



GLOBAL TASK FORCE ON CHOLERA CONTROL

Answers to the exercise to practice using the PAMI Excel tool to identify PAMIs for cholera control

Describe the dataset

1. How many years are included in the analysis period? **5** (see 1 on the figure below)
2. How many operational units are there in this dataset? **100** (see 2 on the figure below)
3. How many deaths were reported in total over the analysis period? **679** (see 3 on the figure below)

In **sheet R.2**, the data description table is used to describe the dataset.

Data description *	
Number of NCP operational geographic units	2 100
Study period: start year	2017
Study period: end year	2021
Study period: number of years	1 5
Number of NCP operational geographic units with at least one case	78
Total number of cases	47,483
Total number of deaths	3 679
Overall case fatality	1.4%
Total number of suspect cases tested **	22,851
Total number of suspect cases tested positive **	9,194
Overall positivity rate **	40.2%



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Describe some parameters of the PAMI analysis

4. What is the value of the 80th percentile of the mortality indicator? **1.83** (see 4 on the figure below)
(geo units with a mortality score \geq this value will have a mortality score = 3)
5. Which proportion the geo units had weekly testing $\geq 50\%$? **88.5%** (see 5 on the figure below)
6. Which testing indicator will be used? **Positivity rate** (see 6 on the figure below)

In sheet R.2, the epidemiological indicators table is used to describe the parameters of epidemiological indicators (incidence, mortality, persistence) in the PAMI analysis.

EPIDEMIOLOGICAL INDICATORS		
Epidemiological indicator score thresholds		
Incidence (100,000 pers.y-1)*	Median	21.30
	80th percentile	62.54
Mortality (100,000 pers.y-1)*	Median	0.65
	80th percentile	4 1.83
Persistence (% of weeks with \geq one case)*	Median	10.2
	80th percentile	22.1

* Calculated out of geographic units with indicator value >0

In sheet R.2, the testing indicator table is used to describe the parameters of testing indicators.

Assessment of representativeness of cholera testing *	
Step 1	
Number of NCP operational geographic units with weekly testing coverage $\geq 50\%$	5 69
Percentage of NCP operational geographic units (with at least one case) with testing coverage $\geq 50\%$	5 88.5%
Is weekly testing coverage $\geq 50\%$ in at least 80% of the NCP operational geographic units of the country?	Yes
Level of representativeness of testing	Acceptable
Inclusion of positivity rate score into the priority index	Yes, positivity rate score included 6 into the priority index



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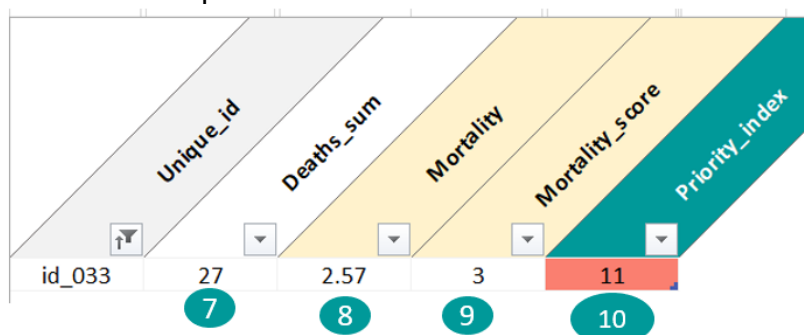
Explore the outputs of the calculations

Consider the geo unit id_033

In this geo unit:

7. How many deaths were registered over the analysis period? **27** (see 7 on the figure below)
8. What is the mortality rate? **2.57** (see 8 on the figure below)
9. What is the mortality indicator score? **3** (see 9 on the figure below)
10. What is the priority index? **11** (see 10 on the figure below)

The sheet R.5 is used to manipulate the data.





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Assess a potential priority index threshold

Stakeholders decided on a priority index threshold ≥ 11

11. What is the cumulative number of geographic units considered as PAMIs? **5** (see 11 on the figure below)
12. What is the cumulative percentage of population living in PAMIs? **6.6%** (see 12 on the figure below)
13. What is the percentage of cases that occurred in PAMIs over the analysis period? **$\approx 38.2\%$** (see 13 on the figure below)
14. What is the percentage of deaths that occurred in PAMIs over the analysis period? **$\approx 19.6\%$** (see 14 on the figure below)
15. What are your thoughts on the potential impact of the future NCP with a priority index set to ≥ 11 ? **The NCP would be anticipated to have a rather limited impact. However, depending on the resources available in this country for implementing its NCP, it may not be possible to target more PAMIs by considering a lower priority index threshold.**

The sheet R.3 is used to assess potential priority index thresholds.

Priority index values	Number of geographic units	Cum. number of geographic units	Rel. % of num. of geographic units	Total population	Rel. % of population	Cum. % of population	Num. of cases	Rel. % of num. of cases	Cum. % of num. of cases	Num. of deaths	Rel. % of num. of deaths	Cum. % of num. of deaths
12	1	1	1.0%	372,328	1.7%	1.7%	7,404	15.6%	15.6%	47	6.9%	6.9%
11	4	5	4.0%	1,082,936	4.9%	6.6%	10,719	22.6%	38.2%	86	12.7%	19.6%
10	9	14	9.0%	2,482,153	11.2%	17.8%	16,110	33.9%	72.1%	141	20.8%	40.4%
9	16	30	16.0%	3,440,568	15.5%	33.3%	8,283	17.4%	89.5%	198	29.2%	69.5%
8	6	36	6.0%	1,174,687	5.3%	38.6%	1,957	4.1%	93.7%	81	11.9%	81.4%
7	7	43	7.0%	1,485,332	6.7%	45.3%	1,242	2.6%	96.3%	64	9.4%	90.9%
6	13	56	13.0%	2,667,462	12.0%	57.3%	1,239	2.6%	98.9%	37	5.4%	96.3%
5	6	62	6.0%	1,411,159	6.4%	63.7%	308	0.6%	99.5%	13	1.9%	98.2%
4	5	67	5.0%	1,099,903	5.0%	68.7%	149	0.3%	99.8%	9	1.3%	99.6%
3	5	72	5.0%	956,310	4.3%	73.0%	57	0.1%	100.0%	2	0.3%	99.9%
2	6	78	6.0%	1,382,814	6.2%	79.2%	15	0.0%	100.0%	1	0.1%	100.0%
0	22	100	22.0%	4,607,481	20.8%	100.0%	0	0.0%	100.0%	0	0.0%	100.0%
Grand Total	100		100.0%	22,163,133	100.0%		47,483	100.0%		679	100.0%	



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Explore the presence of vulnerability factors

16. How many geo units with a priority index of 10 have hard to access populations? **3**
(see 16 on the figure below)

17. What are the unique identifiers of these geo units? **id_277 // id_227 // id_224**

The **sheet R.4** is used to look into the presence of vulnerability factors.

Hard-to-access populations

	VF_06_remote_unit	
Priority_index	Yes	No
12	1	
11		4
10	3	6
9	5	11
8		6
7		7
6	1	12
5	2	4
4	1	4
3	1	4
2	1	5
0	2	20
Grand Total	17	83

Right click on the cell of interest, **show details**, are used to identify the corresponding geo units.

Unique_id
id_277
id_227
id_224