

# Create a Logic Check

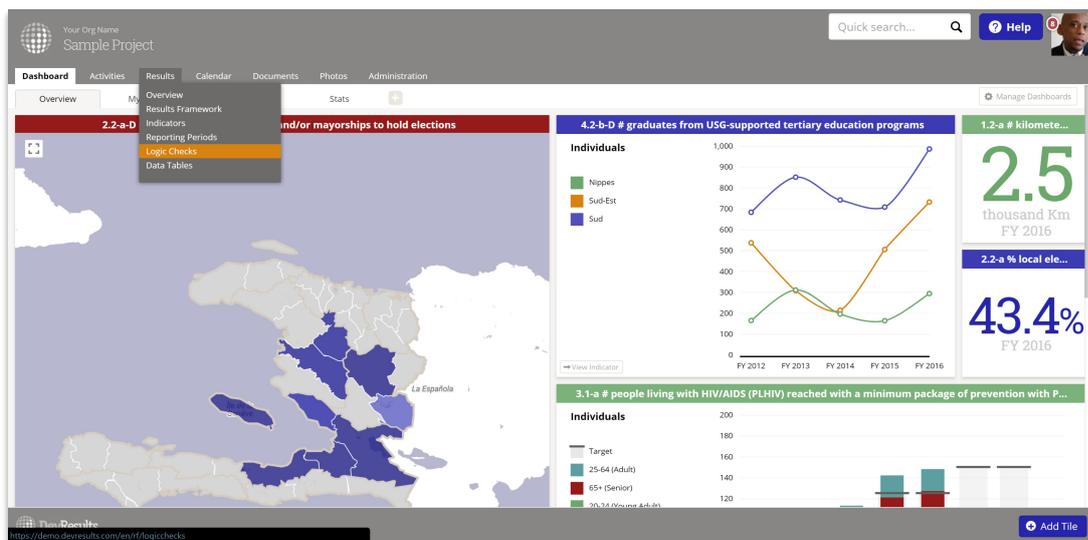
Last Modified on 02/09/2018 11:16 am EST

Logic checks allow you to flag indicator results that fail common-sense comparisons to other indicators or other disaggregations. You can design your own logic checks in DevResults based on your indicators and view any data that violates these rules. Examples of logic checks include:

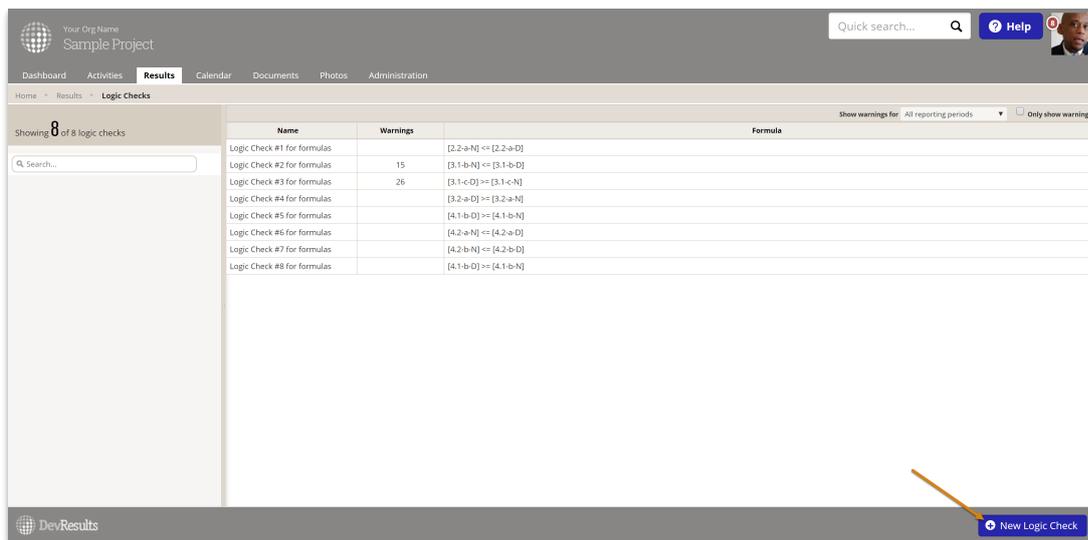
- Number of administrators should be greater than or equal to the number of administrators who were trained.
- Doctors + nurses should be less than or equal to the total number of medical professionals.
- Metric tons of corn produced should be less than 40% of total metric tons of crops produced.

When logic checks are calculated, any data that does **not** meet the statement you define in the logic check will throw a warning violation.

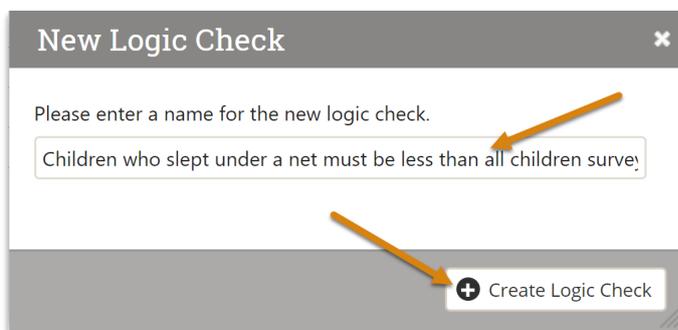
Go to **Results > Logic Checks**.



Click on the **+ New Logic Check** button in the lower right corner:



This will open a New Logic Check pop-up. Give your Logic Check a name and click the **+ Create Logic Check** button.

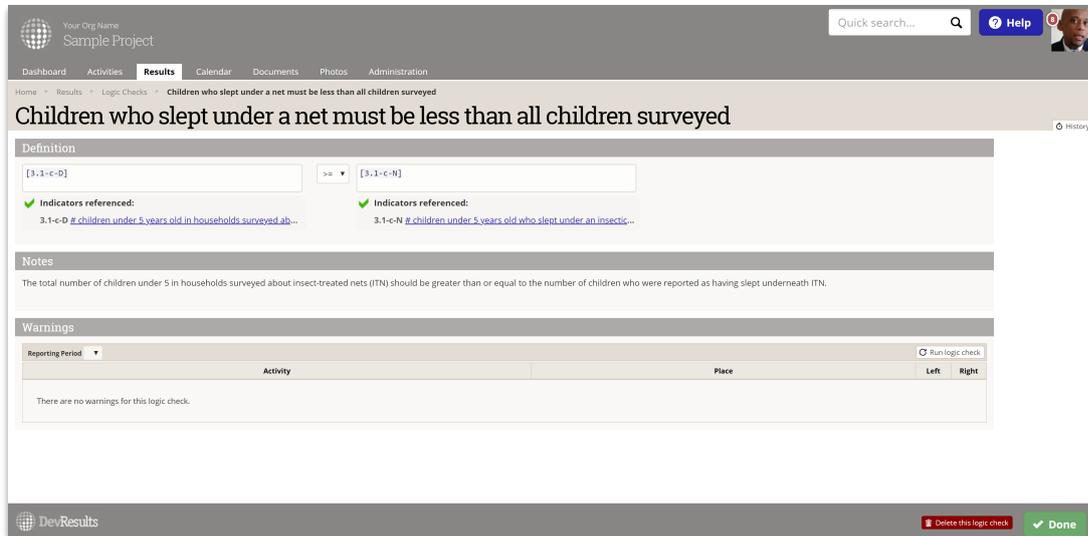


There are three required steps for defining logic.

1. Logic checks compare two or more indicator results or disaggregations. In the first definition box, list the code for the first indicator or disaggregation. Put the code in square brackets like `[this]`. When you click outside the editing box, the system will confirm that it recognizes your indicator code or it will give you an error that it does not recognize your indicator code. Correct the code as needed.
2. In the second definition box, list the code for the indicator or disaggregation that will be compared, also in square brackets like `[this]`.
3. Between the two boxes, select the desired operator for your comparison. The options are:
  - = (equal to)
  - >= (greater than or equal to)
  - > (greater than)
  - <= (less than or equal to)
  - < (less than)
  - <> (not equal to)

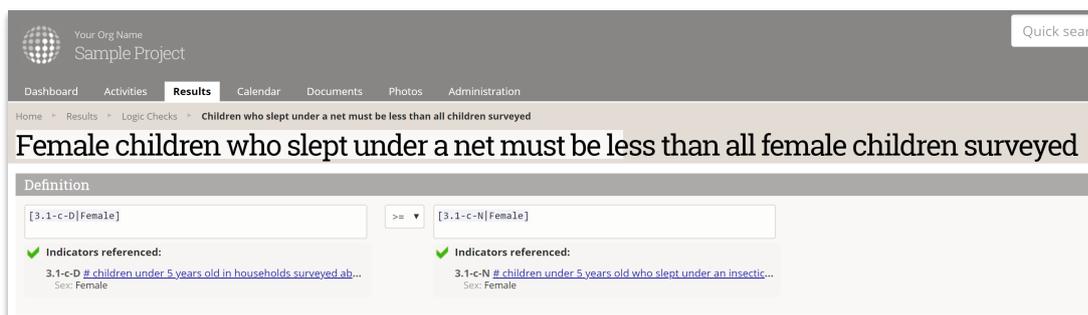
You have the option to add a note about this Logic Check in the **Notes** box. Use this as an explanation for other users so that if they have data that violates the logic check, they have an understanding of what needs to be fixed.

Here's a sample of what the above would look like:



**Codes for Disaggregations:** If you want the logic check calculation to compare values for an indicator's disaggregation, use a vertical bar "|" after the code within the bracket. For example, male children would be written as `[3.1-c-D|Male]`. You can also reference multiple disaggregations if your indicator is cross-disaggregated, such as `[3.1-c-D|Male|Rural]`.

So if we wanted to make a logic check that only looked at the number of female children total compared to the number of female children who were reported as having slept under nets, it would look like this:



Once the logic check is created, you can run it immediately using the **Run logic check** button in the lower right. Logic checks are run automatically every 15 minutes.

The **Warnings** section will show any indicator performance data that does not meet the Logic Check's criteria, listed by activity. You can view these by reporting period using the Reporting Period dropdown.

Reporting Period	Activity	Place	Left	Right
FY 2016 (Sep 2016)	Healthy Children Campaign	La Gonève	387	399
	Mosquitos Are the Worst	Jérémie	48	87
	Mosquitos Are the Worst	Marmelade	88	92
	Mosquitos Are the Worst	Saint-Marc	43	80
	Mosquitos Are the Worst	FAnse-à-Veau	41	74
	Mosquitos Are the Worst	les Chardonnières	185	322

**Algebraic Expressions:** In the definition boxes, you can add algebraic expressions. For example, you might create the logic check  $[3.1-c-D] > [3.1-c-N] * 4$ . This logic check means that the total number of children surveyed should be more than four times the number of children reported as sleeping under nets.

**Multiple Indicators:** You can also use multiple indicators in a definition box. So we might have  $[3.1-c-D] >= [3.1-c-N] + [3.1-d]$ , if 3.1-d collects the number of children reported as not having slept under a net.

When you go to any Activity Reporting Period, you will see all of that activity's indicators and any data reported so far for that reporting period. Click **Recalculate logic checks** to refresh the logic checks. Any logic check violations will be flagged in the **Errors** column:

The screenshot shows the DevResults interface for a project named 'Sample Project'. The main content area displays a table of indicators for the 'Healthy Children Campaign' for FY 2016. A green banner at the top of the table states: 'This activity's data for this reporting period has been approved and is locked. Owners can edit the data but other users cannot.' The table has columns for Code, Indicator, Data Source, Warnings, Comments, Previous Results, Current Results, Target, and % Target Reached. The 'Warnings' column contains values 1 and 2 for several rows, which are highlighted with a red box in the original image.

Code	Indicator	Data Source	Warnings	Comments	Previous Results	Current Results	Target	% Target Reached
3.1-a	# people living with HIV/AIDS (PLHV) reached with a minimum package of prevention with PLHV (PWP) interventions	Dir...			143	149	125	119 %
3.1-b	% households with at least one insecticide-treated net (ITN)	For...			27 %	35 %	50 %	151 %
3.1-b-D	# households surveyed about insecticide-treated nets (ITN)	Dir...	1		1,508	1,665	1,800	92 %
3.1-b-N	# households with at least one insecticide-treated net (ITN)	Dir...	1		409	1,255	1,500	84 %
3.1-c	% children under 5 years old who slept under an insecticide-treated net (ITN) the previous night	For...			61 %	54 %	7 %	774 %
3.1-e-D	# children under 5 years old in households surveyed about insecticide-treated nets (ITN)	Dir...	2		1,188	3,317	5,000	66 %
3.1-e-N	# children under 5 years old who slept under an insecticide-treated net (ITN) the previous night	Dir...	2		721	1,798	1,500	120 %

## When do logic checks run?

Logic checks are re-run automatically system-wide every 15 minutes. You can click the **Recalculate logic checks** button to manually recalculate them at any time, too.

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