

Calculating Averages

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Weighted Averages

Averages of indicator results should be properly weighted when you aggregate data by activity, time period, disaggregation, or geographic place. DevResults facilitates this with **formula indicators**.

Let's look at an example. Say we're looking at the indicator "% people who passed the training test" at two locations in Haiti.

- If 1 out of 2 people in Location A passed the training test, that's **50%** in Location A.
- If 99 out of 100 people in Location B passed the training test, that's **99%** in Location B.

If you took an average of these, it would be $(50\% + 99\%) / 2 = 74.5\%$. This would be incorrect. It is NOT true that 74.5% of people passed the training test in Haiti.

The correct calculation would show that in Haiti, 100 people out of 102 total people passed the test, or $100 / 102 = \sim 98.04\%$.

So, to weight averages of percentages properly:

- Report the numerator **[n]** and denominator **[d]** as separate indicators.
- Compute the percentage as a formula indicator: **[n] / [d]**

For formula indicators defined as $[n] / [d]$, aggregate results are computed as:

[sum of every relevant numerator value] / [sum of every relevant denominator value]

Unweighted Averages

In some special scenarios, you might need unweighted averages. There are two options for this in DevResults:

Direct entry indicators

For direct entry indicators, any aggregate result shown in a report is the unweighted average of each value that was entered.

For example: if you look at an aggregated average for Activity A, 2022, females in Haiti, the value you'd see in the report would be an *average of every data point* entered for Activity A, 2022, females in Haiti.

There could be hundreds of data points if you've reported this indicator at many locations, for multiple reporting periods in 2016, and for several age groups. Whether or not you view all of the data points or disaggregations in a report, they would all be averaged together to show the aggregate average for Activity A, 2012, females in Haiti.

Formula indicators

To perform an unweighted average on a formula indicator that contains a ratio, put the ratio in parentheses that don't wrap the whole formula.

- **[n] / [d]** and **([n] / [d])** will be weighted
- **([n] / [d]) * 1** will be unweighted
- This format signals to DevResults to use the same computational logic as with direct entry indicators.

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