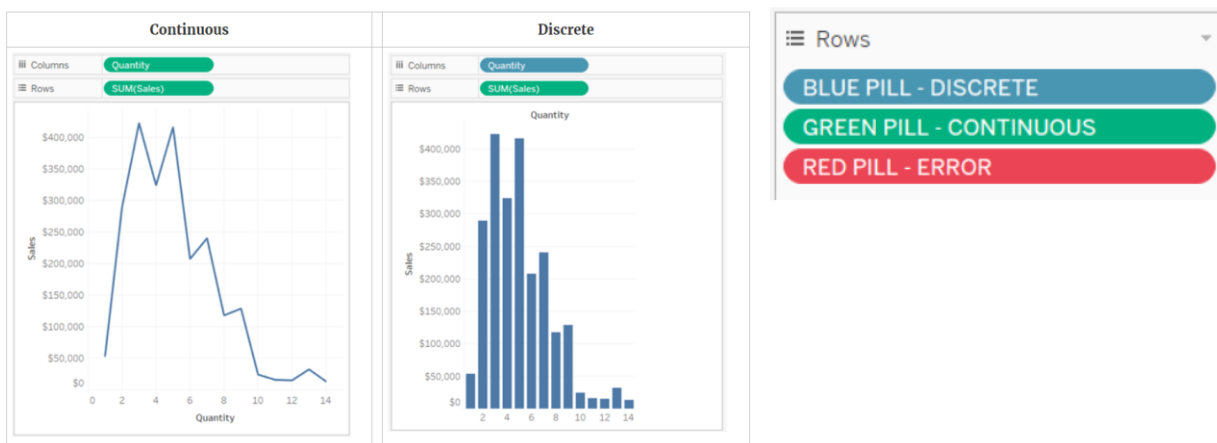
- A. **Workbook name:** A workbook contains sheets. A sheet can be a worksheet, a dashboard, or a story.
- B. **Cards and shelves:** Drag fields to the cards and shelves in the workspace to add data to your view.
- C. **Toolbar:** Use the toolbar to access commands and analysis and navigation tools.
- D. **View:** This is the canvas in the workspace where you create a visualization (also referred to as a "viz").
- E. **Click this icon to go to the Start page**, where you can connect to data. For more information, see Start Page.
- F. **Side Bar:** In a worksheet, the side bar area contains the Data pane and the Analytics pane.
- G. **Click this tab to go to the Data Source page and view your data.** For more information, see Data Source Page.
- H. **Status bar:** Displays information about the current view.
- I. **Sheet tabs:** Tabs represent each sheet in your workbook. This can include worksheets, dashboards, and stories.

Fields and Pills

Continuous v. Discrete Data

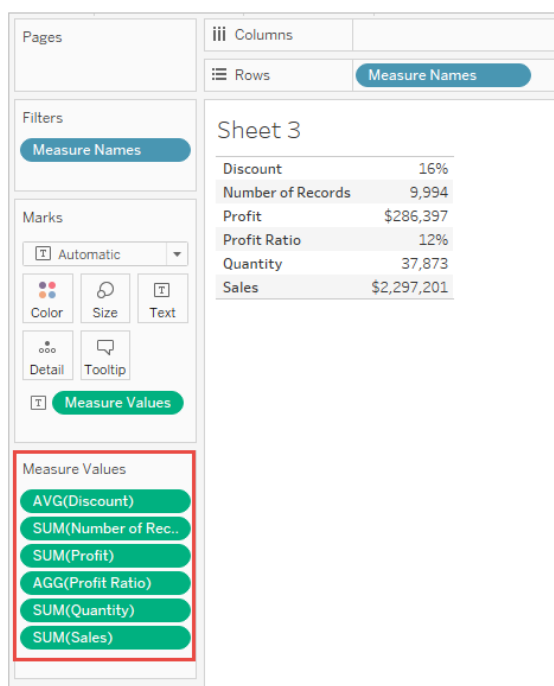
Continuous means ‘forming an unbroken whole, without interruption’. Continuous values are treated as an infinite range.

Discrete means ‘individually separate and distinct’. Discrete values are treated as finite



Default fields: Measure Names and Measure Values

Measure Names and *Measure Values* are two fields that are automatically generated in Tableau using your data.



The **Measure Values** field always appears at the bottom of the Measures area in the Data pane and contains all the measures in your data, collected into a single field with continuous values. Drag individual measure fields out of the Measure Values card to remove them from the view.

The **Measure Names** field always appears at the bottom of the Dimensions area in the Data pane and contains the names of all measures in your data, collected into a single field with discrete values.

Calculated Fields

Calculated Fields work similarly to Excel. They allow you to go deeper with the analysis in your dashboard as well as increase interactivity.

In the editing window, Tableau color codes the functions used for simplicity:

Blue – Table Functions built into Tableau

Orange – Dimension or Measure (Whether from the data or another calculated field)

Purple – A parameter





Data Requirements

Key Takeaways:

- The dashboard requires data from the community scorecard be stored in an Excel file or database where each record (row) represents the score for one measure on a given date at a given place.
- Additional data sources to be added to the dashboard to compare trends **must have a primary key of health facility name and date** to create the relationship between the scorecard dataset and the additional datasets.
- When replacing the sample data in the workbook with your community-led monitoring data and secondary sources, ensure the **field names remain the same**. This allows Tableau to populate the charts with your data without requiring additional modifications.

Data structure

To prepare data for analysis and visualization, data tables need to be organized such that a computer program like Tableau can read the file.

The data in the Community Advocacy Dashboard relies on three data tables:

1. CSC Data
2. Secondary Data
3. Health Facility Attributes

In the Community Scorecard and Secondary Source data tables, each **record** (row) represents **date** (when), **health facility ID** (place), and **measure** (indicator) and the associated **score**.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Source	Date	Health Facility	Indicator	Score	Comment	Suggestion	Action	Action_Leve	Action_Responsibl	Action_Deadlin	Action Statu
2	CSC	1/1/2017	Health Facility 1	Availability of Female condoms	2	Stocked out for nearly a month						
3	CSC	1/1/2017	Health Facility 1	Availability of Male condoms	5	Low stock on hand						
4	CSC	1/1/2017	Health Facility 1	Accessibility of Female condoms	1	Limited stock, hard to access						
5	CSC	1/1/2017	Health Facility 1	Accessibility of Male condoms	1	Must be requested from nurse	Explain what could be done he	Set up a dispensary box outside the clinic for after hours access	Community	Person A	3/31/2017	Planned
6	CSC	1/1/2017	Health Facility 1	Availability of condom compatible lubricants	0	Not stocked	Explain what could be done he	Request from District distribution	District	Person B	3/31/2017	Planned
7	CSC	1/1/2017	Health Facility 1	Accessibility of condom compatible lubricants	0	Not stocked						
8	CSC	1/1/2017	Health Facility 1	Availability of PrEP services	0	PrEP not offered at the clinic	Explain what could be done he	Request from District distribution	District	Person B	3/31/2017	Planned
9	CSC	1/1/2017	Health Facility 1	Accessibility of PrEP services	0	PrEP not offered at the clinic	Explain what could be done he	Conduct in-service training on incorporating PrEP	Community	Person A	3/31/2017	Cancelled
10	CSC	1/1/2017	Health Facility 1	Availability of PEP	4	Intermittent stockouts a concern						
11	CSC	1/1/2017	Health Facility 1	Accessibility of PEP	4							
12	CSC	1/1/2017	Health Facility 1	Availability of Voluntary medical male circumc	2	Trained provider left for a different district						
13	CSC	1/1/2017	Health Facility 1	Availability of BCC/IEC materials	0	No budget for printing						
14	CSC	1/1/2017	Health Facility 1	Availability of Facility based HCT	10							
15	CSC	1/1/2017	Health Facility 1	Community based HCT at hotspots	5	Only two outreaches last quart	Explain what could be done he	Set up standing HCT outreach biweekly	Community	Person A	3/31/2017	Cancelled
16	CSC	1/1/2017	Health Facility 1	SGBV screening and management	0							
17	CSC	1/1/2017	Health Facility 1	Availability of ART services	5	Commodity disbursement delayed						
18	CSC	1/1/2017	Health Facility 1	Accessibility of ART services	3	Clinic hours are too limited	Explain what could be done he	Expand hours by identifying	Community	Person C	3/31/2017	Complete
19	CSC	1/1/2017	Health Facility 1	Availability of STI treatment services	4							
20	CSC	1/1/2017	Health Facility 1	Accessibility to STI services	4							
21	CSC	1/1/2017	Health Facility 1	Availability of Family planning services	5	Limited mix of family planning	Explain what could be done he	Pharmacist to request expanded method mix	District	Person C	3/31/2017	Complete
22	CSC	1/1/2017	Health Facility 1	Accessibility to Family Planning Services	5							

When adapting the dashboard for a new community-led monitoring effort, **keep the field names (column headers) exactly the same** as in the sample data. This enables Tableau to replace the sample data (like the CSC scores for an indicator) with the values you have collected.

Creating relationships between tables

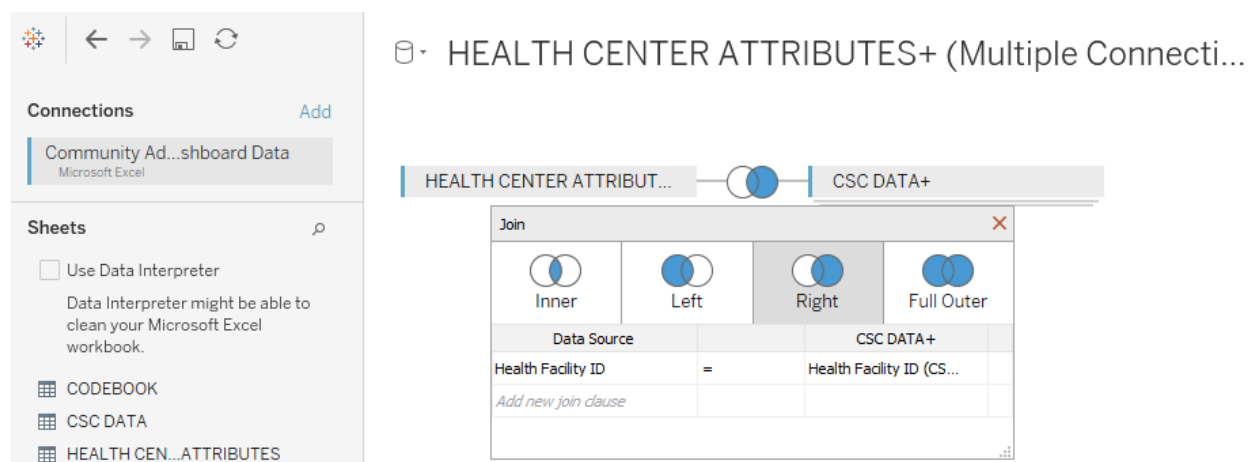
Tableau allows users to blend data from different tables with a drag-and-drop interface on the Data Source pane.

In the workbook, the Health Facility Attributes are joined to the indicator data tables from the scorecard (CSC DATA) and the secondary indicators (SECONDARY DATA).

In using a **right join** based on the field **Health Facility ID**, Tableau identifies the attributes associated with each Health Facility and assigns those values to each record for the same Health Facility. This enables filtering based on these attributes in the dashboard.

Using a dashboard development tool like Tableau has an added benefit of recognizing that fields with the same

A training video is provided to show how data tables are combined within Tableau.



You can read more about how to combine tables in Tableau on the Knowledge Base:
https://help.tableau.com/current/pro/desktop/en-us/joining_tables.htm

Community Scorecard Data Table

Field Name	Data type	Definition
Source	String	In the CSC Data table, the source should be noted as CSC for all records.
Date	Date	Date on which scorecard was conducted. If process was multiple days, date is first day of scorecard.
Health Center ID	String	Name of Health Center where scorecard is being conducted. Must be a unique name or ID code assigned to the health facility, preferably following the syntax of the country's master facility list.
Indicator	String	See reference list of community scorecard indicators
Score	Integer	Integer value (0-10) representing the score for the indicator
Comment	String	Qualitative remarks explaining the score
Suggestion	String	Qualitative remarks proposing changes to improve the indicator score
Action	String	Action item identified by the community to address low score
Level	String	Identify the level at which the advocacy action will be taken as one of the following: COMMUNITY DISTRICT REGION (e.g., provincial or national)
Responsible	String	Name of person, group, or role responsible for completing the planned action item
Status*	String	Specify status of action item as: PLANNED – Action item is planned or in-progress IN-PROGRESS – Action item is underway ON-HOLD – Action item started and has been stopped temporarily COMPLETE – Action item is complete CANCELLED – Action item has been cancelled
Date Status Updated*	Date	Document the date the status was last updated.

**To enable tracking of which Action Items were completed, CSC data from the previous scorecard should be reviewed and status updated in the dataset as part of the standard operating procedures for the scorecard. As the community-led monitoring process is designed to be flexible and shaped by each organization, note that removing these columns will not impact the overall functionality of the dashboard.*

Secondary Data Source Table

Field Name	Data type	Definition
Source	String	Data source name. For example, “Input Tracker”, or “MER”. This field enables the developer to filter views to show only measures from a single source (for example, only displaying indicators from MER).
Date	Date	Date on which scorecard was conducted. If process was multiple days, date is first day of scorecard.
Health Facility ID	String	Name of Health Center where scorecard is being conducted. Must be a unique name or ID code assigned to the health facility, preferably following the syntax of the country’s master facility list.
Category	String	Overall classification the indicator belongs to, often defined in the data source. For example, in MER data, HTS_INDEX belongs to HIV Testing.
Sub-category	String	If applicable, an additional level of classification can be defined. For example, for data from the Input Tracker, Commodity (Category) indicators can be assigned to “Stock Room” or “LMIS” to indicate where the count was taken from.
Indicator	String	See reference list of community scorecard indicators
Score	Integer	Integer value for the indicator. Where values are intended to be viewed as percentages, notation should be in the decimal format (e.g. 70% would be written in the data set as 0.70).

Health Facility Reference List







Field Name	Data type	Definition
Date	Date	Date on which scorecard was conducted. If process was multiple days, date is recorded as the date of the consensus scoring discussion.
Health Facility ID	String	Name of Health Center where scorecard is being conducted. Must be a unique name or ID code assigned to the health facility, preferably following the syntax of the country’s master facility list.
Sub-National 1	String	Name of first sub-national unit the facility is associated with, e.g. Region
Sub-National 2	String	Name of second sub-national unit the facility is associated with. Should be one level or more below Sub-National 1 . For example, if Sub-National 1 is Region, then Sub-National 2 could be District. Align within your organization on how to use these fields.
Level	String	Health facility level, reflecting the national classifications and standards

Calculations and Interactivity

The Tableau dashboard has been designed for simple adaptation and reuse by community organizations and does not require advanced knowledge of Tableau.

<p>Dimensions</p> <ul style="list-style-type: none"> > Calculated Dimensions > Data Source > Data Source - CSC > Data Source - Property Attributes > Data Source - Secondary Data > Parameter Controls <p>Abc <i>Measure Names</i></p>	<p>Dimensions provide information about the data: where and when data was collected and categorical information (like advocacy action status). In addition, dimensions are often used to define filter logic and enable parameter controls.</p> <p>In the workbook, dimensions are sorted into three folder type:</p> <ol style="list-style-type: none"> 1. Calculated dimensions – calculated fields 2. Data Source (<i>multiple</i>) – fields directly from the data source or a group distilled from the data source (e.g. Indicator Category) 3. Parameter Controls – dimensions used to filter views based on the selection on a parameter <p><i>Measure Names</i> is in every Tableau workbook and can be used to create sets to limit views to subsets of available measures. None of the views in the dashboard use the “Measure Names” field.</p>
---	---

<p>Measures</p> <ul style="list-style-type: none"> > Chart Layout Calculations > Compare to Previous > Data Source =# <i>Number of Records</i> # <i>Measure Values</i> 	<p>Measures are quantitative values in the workbook.</p> <p>In the workbook, measures are sorted into three folders:</p> <ol style="list-style-type: none"> 1. Chart Layout Calculations – calculations created for the purpose of setting up a chart. 2. Compare to Previous – calculations to isolate a CSC score, previous score, and the difference between those two values. 3. Data Source – measures sourced directly from the data source <p><i>Number of Records</i> and <i>Measure Values</i> are defaults in every Tableau workbook. None of the views in the dashboard use either of these fields.</p>
--	---

Parameters  CSC Indicator Parameter  Health Facility ID Parameter  Reference Band - Low Score  Secondary Data Parameter  Select Health Center View  Selected Date Parameter	<p>Parameters are global placeholder values created within a workbook. In the workbook, the parameters are used for:</p> <ol style="list-style-type: none">1. Creating filters2. Defining reference bands on charts3. Changing which chart is displayed on the Health Facility Dashboard <p>Read more about parameters in Tableau here: https://help.tableau.com/current/pro/desktop/en-us/parameters_create.htm</p>
--	--

DATA COLLECTION	DATA MANAGEMENT	DATA VISUALIZATION	DATA ANALYSIS	DATA USE
SCORECARD		DASHBOARD		ADVOCACY

How to Populate the Dashboard with New Data

Key Takeaways:

- **Compile your data** in the recommended format **with the same field names** as those provided in the template.
- Ideally, create a system for **capturing and managing data in the same format** to minimize the level of effort required for data transformation.
- Replace the sample data with your scorecard data and the secondary data being used for comparison.
- **Edit parameters and groups** to reflect your data.
- Conduct a **quality assurance check** on the data.
- Refer to the **video references** for additional how-to's and troubleshooting.

The Tableau dashboard has been designed for simple adaptation and reuse by different organizations and scorecards.

While some standardization in each country creates increased opportunities for data sharing across organizations, scorecards are likely to have different measures depending on the scope and goals of the organization conducting community-led monitoring activities.

For the purpose of developing the sample workbook, three data tables are used:

Community scorecard data table (.csv or .xls)

Secondary data source data table (.csv or .xls)

Health Facility Reference Table (.csv or .xls)

A sample workbook that includes all three tables is provided with the workbook. Any CSO can replace the sample data with their scorecard data and use the workbook to refresh the dashboard. In addition short videos are provided of each step.

Replacing the Sample Data

1. Identify your data sources

The dashboard is designed to visualize data from multiple sources in one dashboard. The scorecard data is intended to be the primary data source to which all the other data sources are aligned.

For the purpose of updating the dashboard as designed, identify the following data sources from your organization's scorecard sessions and the associated data **for the same health facilities and the same data collection time periods**:

- **Community scorecard data set**, including your Advocacy Action Plan information
- **Secondary data set** for any additional information you want to use
- **Health facility attributes** that provide additional information about the locations (e.g. service level, region, district, etc.)

2. Transform your data to a normalized structure with standard headers.

Each data source **must** follow a normalized structure with the following names in the first row of the data table on each sheet.

Each record (row) in your dataset will have the value for one metric for one data source for one point in time. Functionally, this means a scorecard with 20 metrics will have 20 records for each facility for each point in time (e.g. quarter). This may be different from how you are accustomed to managing data, with a very wide table with a column for each indicator.

To adapt the dashboard with your own data, the data table must to be formatted in the defined table structure in order to be readable by a computer program (Tableau), rather than being formatted as an easy to read table for a human.

A simple example of normalized data set would have a record for each date-location-indicator combination that was applicable. A similar structure, with additional information like Action Item or Category, is used for the **CSC Data** and **Secondary Data** tables.

Data source	Date	Health Center ID	Indicator	Value
Name of the dataset (CSC, MER, Input Tracker)	MM-DD-YYYY	Unique code to identify a health center – should be taken from the Master Facility List	Full name of the metric (e.g. "Availability of PrEP")	Integer value for the metric

The required data structure creates long, rather than wide, data tables with two key advantages:

1. The long format makes it more efficient for Tableau to run queries and populate the visualizations when you select filters on the dashboard.
2. Having the indicators listed within a single field maximizes the flexibility for displaying different indicators based on user selections.

Do not add "N/A" or any additional text to the Action field, as the calculations for the number of action items planned counts the number of records with any data in this field. If you add N/A or other filler text, the count will be incorrect. While Tableau has some text analytics

capabilities, as a software program it cannot tell the difference in meaning between different data points – in the calculations, the tool is simply looking for the presence or absence of information.

3. Conduct a quick data quality check to ensure you have the required fields to create a relationship between your datasets

At a minimum, the fields [Date] and [Health Center ID] must exist in both datasets. For this reason, blending in data from sources at different levels of granularity (for example, regional or national data) does not work in this workbook.

4. Open the Tableau Packaged Workbook

5. Direct Tableau where to find your data. On the Data Source pane, click on the down arrow on the Connection and select “Edit Connection.” Then, select the file where the new data is stored.

The screenshot shows the Tableau interface for the 'Community Advocacy Dashboard'. The 'Connections' pane on the left lists 'Community Ad...shboard Data' (Microsoft Excel). A context menu is open over the connection, showing 'Edit Connection...', 'Rename', and 'Remove'. The main view displays a table titled 'HEALTH CENTER ATTRIBUTES+ (Multiple Connect...)' with columns: Source (CSC DAT...), Date, Health Facility ID (...), Indicator, Score, Comment, Suggestion, and Action. The table contains 10 rows of data. The bottom pane shows the 'Data Source' tab selected, with a list of worksheets: HOME PAGE, Health Facility, Action Plan, Health Facility Comparison, Advocacy, and Sheet 24.

Source (CSC DAT...)	Date	Health Facility ID (...)	Indicator	Score	Comment	Suggestion	Action
CSC	1/1/2017	Health Facility 1	Availability of Female...	2	Stocked out for nearl...	null	nul
CSC	1/1/2017	Health Facility 1	Availability of Male c...	5	Low stock on hand	null	nul
CSC	1/1/2017	Health Facility 1	Accessibility of Femal...	1	Limited stock, hard to...	null	nul
CSC	1/1/2017	Health Facility 1	Accessibility of Male ...	1	Must be requested fr...	Explain what could be...	Set up a dispe
CSC	1/1/2017	Health Facility 1	Availability of condo...	0	Not stocked	Explain what could be...	Request from
CSC	1/1/2017	Health Facility 1	Accessibility of condo...	0	Not stocked	null	nul
CSC	1/1/2017	Health Facility 1	Availability of PrEP se...	0	PrEP not offered at th...	Explain what could be...	Request from
CSC	1/1/2017	Health Facility 1	Accessibility of PrEP s...	0	PrEP not offered at th...	Explain what could be...	Conduct in-se
CSC	1/1/2017	Health Facility 1	Availability of PEP	4	Intermittent stockout...	null	nul
CSC	1/1/2017	Health Facility 1	Accessibility of PEP	4	null	null	nul
CSC	1/1/2017	Health Facility 1	Availability of Volunt	2	Trained provider left f	null	nul

6. Replace the sample data tables with your data tables.

Each dataset can be left joined to the Health Facility Attributes table.

Tableau - Community Advocacy Dashboard

File Data Server Window Help

Connections [Add](#)

Community Ad...shboard Data
Microsoft Excel

Sheets [p](#)

☐ Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.

[CODEBOOK](#)
[CSC DATA](#)
[HEALTH CEN...ATTRIBUTES](#)
[READ ME](#)
[REFERENCE LIST](#)
[SECONDARY DATA](#)

[New Union](#)

CSC DATA+ (Community Advocacy Dashboard Da...

Connection ☐ Live ☒ Extract [Edit](#) [Refresh](#) Filters **0** | [Add](#)
Extract will include all data.

CSC DATA **HEALTH CENTER ATTRIBUT...**

Join

Inner Left Right Full Outer

Data Source HEALTH CENTER ATTRI...

Health Center ID = Health Center ID (HE...
Add new join clause

Sort ☐ Show aliases ☐ Show hidden fields 780 rows

CSC DATA	Abc CSC DATA	Abc CSC DATA	# CSC DATA	Abc CSC DATA	Abc CSC DATA	Abc CSC DATA	Abc CSC DATA	CSC DATA
Date	Health Center ID	Scorecard Measure	Score	Comment	Action	Action Level	Action Responsible	Action Deadline
1/1/2017	Bulopa HC III	Availability of Female...	2	Stocked out for nearl...	null	null	null	null
1/1/2017	Bulopa HC III	Availability of Male c...	5	Low stock on hand	null	null	null	null
1/1/2017	Bulopa HC III	Accessibility of Femal...	1	Limited stock, hard to...	null	null	null	null
1/1/2017	Bulopa HC III	Accessibility of Male ...	1	Must be requested fr...	Set up a dispensary b...	Community	Person A	3/31/2017
1/1/2017	Bulopa HC III	Availability of condo...	0	Not stocked	Request from District...	District	Person B	3/31/2017
1/1/2017	Bulopa HC III	Accessibility of condo...	0	Not stocked	null	null	null	null
1/1/2017	Bulopa HC III	Availability of PrEP se...	0	PrEP not offered at th...	Request from District...	District	Person B	null
1/1/2017	Bulopa HC III	Accessibility of PrEP s...	0	PrEP not offered at th...	Conduct in-service tra...	Community	Person A	null
1/1/2017	Bulopa HC III	Availability of PEP	4	Intermittent stockout...	null	null	null	null
1/1/2017	Bulopa HC III	Accessibility of PEP	4	null	null	null	null	null

[Go to Worksheet](#)

Data Source **Sheet1** [+](#) [-](#) [↕](#) [↕](#)

Amanda Mak...

Additional information about other approaches to combining different data sources in one Tableau workbook is available on the Tableau Knowledge Base. Complex data transformations are not required for this workbook, but can be managed with Tableau Prep³.

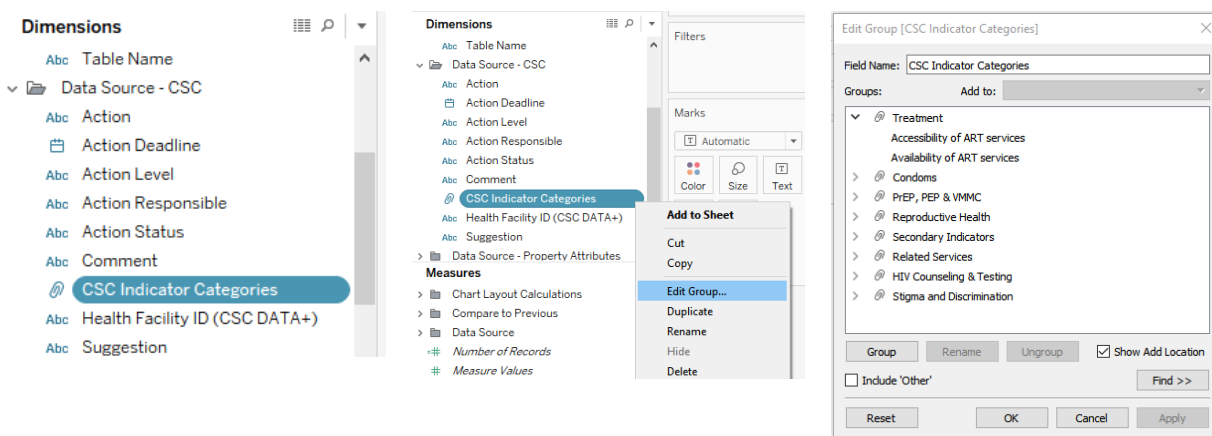
³ https://help.tableau.com/current/prep/en-us/prep_combine.htm

7. **Update the field [CSC Indicator Categories] with the category groupings you want to use for your analysis. This will only need to be done the first time you update the data.**

Navigate to the **Dimensions** > **Classifications** folder on the “Data” pane.

Click on the arrow menu for **[Indicator Category]** and select **“Edit Group”**

Assign your scorecard measures to the groups of interest, name each group, and click “OK”.⁴



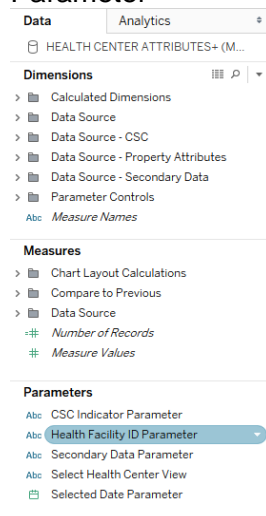
Once the Indicator Category group has been edited to reflect your list of measures, it will only need to be edited if you want to a) change the classifications or b) add new measures.

To validate that your changes to the [Indicator Category] have been saved successfully.

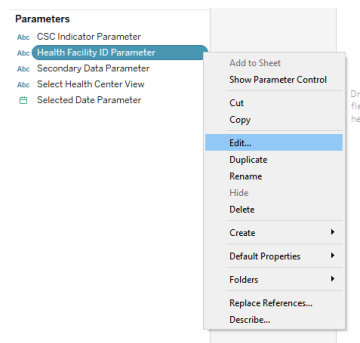
⁴ Read more about creating and editing groups within Tableau:
https://help.tableau.com/current/pro/desktop/en-us/sortgroup_groups_creating.htm

8. Update the Health Facility ID Parameter with the values from your dataset.

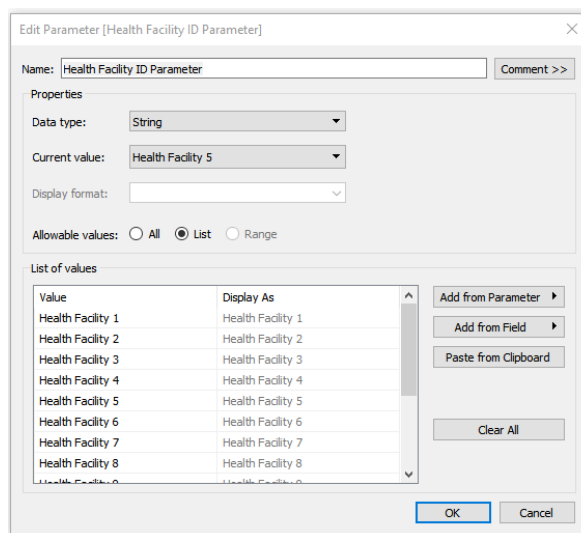
Navigate to
Parameters >
Health Facility ID
Parameter



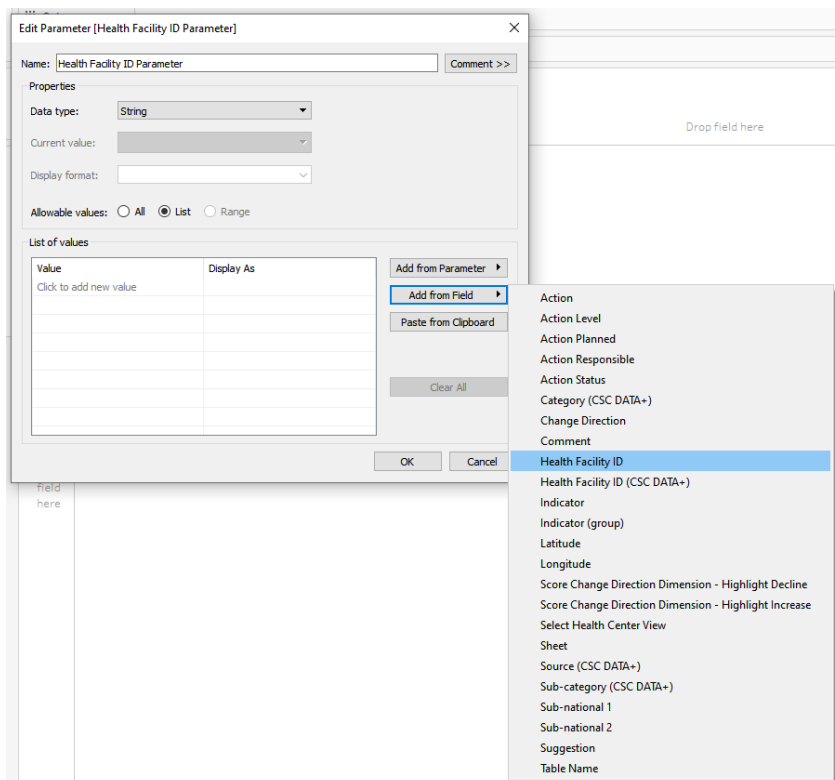
Left click on the arrow to
view the menu and click
“Edit”



A menu window will appear. Left click
“Clear All” to remove the existing values
from the sample data source.

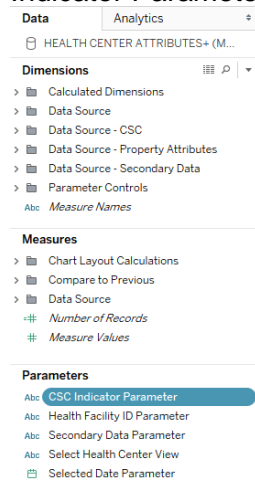


Then, click **“Add from Field”** and select **“Health Facility ID”**. Click **“OK”** to save the changes.

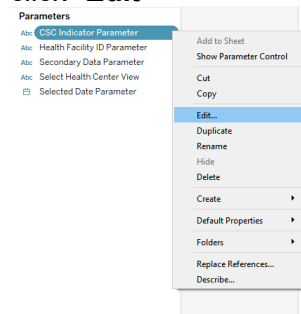


9. Update the CSC Indicator Parameter with the values from your dataset.

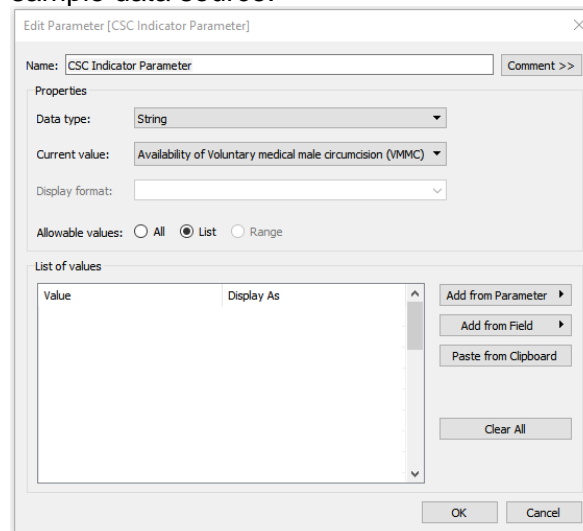
Navigate to
**Parameters > CSC
Indicator Parameter**



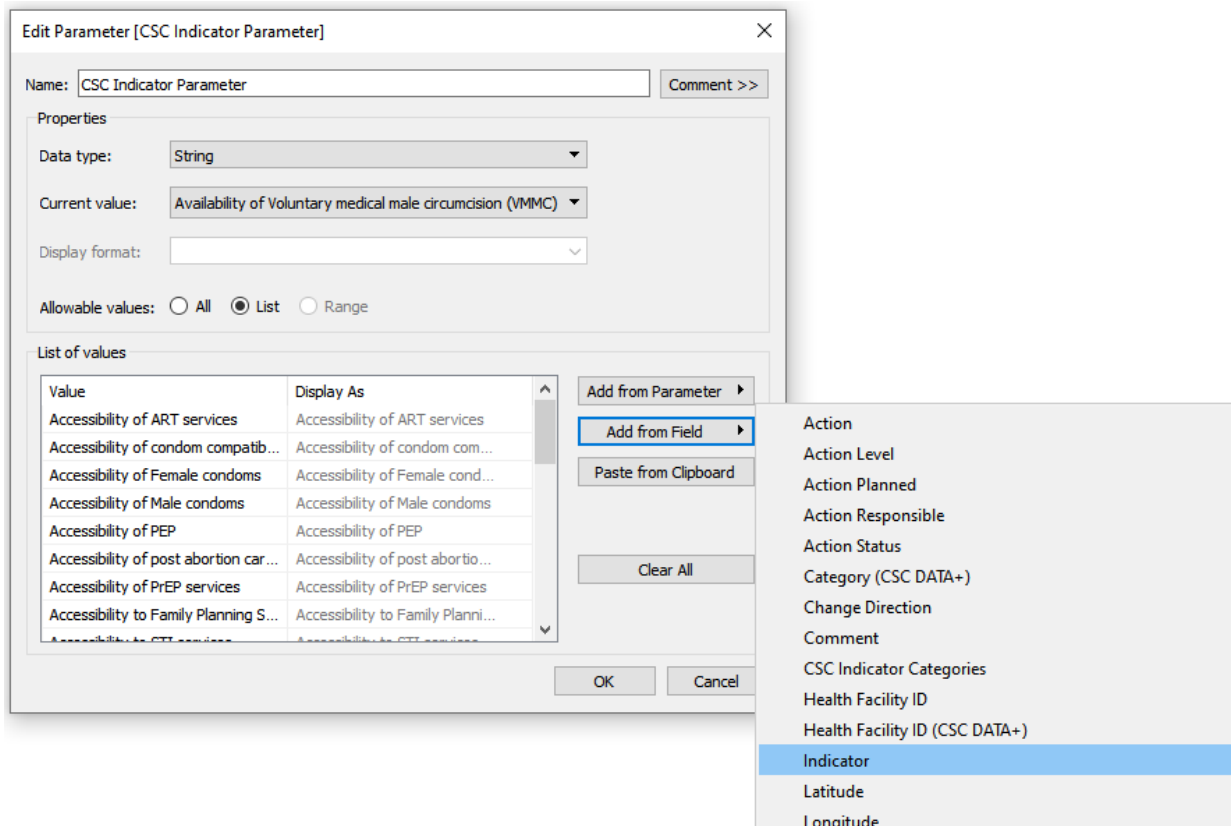
Left click on the arrow to view the menu and click **“Edit”**



A menu window will appear. Left click **“Clear All”** to remove the existing values from the sample data source.

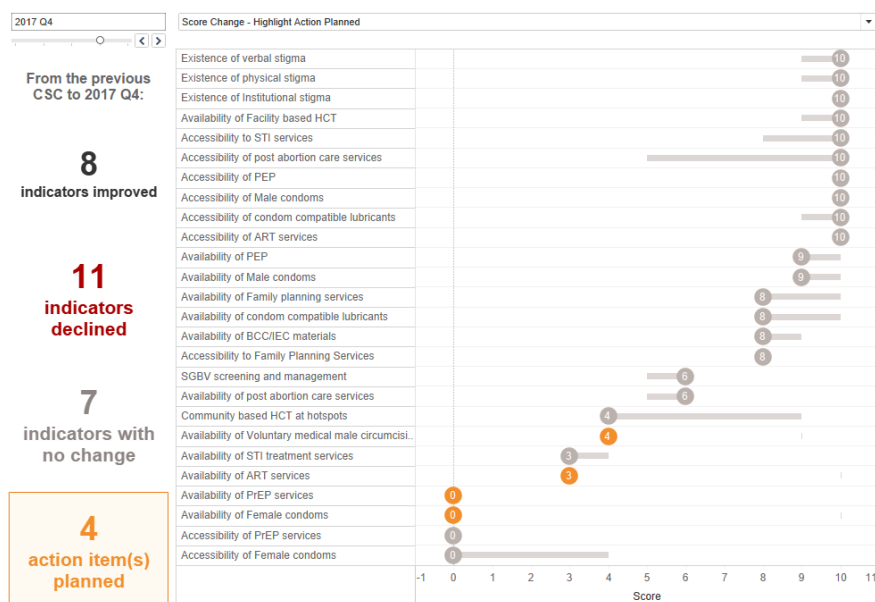


Then, click **“Add from Field”** and select **“Indicator”**. Click **“OK”** to save the changes.



10. Navigate to the first dashboard and conduct a spot check to ensure your data has correctly populated the dashboard

- **Health Facility Dashboard:** On the drop down menu for “Health Center” on the health center dashboard, check to confirm the list of available values reflect the Health Center ID values in your data source that you populated into the Health Center ID Parameter.
- **Health Facility Dashboard:** Select “Score change – Highlight Action Planned” and compare the number of orange dots to the count of action items planned in the lower left corner of the dashboard.



11. Conduct a thorough data quality check*

Data quality is critical to having a usable dashboard. Throughout the process of capturing, managing, and visualizing data, you should create your own quality assurance standards.

Basic guidelines for quality assurance when updating a dashboard include:

1. **Check against source data:** Spot check raw data from your workbook to your source data, to ensure the data is being pulled into the workbook correctly and any relationships you've built between tables in Tableau are operating as expected.
2. **Check for glaring data quality errors:**
 - Look for values outside of the expected range.
 - For example, if your scorecard only captures values from 0-10 but you see a value of “20”, it's likely a data quality error.
 - If the change between two scorecards is outside of what is feasible (for example, a change of +100)

- Check to see if the anomalies are in the source data (your table of scorecard values) or are due to an issue in the calculations inside of your dashboard.
 - Source data errors typically results from incorrect data entry. Fix the error in the data source and then refresh the workbook.
 - Calculation based errors can occur either when the
- Correct these before moving on in your QA process if you find any.
- 3. **Check for logical inconsistencies:** Check each dashboard for logical inconsistencies.
 - For example, on the Health Facility Dashboard compare the count of advocacy actions in the lower left corner to the
- 4. **Check your calcs:**
 - Spot check each calculated field against doing the calculation on your own.
 - This may vary depending on the calculation --- for an AVG, you can do the calculation in Excel or on a calculator; for a count, you can open the data table and do your own count of the rows.
- 5. **Check your filters and actions:**
 - Make different selections in each filter on each dashboard and ensure
 - the filters are acting on the correct worksheets / dashboards and
 - the values displayed at the new level of detail are correct.

Some additional process notes:

- **Two step review:** You should carry out these steps (and more granular review, if the priority level merits the additional time spent) yourself. Then, give your packaged workbook to a colleague to do the same checks. We're all human and make mistakes or miss things because we've been looking at the same set of displays for a long time.
- **Create efficiencies in your process:** Set up sheets dedicated to data quality checks on calculations and to make checking against source data more seamless. For example, if a dashboard has a large number of period-over-period calculations in tooltips and labels, consider creating a data quality sheet with a table view with the values for this period, last period, and the change. Ensure your data quality table has the same filters as your dashboard.
- **Documentation:** For dashboards that are delivered on a recurring basis, the set of quality checks undertaken needs to be documented as a quality-assurance (QA) checklist. This list can be helpful in delegating QA to team members where needed, ensuring clarity on QA expectations, and communicating about our QA process to the collaborators.

12. Publish the updated dashboard

Where and how you publish and share the dashboard will depend on your organization's approach.

If publishing for internal sharing and use, either share the packaged workbook with colleagues or publish to a Tableau hosted product (Tableau Online or Tableau Server).

If publishing for public review, the dashboard can be published to Tableau Public, which will provide an embed code that can be used to embed the dashboard on any website that supports iframe viewers. **If any data in the dashboard is consider sensitive, do not publish the dashboard on Tableau Public.**

How to Refresh the Data

Key Takeaways:

- **Add new records** to the same data source using the same structure.
- **Update the status of Advocacy Actions.**
- When editing records to update the status of an Advocacy Action, use the form feature in Excel and data validation checks to minimize the risk of causing data quality problems.
- Refresh the data in the Tableau workbook.

*Note: Many of the steps required when replacing the data the first time are not required if the new records are for CSC conducted with the same health facilities and indicators. **If new indicators have been added and/or new health facilities have been added, both parameters will need to be updated (Step #8 and #9).***

Steps 1-3 are specific to using the sample data file in Excel. Any data source can be used if the tables have the same structure and field names.

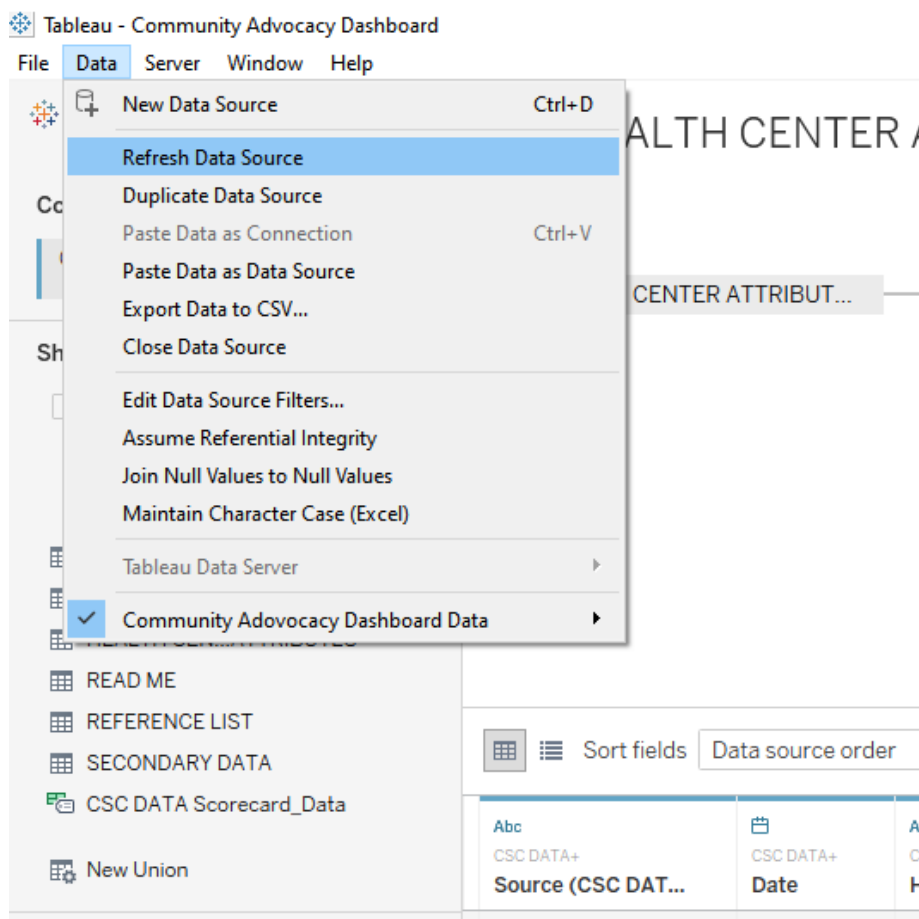
1. Add new records to the CSC Data table.

	A	B	C	D	E	F	G
1	Source	Date	Health Facility I	Indicator	Score	Comment	Suggestion
770	CSC	1/1/2018	Health Facility 6	SGBV screening and management	10	Notes from facilitation session will be shown here	
771	CSC	1/1/2018	Health Facility 6	Availability of ART services	10	Notes from facilitation session will be shown here	
772	CSC	1/1/2018	Health Facility 6	Accessibility of ART services	10	Notes from facilitation session will be shown here	
773	CSC	1/1/2018	Health Facility 6	Availability of STI treatment services	8	Notes from facilitation session will be shown here	
774	CSC	1/1/2018	Health Facility 6	Accessibility to STI services	8	Notes from facilitation session will be shown here	
775	CSC	1/1/2018	Health Facility 6	Availability of Family planning services	10	Notes from facilitation session will be shown here	
776	CSC	1/1/2018	Health Facility 6	Accessibility to Family Planning Services	10	Notes from facilitation session will be shown here	
777	CSC	1/1/2018	Health Facility 6	Existence of physical stigma	8	Notes from facilitation session will be shown here	
778	CSC	1/1/2018	Health Facility 6	Existence of verbal stigma	8	Notes from facilitation session will be shown here	
779	CSC	1/1/2018	Health Facility 6	Existence of Institutional stigma	8	Notes from facilitation session will be shown here	
780	CSC	1/1/2018	Health Facility 6	Availability of post abortion care services	8	Notes from facilitation session will be shown here	
781	CSC	1/1/2018	Health Facility 6	Accessibility of post abortion care services	6	Notes from facilitation session	Explain what could be done here
782							
783							
784							
785							
786							
787							
788							
789							

2. Add new records to the Secondary Data table.

3. **Save Excel file with the updated records** – keep the file in the **same location with the same file name**, which enables Tableau to maintain the connection to the data source.

4. Refresh data in Tableau – simply click on the **Data** menu and select **Refresh Data Source**.











*This step can be completed from any view in the dashboard, including the **Data** pane.*

5. **Navigate to the first dashboard and conduct a spot check to ensure your data has correctly populated the dashboard**
 - **Health Facility Dashboard:** Select “Trend with Action Items” to view the area chart and confirm that the last date on the area chart reflects the date for the new records for the most recent CSC.

Tableau Learning Resources

Tableau has a detailed Knowledge Base (<https://www.tableau.com/support/knowledgebase>) of resources for learning how to use the software.

	TOP RESOURCES
	Getting Started
	TOP RESOURCES
	Best Practices
	TOP RESOURCES
	Calculations & Statistics
	TOP RESOURCES
	Data Connections

From the available resources, the following videos are an excellent starting place:

- **Getting Started in Tableau** (25:06) (<https://www.tableau.com/learn/tutorials/on-demand/getting-started&playlist=401461>)
- **Tableau Crash Course Training Vid** (28:11) ([Tableau for Data Science and Data Visualization - Crash Course Tutorial](#))
- **The Tableau Interface** (4:52) (<https://www.tableau.com/learn/tutorials/on-demand/tableau-interface&playlist=401461>)
- **Understanding Pill Types** (5:45) (<https://www.tableau.com/learn/tutorials/on-demand/understanding-pill-types>)
- **Getting Started with Data** (6:31) (<https://www.tableau.com/learn/tutorials/on-demand/getting-started-data&playlist=401463>)

For additional training resources on Tableau, the following experts have a wealth of resources on learning and using Tableau:

Data Revelations (<https://www.datarevelations.com/>)

Ryan Sleeper (<https://www.ryansleeper.com/>)

Data Plus Science (<https://www.dataplusscience.com/>)