

Accessing and Exploring MAL-ED Data via the Filters

Types of Searches: Participants and Observations

- We are now going to explore MAL-ED study data. Hover over “Search a study” to access links to the different studies loaded into ClinEpiDB.

The screenshot shows the ClinEpiDB homepage. At the top, there is a navigation bar with links for "Workspace", "Community", "Contact Us", and social media icons. Below the navigation bar, a search bar is circled in red. To the right of the search bar, there is a "News" section with several news items. The main content area displays various study cards. One card for the "India ICEMR Longitudinal Cohort Study" is shown in detail, featuring a "Control" icon (purple person icon) and a "M" icon. Another card for the "MAL-ED Study" is also visible, featuring a "Data" icon (blue person icon) and a "M" icon. Both cards have "Download Data" and "SEARCH THE DATA" buttons below them.

Take a look at the black icons that are located by “MAL-ED Study”. Notice that, for the MAL-ED study, there are two types of searches you can execute on the data:

- i) Participants
- ii) Observations

The Participants search and the Observations search will return two different levels of data:

- By conducting a Participant-level search, you will be examining and potentially filtering the data on characteristics or observations about the participants, but you will only retrieve one row of data per participant.
 - For MAL-ED, “Participants” are any children who were enrolled in the study.
 - There may be data within this dataset that refers to the child’s mother or caregiver but at this time mothers, fathers, or caregivers are not considered participants. This data is only available as associated with the child.
- When conducting an Observation-level search, you will also be examining and filtering the data based on characteristics or observations about the participants, but instead you may retrieve many rows of data per participant. Each row returned represents the data collected for each participant on a given observation date.

Initiate a Participant-level Search

2. Let's get started and conduct a Participant level search on the MAL-ED study so you can see what the resulting data table will look like. You can access the Participant-level search in three ways.

i) Through the navigation bar at the top of the page. Hover over "Search a Study", and click on the "Participants" icon for the MAL-ED study.

The screenshot shows the ClinEpiDB homepage. At the top, there is a navigation bar with links for 'Workspace', 'Community', 'Contact Us', and social media icons. Below the navigation bar, there is a search bar labeled 'Search a Study'. A red circle highlights the 'Participants' icon (a person icon with a gear) next to the search bar. On the left side, there is a sidebar with various study options, including 'GEMS1 Case Control', 'GEMS1A Case Control', 'India ICEMR Longitudinal Cohort Study', 'PRISM Cohort Study', and 'The GI'. On the right side, there is a 'News' section with several news items, each with a small 'E' icon. The 'India ICEMR Longitudinal Cohort Study' card is highlighted, showing its study details: 8 sites, 2009-2014, and the topic 'Etiology, Risk Factors and Interactions of Enteric Infections and Malnutrition and the Consequences for Child Health and Development Study'.

ii) Through the MAL-ED study card. Click on the "Participants" icon under "Search the Data" on the MAL-ED study card.

The screenshot shows the 'Explore the Studies' page. It features four study cards: 'GEMS1 Case Control', 'GEMS1A Case Control', 'India ICEMR Longitudinal Cohort Study', and 'MAL-ED Study'. Each card has a 'Study Details' link, a study name, a study ID (e.g., E), and a brief description. Below each description is a 'Download Data' button and a 'SEARCH THE DATA' button. The 'Participants' icon (a person icon with a gear) is located next to the 'SEARCH THE DATA' button for the 'MAL-ED Study' card. A red circle highlights this icon. To the right of the study cards, there is a 'News' section with several news items, each with a small 'E' icon. The 'News' section includes items like 'ClinEpiDB 6 Released' (March 07, 2019) and 'ClinEpiDB 5 Released' (December 15, 2018).

iii) Through the MAL-ED Data Set page. Click on the "Participants" icon next to "Search the Data" near the top of the MAL-ED Data Set page.

The screenshot shows the 'Data Set: MAL-ED Study' page. At the top, there is a navigation bar with links for 'Workspace', 'Community', 'Contact Us', and social media icons. Below the navigation bar, there is a 'Search a Study' dropdown menu. On the left side, there is a 'SEARCH THE DATA' button. Next to it is a red circle highlighting the 'Participants' icon (a person icon with a gear). The main content area contains a summary of the MAL-ED study, a primary publication citation, and a primary contact. The summary states: 'The Etiology, Risk Factors, and Interactions of Enteric Infections and Malnutrition and the Consequences for Child Health (MAL-ED) Study, led by the Fogarty International Center of the National Institutes of Health and the Foundation for the National Institutes of Health, has been established at sites in 8 countries with historically high incidence of diarrheal disease and undernutrition to examine the central hypothesis that enteropathogen infection contributes to undernutrition by causing intestinal inflammation and/or by altering intestinal barrier and absorptive function.' The primary publication citation is: 'The MAL-ED study: a multinational and multidisciplinary approach to understand the relationship between enteric pathogens, malnutrition, gut physiology, physical growth, cognitive development, and immune responses in infants and children up to 2 years of age in resource-poor environments. MAL-ED Network Investigators et al. Clin. Infect. Dis. 2014 Nov; 01:59 Suppl 4:S193-206'. The primary contact is David Spilo, Fogarty International Center, National Institutes of Health, Bethesda, Maryland. The EuPathDB release # / date: ClinEpiDB /

The Search Wizard

All three methods to access the Participant-level search will bring you to the same search page, which includes the “Search Wizard”.

The Search Wizard

Select a Set of Participants (MAL-ED)



The purpose of the search wizard is two-fold.

- I. It creates a simple way to categorize components of the data, allowing for a step-wise approach to building searches.
- II. It allows you to explore the data to see what the raw values and distributions of characteristics are in both the full dataset or filtered data.

Spend some time reading and mouse over the different search wizard boxes. Notice that there is a number below the black square Participant icon. This number represents the total number of Participants that are included in this dataset. The MAL-ED study currently has 2,145 participants (children) and their associated data loaded in this version of ClinEpiDB.

Finding Filters and Examining Data in the Filters

3. Click on the “Geographic Region” box. What happens when you click?¹ Without applying a filter can you tell which country had the most number of participants?²

Select a Set of Participants (MAL-ED)



¹ Text appears that says, “No Geographic Region filters applied yet” and a “Countries” table is displayed. The table has columns for country, remaining participants, all participants, and distributions of the counts of participants from each country.

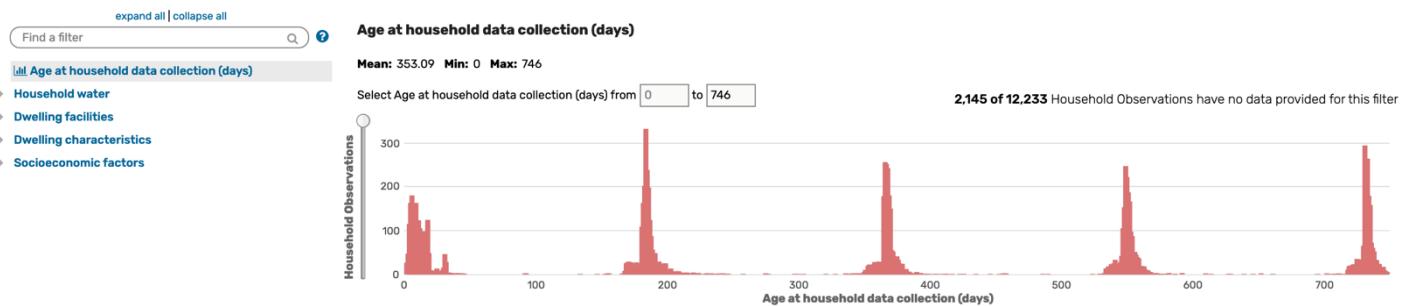
² South Africa

4. Next, click on the “Households” box. This will reveal a more complex filtering table that includes major categories of variables in blue text on the left and summary information for the selected variable on the right.

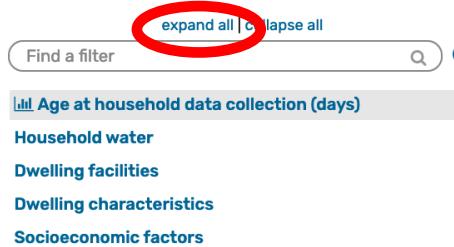
Select a Set of Participants (MAL-ED)



By default, “Age at household data collection (days)” is highlighted and an interactive histogram appears. This filter enables you to choose particular timepoints of data collection for repeated household measurements. Examine the distribution of “Age at household data collection (days)” in the histogram. About how many days apart are each of these peaks? Why do you think there are peaks occurring at regular intervals?³



5. Click “Expand all” to see the organizational hierarchy of the Household variables and reveal all the types of data in each sub-category.



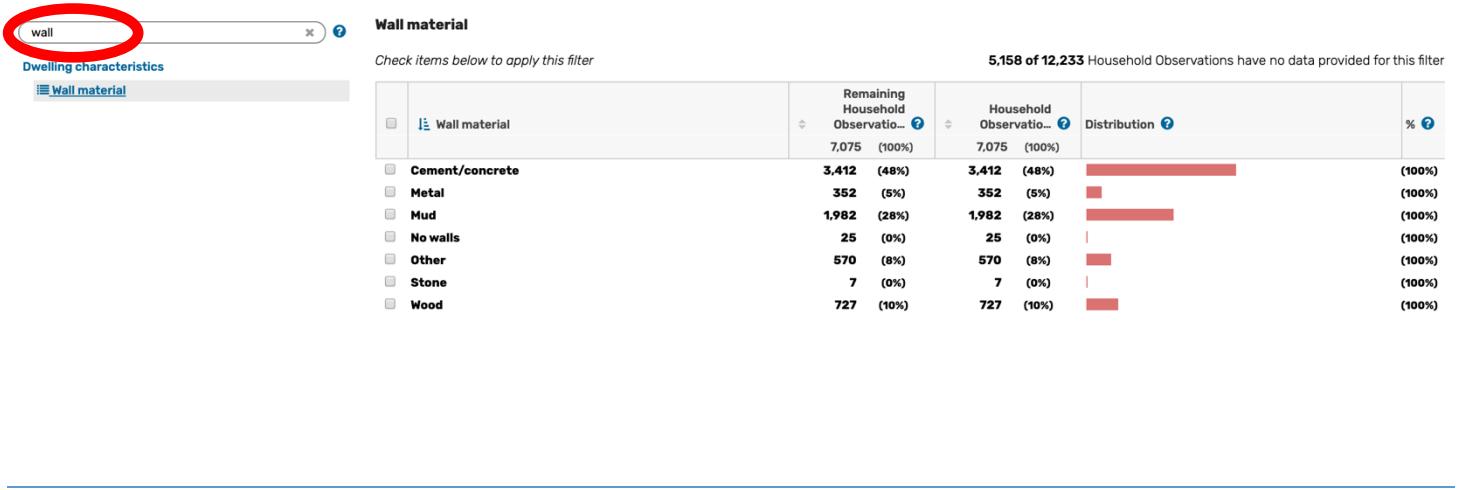
6. Notice that categories and sub-categories have an arrow to their left, while variables do not. What happens when you click on a blue category label? What happens when you click on a blue variable label?⁴

7. Spend some time clicking through the variable filters and examining the distribution of participant data in each.

³ The peaks are approximately 180 days apart. Household observations were collected at multiple time points during the MAL-ED study, and had a sampling frame of ~6 months.

⁴ When you click on a category label, the organizational hierarchy of that category either expands or collapses. When you click on a variable label you open up a table of data that corresponds to the variable label you selected.

8. Start typing “wall” into the “Find a filter” search box to quickly navigate to “Wall material” variable for all participants, then click on the blue “Wall material” variable label to see the data. Notice that when you mouse over a row in the “Wall material” table, it will be highlighted in a grey color to help you read the table.



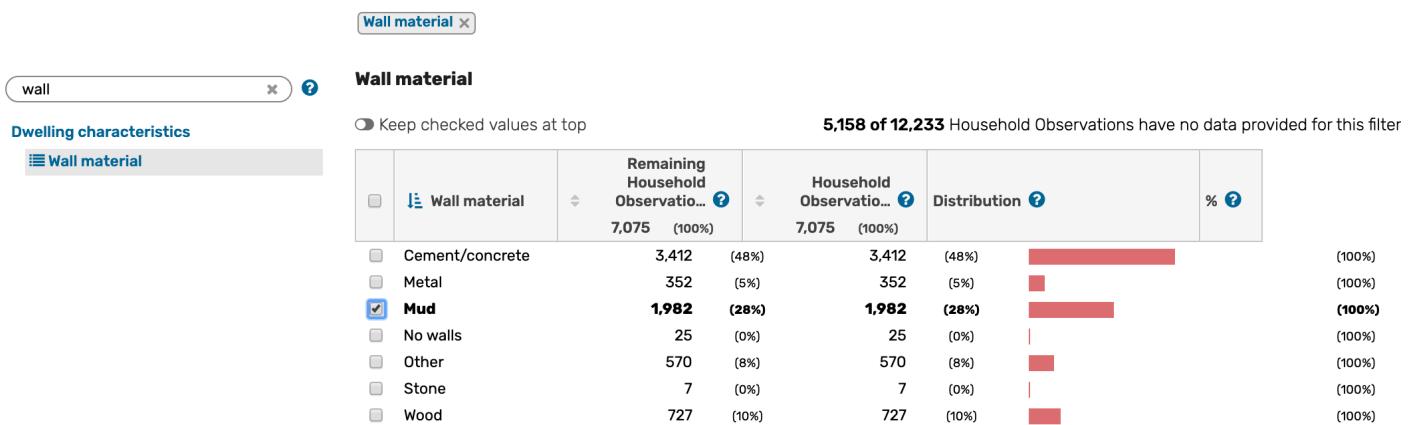
Making Selections Using Filters

9. How many participants indicated that they lived in houses with mud walls?⁵ HINT: 1,982 indicates the number of OBSERVATIONS where participants lived in houses with mud walls, NOT the number of PARTICIPANTS who live in houses with mud walls.

⁵ 642 participants live in houses with mud walls. Notice that when you click to select “Mud”, the number of participants in the Search Wizard is reduced from 2,145 to 642. The wall material of the participants houses was assessed several times over the course of the longitudinal MAL-ED study, and 1,982 indicates the number of observations where the house was assessed as having mud walls.



Your **Households** filters reduce 2,145 Participants to 642



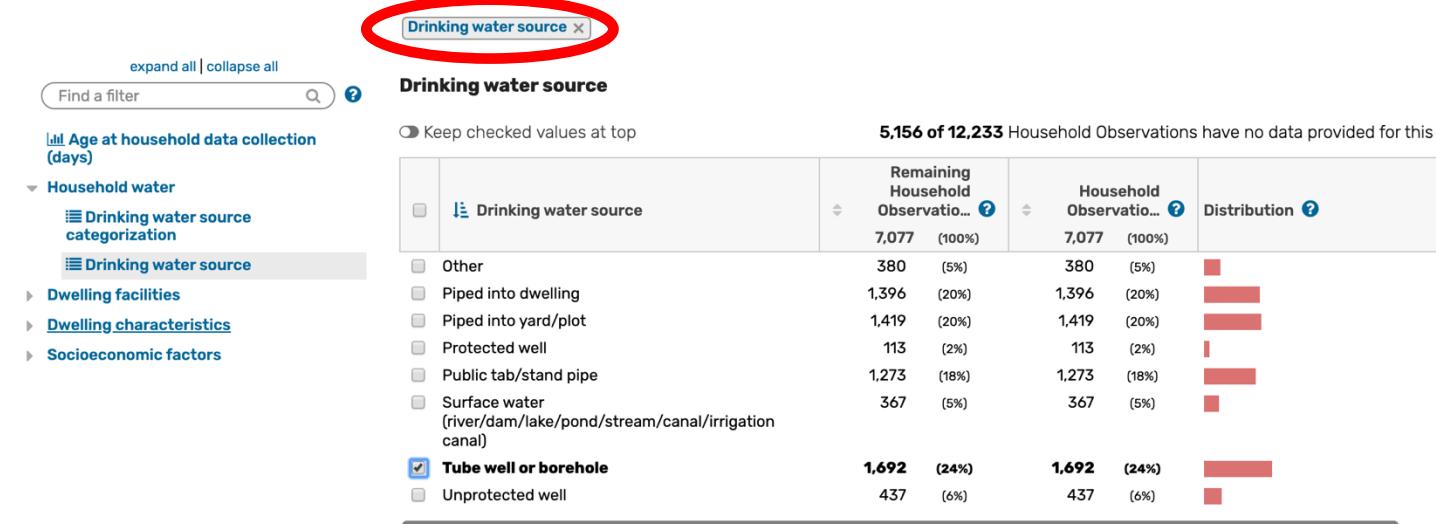
10. Can you find the information about ‘Drinking Water Source’? How many participants indicated that they had a tube well or borehole as their water source?⁶ Hint: make sure that you have removed the “Wall material” filter applied in Step 8.

11. Before proceeding, remove any filters that you may have applied in previous steps. This can be done in two different ways:

- If filters have been applied to the data, a filter icon will appear in one or more of the boxes in the Search Wizard and there will be a grey box indicating what filter has been applied. To remove the filter, click on the “X” on the right-hand side of the grey box.



Your Households filters reduce 2,145 Participants to 551



- A green filter icon also appears next to “Select a Set of Participants”. Click on this green filter icon to see all of the filters that have been applied to the data.



A pop-up box appears. Click on “Remove all” on the bottom left side of the pop-up box to remove all filters.



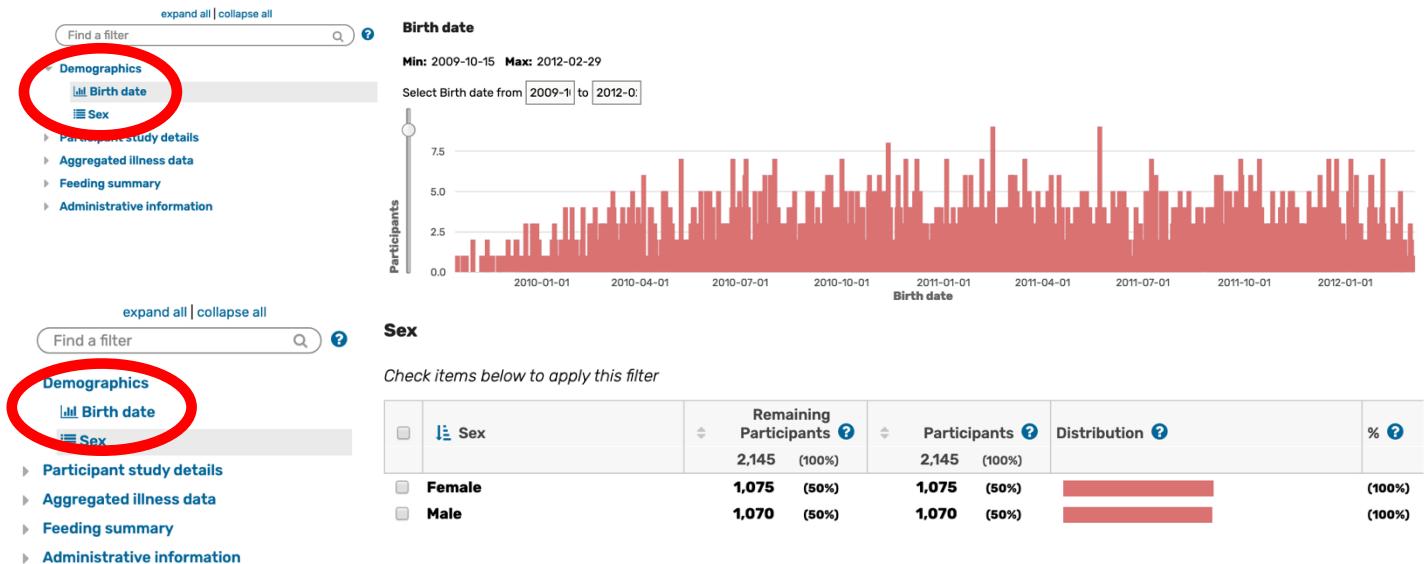
⁶ 551 participants had a tube well or borehole as their drinking water source. NOTE: if you have determined that 294 participants had a tube well or borehole as their drinking water source, your search still has the “Wall material” filter applied. To remove this filter, click on the “X” in the grey box above the table.

12. Next, click on the ‘Personal Characteristics’ box in the search wizard. Here, “Birth date” is the default filer displayed. Please note that all dates in ClinEpiDB have been randomly obfuscated by +/- 7 days in a consistent manner for each participant to ensure that no identifying information is available on the website.

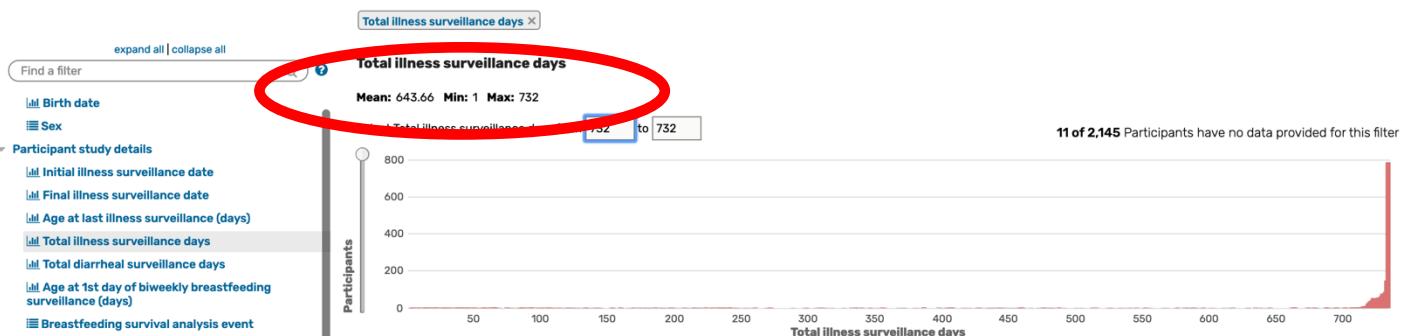
Select a Set of Participants (MAL-ED)



13. Explore the “Demographics” variables. You may notice that the figure on the right-hand side next to the filter is an interactive histogram for “Date of Birth,” while a table appears for “Sex”. Why might this be?⁷



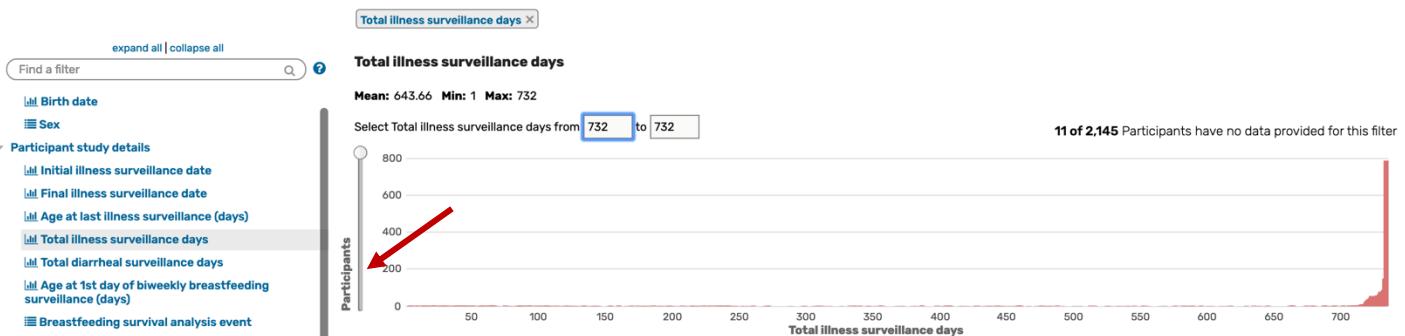
14. Navigate to the “Total illness surveillance days” variable. Remember that so far we have not filtered our participants by any criteria. Notice that the histogram on the right has an x-axis range of zero to above 700. Can you find the maximum number of days that a participant was followed up? How about the average?⁸



⁷ Categorical variables are displayed in table format. Numerical variables having more than possible 10 values are displayed as a histogram rather than in table format. This allows you to see the distribution of values of your selected participants.

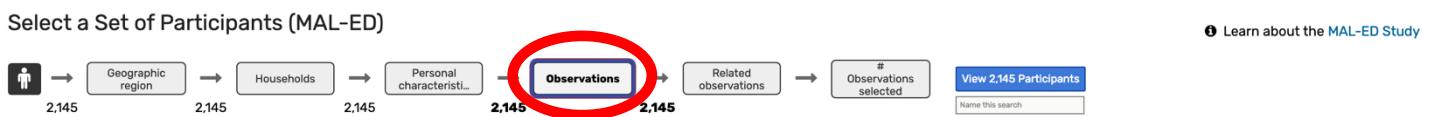
⁸ These statistics are displayed above the histogram. The average was 643.66 and the maximum was 732 days of follow-up. This information is confirmed in the histogram because you can see that there are very few counts of participants towards the left end of the x-axis and increasing counts towards the right end of the x-axis.

15. Can you tell how many participants had the largest number of days of illness surveillance?⁹ Hint: Use the scroll tab on the y-axis to adjust the scale of the y-axis for an approximate answer, or use the “Select Total illness surveillance days” search boxes for an exact answer.



16. Click through the different filter categories found in the personal characteristics section. Notice that some filters are displayed categorically and some are displayed with distribution histograms. How many Participants were breastfed within the first 24 hours after birth?¹⁰ Remember that you must remove the “Total illness surveillance days” filter you applied in the last step.

17. Click on the ‘Observations’ box in the search wizard. The default filter that is displayed shows a histogram of the age in days when an observation occurred.



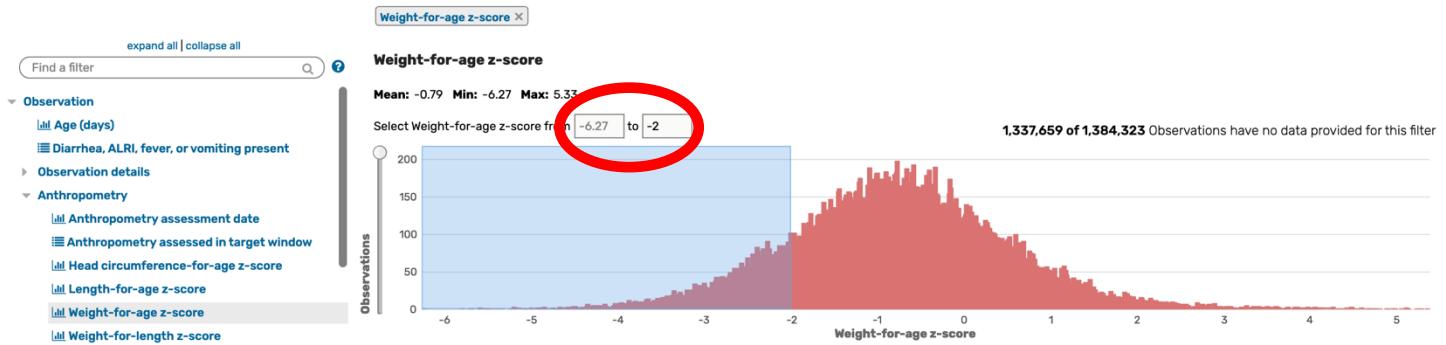
18. While you are still in the ‘Observations’ section, navigate to “Weight-for-age z-score” and select children who had a weight-for-age z-score of less than -2. You can select continuous variables displayed in a histogram in two ways:

- Type the exact number of days in the selection boxes that are directly above the histogram. Note that once you type in the desired range you must click enter on your keyboard to apply this filter. The histogram should dynamically react and display the selected day range.
- Click on the histogram around -2 days and drag your cursor to the left. You will notice that the histogram turns white and now only your selection is blue. Because the units are so small, you may need to adjust your selection using the boxes described above to get the selection exact.

⁹ There were 787 participants who were followed for the maximum number of days (732 days). Notice that the number of Participants has been reduced from 2145 to 787 after applying the “Total illness surveillance days” filter.

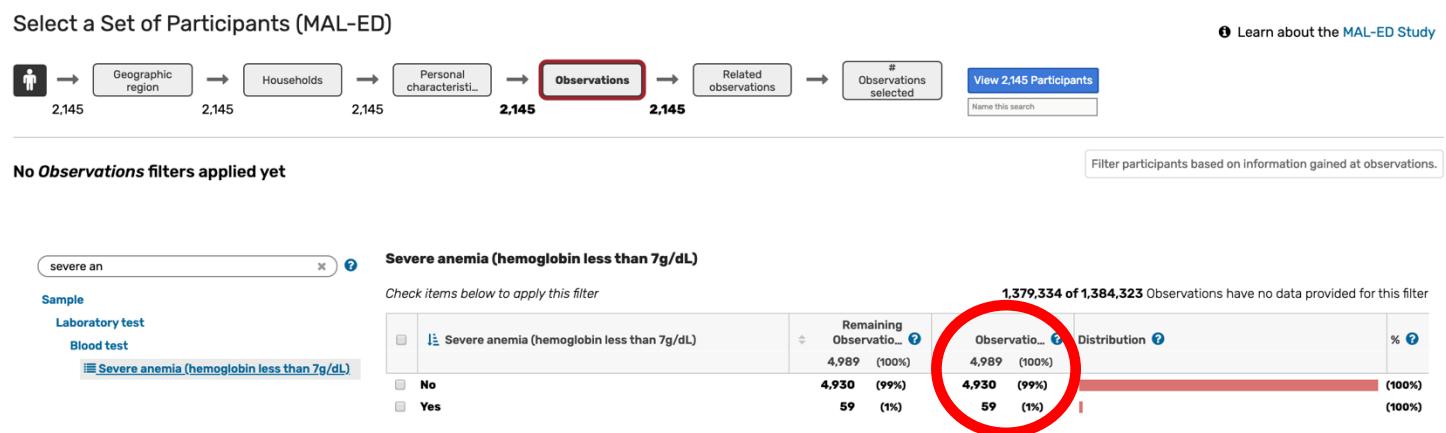
¹⁰ 1995 participants were breastfed within the first 24 hours after birth.

When you select participants who had a weight-for-age z-score measurement of less than or equal to -2, how many participants remain?¹¹



19. Next, remove all active filters by clicking on the “X” in the grey boxes that appear in the “Active Filters” pop-up. Alternatively, you could click on “Remove all” at the bottom of the “Active Filters” pop-up. Notice that the number of participants goes back up to 2145.

20. While you are still in the ‘Observations’ section, navigate to “Severe anemia (hemoglobin less than 7g/dL)”. Notice that there are now 4,989 Observations available. Why are there more observations than the 2145 MAL-ED Participants?¹²



21. While still looking at the “Severe anemia (hemoglobin less than 7g/dl)” filter, click to check the box to the left of “Yes”. By checking the box for “Yes,” only participants that have an associated observation of severe anemia are selected for inclusion.

- Why is it that only 53 participants remain after filtering for participants who had severe anemia? It looked like there should have been 59 participants who had severe anemia?!?¹³
- How many MAL-ED participants did NOT have severe anemia observed over the course of study?¹⁴

¹¹ 847 participants had at least 1 recorded weight-for-age z-score measurement of less than or equal to -2.

¹² MAL-ED is a longitudinal study, and several of the variables listed under “Observations” were measured more than one time for each participant.

¹³ There were 59 **observations** of severe anemia in the MAL-ED study, but 6 participants had more than 1 recorded hemoglobin level less than 7g/dL. Therefore, severe anemia was recorded in only 53 participants.

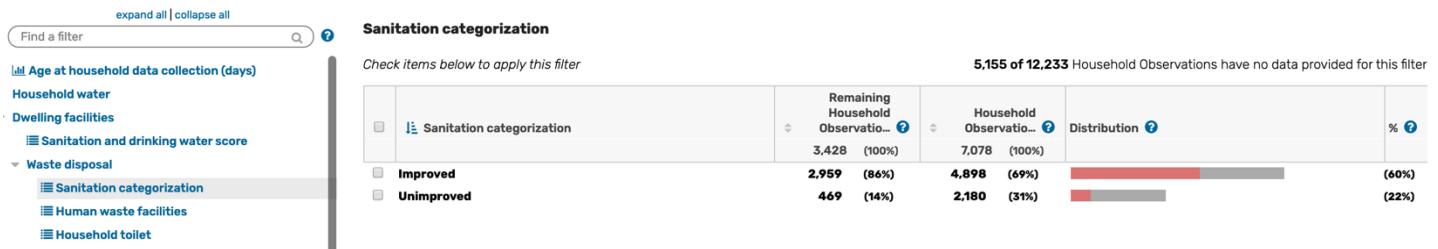
¹⁴ 2092 participants in the MAL-ED ClinEpiDB database did not report having severe anemia during their follow-up period and have been removed from further analysis. 2145-53=2092.

22. Uncheck the box for “Yes” again. Notice that the grey box above the filters disappears and the sentence below the search wizard again reads “No Observations filters applied yet.”

Examine the Impact of Filtering on Other Data

23. Let’s use ClinEpiDB.org to determine the percentage of household observations from urban sites with a Sanitation categorization of “improved”. This requires interacting with two different search wizard filters.

- First, initiate a new participant-level search of the MAL-ED data. Next, click on the “Geographic region” box on the search wizard and navigate to the “Urban or rural site” filter. Select participants from “urban” sites. When you select participants from urban sites, how many participants remain?¹⁵
- Now navigate to “Sanitation categorization” under “Household observations”. Notice that part of the Distribution bar graph is now in grey and part is in red. The red portion represents data from participants who remain, while the grey represents the participants who did not meet the filter criteria you have applied. In this case, red represents participants from urban sites and grey represents rural participants.
- What percentage of household observations across both urban and rural sites had a sanitation categorization of “improved”? What about urban sites only?¹⁶



24. Spend a few minutes clicking through, making selections to filter your data and examining what that does to your remaining participants. Here are some example questions you may want to explore:

- ✓ How does the distribution of maternal education at the Indian site compare to the Pakistan site?
- ✓ How many participants from Peru do not have any type of household toilet facility?
- ✓ Is there a difference between observation of Giardia in stool samples of participants who weighed 3kg or less compared to those who weighed 10kg or more? *NOTE: this will be an observation-level search.*

Hints: Remember to clear any applied filters as you explore the data. Try and start at the left side of the search wizard and move to the right as you apply filters. The “Find a filter” search box can help you easily find filter subcategories.

¹⁵ 989 participants from urban sites remain.

¹⁶ The numbers under the “Household observations” column represent ALL of the data. Thus, across all sites (both urban and rural), 69% of household observations had a sanitation categorization of “improved”. The numbers under the “Remaining Household observations” column indicate the number of participants that match the filters that you have applied. In this case, 86% of household observations conducted at urban sites had a sanitation categorization of “improved”.

Use MAL-ED data on ClinEpiDB.org to answer the following questions:

Question 1: Determine the MAL-ED sites where children had the highest and lowest numbers of diarrheal episodes over the first 2 years of study, on average.

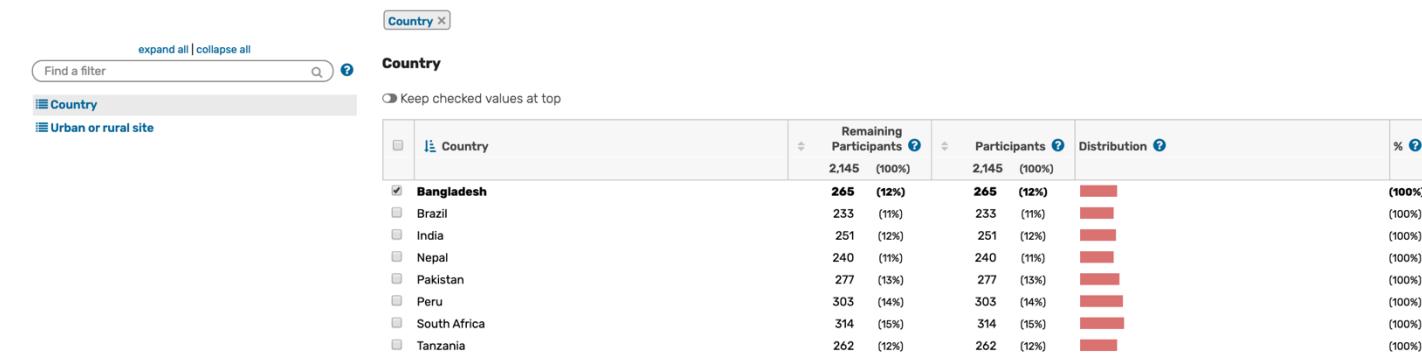
1. Start this exercise from the home page. Navigate there using the ClinEpiDB logo located at the top of your screen. For this exercise, we will be conducting a participants-level search of the MAL-ED data. Click on the “Participants” icon on the MAL-ED Study Card to get started.

The screenshot shows the ClinEpiDB.org homepage. At the top, there is a navigation bar with links for 'ClinEpiDB', 'Search a Study', 'Workspace', 'Community', 'Contact Us', and social media icons. Below the navigation bar, there is a section titled 'Explore the Studies' featuring four study cards: 'GEMS1 Case Control' (Study Details), 'GEMS1A Case Control' (Study Details), 'India ICEMR Longitudinal Cohort Study' (Study Details), and 'MAL-ED Study' (Study Details). The 'MAL-ED Study' card has a red circle around its 'SEARCH THE DATA' button. To the right of the study cards is a 'News' sidebar with several news items and a 'Tweets by @ClinEpiDB' section.

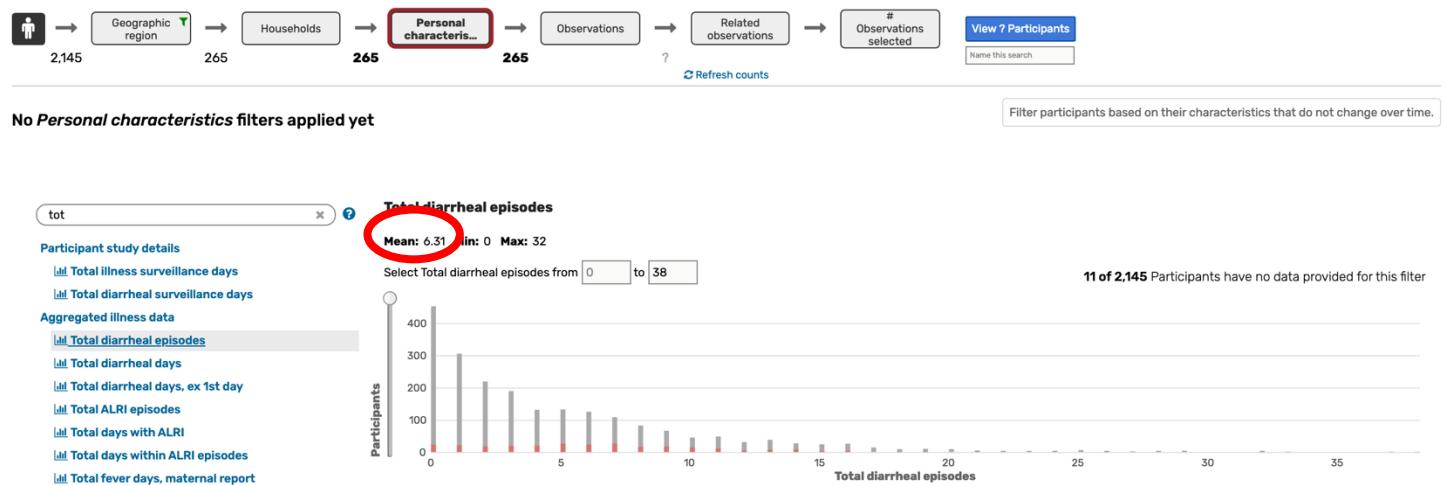
2. Use the search wizard to navigate to “Geographic region”, and select participants from the Bangladesh study site.



Your Geographic region filters reduce 2,145 Participants to 265



3. Next, navigate to “Personal characteristics” and select the “Total diarrheal episodes” filter. What is the mean number of total diarrheal episodes over the 2 year period for participants from Bangladesh?¹⁷



4. Repeat this procedure to explore the mean number of total diarrheal episodes for the other study sites. In the table below, record the mean for each study site. Which site has the lowest average total diarrheal episodes? Which site has the highest?¹⁸

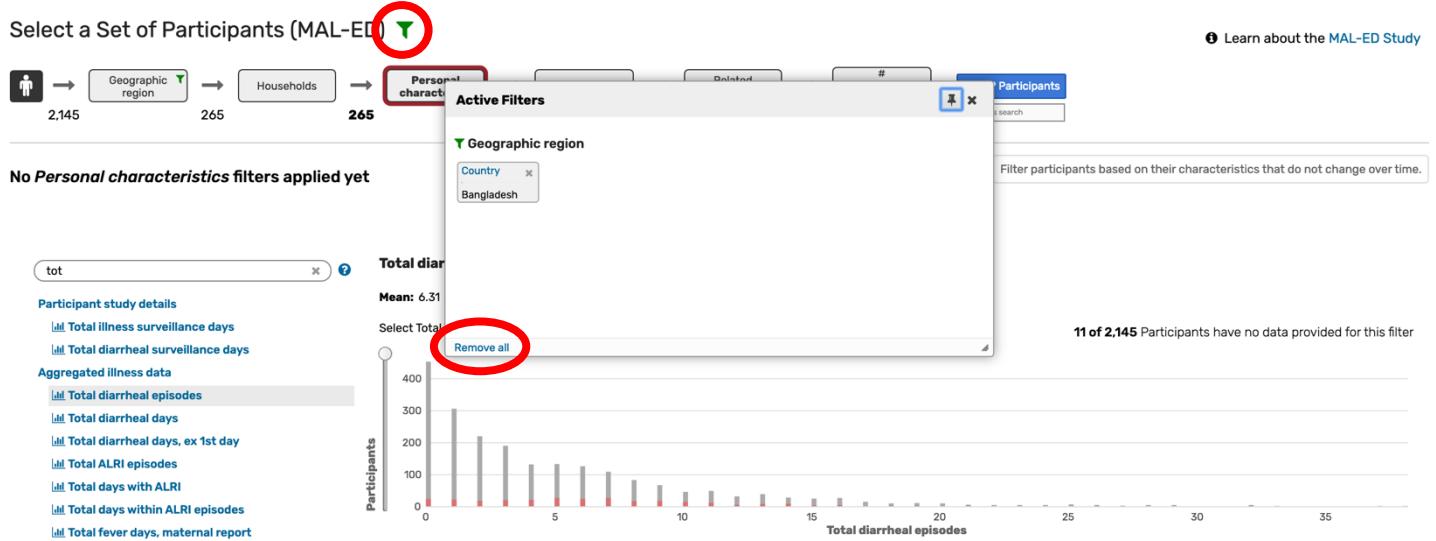
Study site	Mean # of Total diarrheal episodes
Bangladesh	
Brazil	
India	
Nepal	
Pakistan	
Peru	
Tanzania	
South Africa	

¹⁷ The average number of total diarrheal episodes for the 265 Bangladesh participants is 6.31.

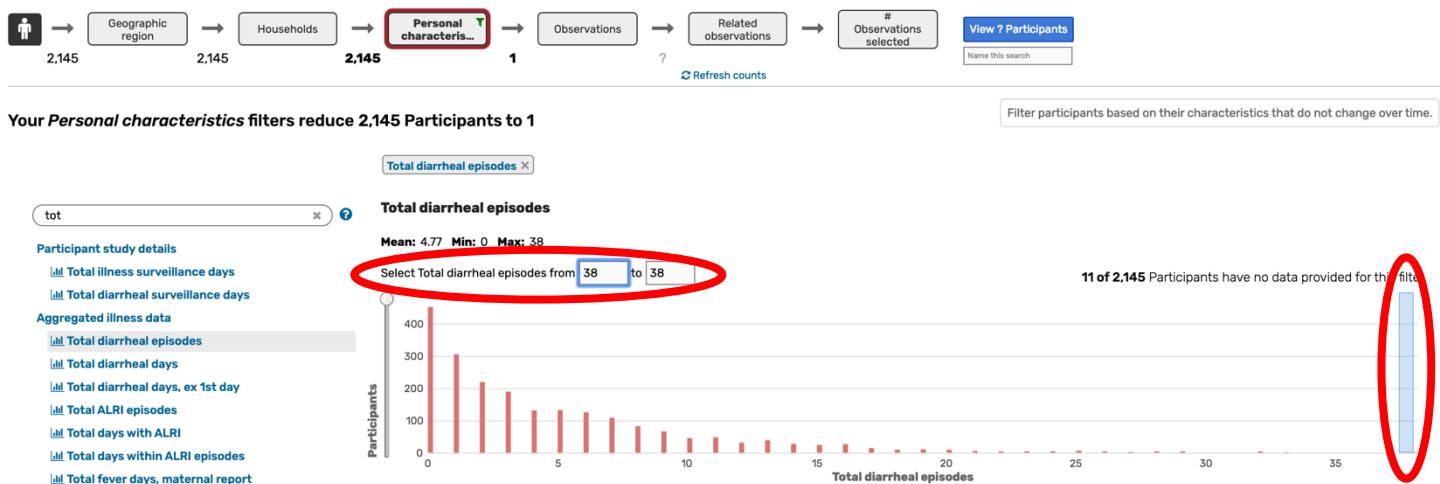
¹⁸ The site with the lowest average of total diarrheal episodes is Brazil, with an average of 0.78 episodes per participant. The site with the highest average of total diarrheal episodes is Pakistan, with an average of 11.6 episodes per participant.

Question 2: Which study site had the participant with the highest Total diarrheal episodes? Is this participant a male or female?

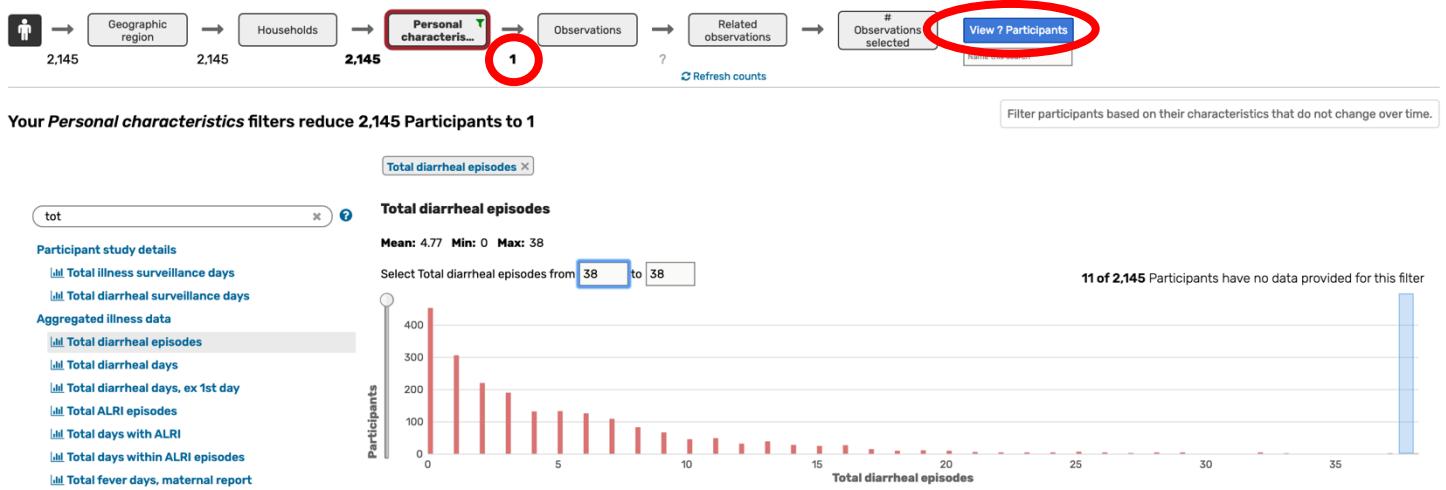
- To address this question, perform a participant-level search of the MAL-ED data. You do not need to initiate a brand-new search; instead, you can remove all filters that have previously been applied to the data. To do this, click on the green filter icon next to “Select a Set of Participants (MAL-ED)”. In the pop-up window, click “Remove all.”



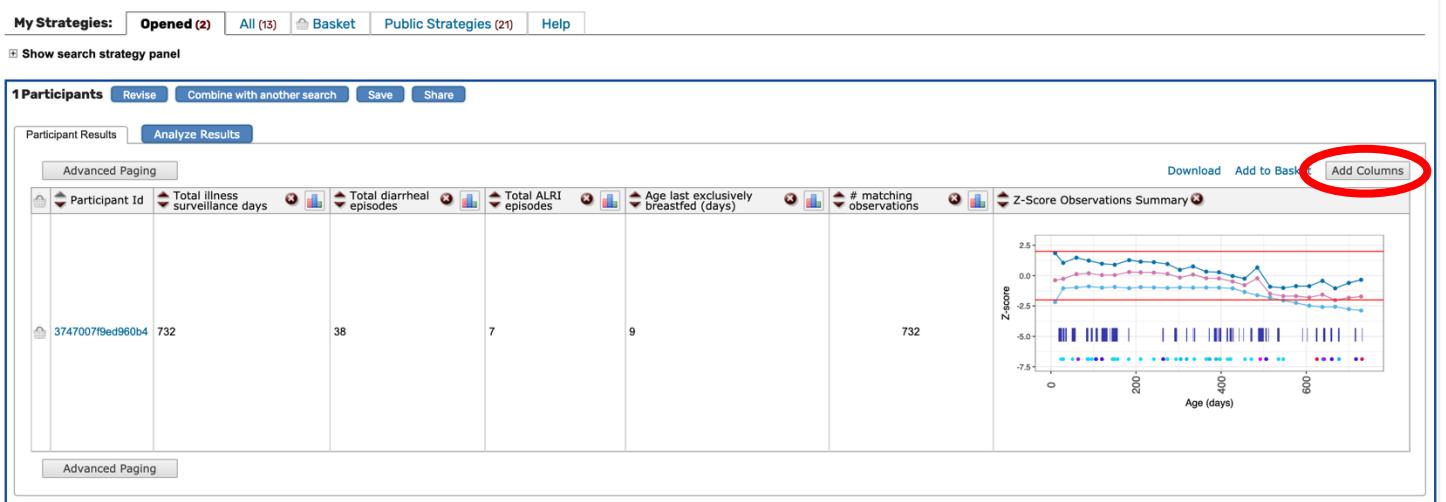
- With data from all sites now available, click and drag your mouse to highlight the data at the maximum range of “Total diarrheal episodes”. Alternatively, you can type “38” into the “Select Total diarrheal episodes” boxes. Hint: the maximum possible value will automatically be populated in the box to the right.



3. Notice that you have only 1 participant remaining; this is the MAL-ED study participant who had the greatest total number of diarrheal episodes over the first 2 years of the study. Click on the blue “View Participants” Box to see results related to this participant.



4. In the results table, you can see that Participant ID 3747007f9ed960b4 had 38 Total diarrheal episodes. Click on the “Add Columns” button to select additional variables of interest, such as “Country” and “Sex”. What country is this participant from? What sex is this participant?¹⁹



¹⁹ Participant ID 3747007f9ed960b4 is from Pakistan and is male.

Question 3: How many times did the participant with the maximum “Total diarrheal episodes” have a length-for-age z-score less than -2? At what ages did this occur?

1. Start an observation-level search of the MAL-ED data from the home page. Navigate there using the ClinEpiDB logo located at the top of your screen. Click on the “Observations” icon on the MAL-ED Study Card to get started.

The ClinEpiDB homepage features a navigation bar with links to 'ClinEpiDB', 'Search a Study', 'Workspace', 'Community', 'Contact Us', and social media icons. Below the navigation bar are four study cards:

- GEMS1 Case Control** (E)
Study Details
7 S. Asian and African Sites, 2007-2011
 - The Global Enteric Multicenter Study (GEMS) investigated the causes, incidence and impact of moderate-to-severe diarrhea in 22,567 children from the Gambia, Mali, Kenya, Mozambique, Pakistan, India and Bangladesh.
 - Case-Control study with a 60-day follow-up visit
 - 16S sequence data for ~1000 stool samples available at MicrobiomeDB.org.[Download Data](#) [SEARCH THE DATA](#)
- GEMS1A Case Control** (E)
Study Details
7 S. Asian and African Sites, 2011-2013
 - The Global Enteric Multicenter Study (GEMS) 1A investigated the cause, the incidence and the impact of less-severe diarrhea (LSD).
 - Case-Control study with a 60-day follow-up visit
 - 14,242 Participants from The Gambia, Mali, Kenya, Mozambique, Pakistan, India and Bangladesh[Download Data](#) [SEARCH THE DATA](#)
- India ICEMR Longitudinal Cohort Study** (M)
Study Details
2 sites in India from 2013-2015
 - The Center for the Study of Complex Malaria in India (CSCMI) is part of the International Centers of Excellence for Malaria Research (ICEMR) Program
 - Longitudinal cohort study design
 - 397 participants from 110 households with 1,249 observations[Download Data](#) [SEARCH THE DATA](#)
- MAL-ED Study** (E)
Study Details
8 Sites, 2009-2014
 - Etiology, Risk Factors and Interactions of Enteric Infections and Malnutrition and the Consequences for Child Health and Development Study
 - Longitudinal birth cohort of the first 2 years of life
 - Over 200 Participants from each of 8 sites (in Bangladesh, Brazil, India, Nepal, Pakistan, Peru, South Africa, Tanzania)[Download Data](#) [SEARCH THE DATA](#)

News

- ClinEpiDB 6 Released**
THU MAR 07 2019
We are pleased to announce the release of ClinEpiDB 6! ClinEpiDB in India March 13 - 17th, the ClinEpiDB outreach team will be attending a conference and conducting ... [read more](#)
- ClinEpiDB 5 Released**
SAT DEC 15 2018
We are pleased to announce the release of ClinEpiDB 5! New Features in this Release The analysis apps in the "Analyze Results" tab of the results table have now been updated... [read more](#)
- ClinEpiDB at ASTMH**
THU OCT 18 2018
ASTMH 2018 New Orleans The EuPathDB and

[See all news](#)

Tweets by @ClinEpiDB

@ClinEpiDB

2. Once again, navigate to “Total diarrheal episodes” under “Personal characteristics”. Type “38” into the “Select Total diarrheal episodes” boxes. You should now have 732 remaining observations. These 732 observations represent various longitudinal data collection timepoints for the participant who had the maximum total number of diarrheal episodes (Participant ID 3747007f9ed960b4). How can you confirm that these 732 observations are all related to data collected for Participant ID 3747007f9ed960b4?²⁰

The search interface shows the following path:
1,384,323 → Geographic region → Households → Personal characteristics... → Observations → Related observations → View 732 Observations

Your Personal characteristics filters reduce 1,384,323 Observations to 732

Total diarrheal episodes

Mean: 4.77

Select Total diarrheal episodes from to

11 of 2,145 Participants have no data provided for this filter

Participants

Total diarrheal episodes

expand all | collapse all

Find a filter

Demographics

- Birth date
- Sex

Participant study details

Aggregated illness data

- Total diarrheal episodes
- Total diarrheal days
- Total diarrheal days, ex 1st day
- Total ALRI episodes
- Total days with ALRI
- Total days within ALRI episodes

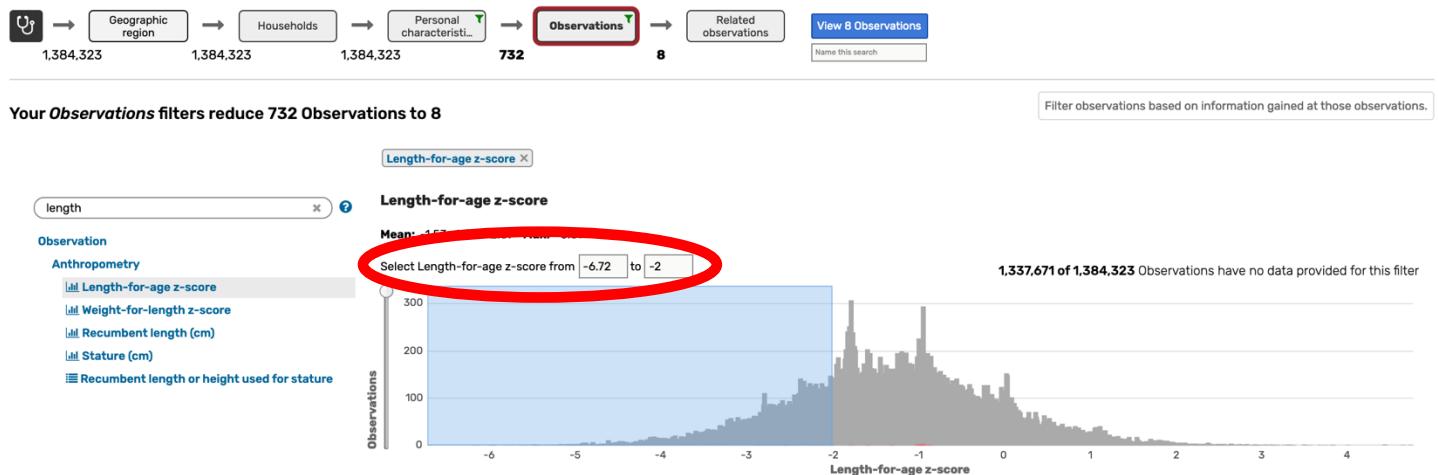
View 732 Observations

Name this search

Filter participants based on their characteristics that do not change over time.

²⁰ You can click on the blue “View Observations” button to navigate to the Observations Results Table. In this table, you can see that the Participant ID is 3747007f9ed960b4 for all observations in this results table.

3. Next, click on the “Observations” box in the Search Wizard and navigate to the “Length-for-age z-score” filter. Type in the box or click and drag to select length-for-age z-scores of less than or equal to -2. Why does the histogram seem to be in grey instead of red?²¹



4. Click on “View Observations” to see the observations where the participant of interest had length-for-age z-scores of less than or equal to -2. The ages where these observations occurred appear in the “Age (days)” column.

The screenshot shows the "View Observations" results table with the following columns:

Observation ID	Participant ID	Sex	Country	Age (days)	Day of ALRI episode	Day of diarrheal episode (ex LM induced)	Exclusively breastfed	# matching related observations	Min days between observations
94caef0d22f40eb3	37470079ed960b4	Male	Pakistan	10	NA	NA	No	NA	NA
1d68e37011afea38	37470079ed960b4	Male	Pakistan	546	NA	NA	No	NA	NA
5b62e483d7b7caab	37470079ed960b4	Male	Pakistan	576	NA	NA	No	NA	NA
9e76bf53581101d1	37470079ed960b4	Male	Pakistan	607	NA	NA	No	NA	NA
e9a50cc8c2b27e52	37470079ed960b4	Male	Pakistan	638	NA	NA	No	NA	NA
26dde0eed5e8c50c	37470079ed960b4	Male	Pakistan	668	NA	NA	No	NA	NA
81e56a8a7ad78c62	37470079ed960b4	Male	Pakistan	700	17	NA	No	NA	NA
2a4c0d8d796aa5f	37470079ed960b4	Male	Pakistan	729	NA	NA	No	NA	NA

²¹ Grey data represent observations that does not meet the filter criteria that has been applied, while red data represents the observations selected by the search criteria. In this case, the filters have selected data from the 1 participant who had 38 total episodes of diarrhea. There are not a lot of length-for-age z-score observations that meet this stringent search criteria. You can use the slider bar on the left hand side of the graph to zoom in and confirm that data meeting your selection criteria exists.

