Covid-19 Simple Heath Workforce Estimator Guide

World Health Organization

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REGIONAL OFFICE FOR Europe

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The UN Refugee Agency

Excel version 2.1

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Acknowledgements:

- Medical Teams International (MTI)
- International Rescue Committee (IRC)

Acknowledgments

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Introduction

The Simple Health Workforce Estimator tool can be used to estimate the health workforce required to treat COVID-19 patients at mild, moderate and severe levels of infection.

It performs the same calculations as the more complex Strategic Health Workforce Estimator but is much simpler to configure and use.

Note
All data input fields are highlighted in yellow. These are the only places input is permitted.

1. Define the workforce

(1) Specify the occupational titles. These are used across the rest of the spreadsheet, and do not need to be copied.

(2) Put an ”X” or other character against any workforce delivering patient support. Support groups do not provide direct care to patients but support a healthcare facility or unit.

(3) Repeat for workforce groups that provide direct patient care, across any combination of mild, moderate or severe cases.

(4) Workforce descriptions are optional.

ID	Occupational title (1)	Description (optional) (4)	Support (2)	Mild cases (3)	Moderate cases (3)	Severe cases (3)
1	Medical specialists	Internal medicine/critical care expertise				x
2	Medical Doctor (residents)			x	x	x
3	Nurse leads	Shift team lead for nurses			x	x
4	Nurse			x	x	x
5	Administrator - maintenance officer		x			
6	Cleaners		x			
7	Cooks		X			
8	Data clerks	Day shift only	x			
9	Electrician		x			
10	IPC Focal Points	IPC focal point and shift team lead	x			
11	IPC specialists	IPC specialty to support new training,etc	x			
12	ITC team lead		x			
13	Lab technicians	in shift teams to allow for 24/7 lab	x			
14	Laundry assistants		X			
15	Morgue assistants		x			
16	Pharmacists	Stock keepers and also supply medications	x			
17	Plumber		x			
18	Porters		x			
19	Psychologists		x			
20	Security guards		x			
21	Translators					
22	Ward boys		x			
23	WASH technicians		x			
24	Waste management assistants		x			
25						

These names are used across the result of the spreadsheet. They may be in any order that makes sense.

Use any upper or lower case character to show where each workforce operates. Make sure empty spaces are empty!

2a. Define the staff (support)

(1) Specify the Staff to Facility size ratio in beds. You must provide "Standard" numbers for workforce effort, but you can also provide "Stretch" numbers to reflect pressure on the workforce that results in reduced patient care time. If both are provided “Standard” will be used.

(2) Specify the Average hours per week. You can use the **Shifts** tab to help estimate average hours worked per week. The number calculated will need to be copied across.

(3) Specify the Required service hours per week. This is the time that a specific workforce groups spends in delivering patient support or care.

(4) Staff numbers are optional. They are assumed to be Full Time Equivalents (FTE).

(5) If then provided you need to specify the "Staff sickness rate" in percent (zero if not known or no sickness).

	4	5	1 Staff/Facility size		2	3
Occupational title	Staff numbers (Optional)	Staff sickness rate (percent)	Standard	Stretch	Average hours per week	Required service hours per week
Administrator - maintenance officer	1	0.0%	50.0	50.0	40.00	56.00
Cleaners	24	0.0%	6.0	8.0	40.00	168.00
Cooks	7	0.0%	25.0	50.0	40.00	168.00
Data clerks	1	0.0%	50.0	50.0	40.00	40.00
Electrician	2	0.0%	50.0	50.0	40.00	168.00
IPC Focal Points	4	0.0%	50.0	50.0	40.00	168.00
IPC specialists	2	0.0%	50.0	50.0	40.00	40.00
ITC team lead	1	0.0%	50.0	50.0	40.00	40.00
Lab technicians	2	0.0%	50.0	50.0	40.00	168.00
Laundry assistants	3	0.0%	50.0	50.0	40.00	168.00
Morgue assistants	4	0.0%	50.0	50.0	40.00	40.00
Pharmacists	2	0.0%	50.0	50.0	40.00	168.00
Plumber	2	0.0%	50.0	50.0	40.00	56.00
Porters	6	0.0%	25.0	50.0	40.00	168.00
Psychologists	2	0.0%	50.0	50.0	40.00	56.00
Security guards	9	0.0%	16.0	25.0	40.00	168.00
Ward boys	16	0.0%	10.0	12.0	40.00	168.00
WASH technicians		0.0%	50.0	50.0	40.00	112.00
Waste manageme		0.0%	50.0	50.0	40.00	168.00

These names are copied from the workforce tab. The gray background means that cannot be edited.

Full-time care is 24 x 7 = 168 hours per week. (to 5 care each day is 8 x 7 = 56 hours per week.

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2b, 2c, 2d. Define the staff (non-support)

The Staff(Mild), Staff(Moderate) and Staff(Severe) worksheets are similar to the Staff(Support) worksheet. However, as staff here are providing direct patient care, the effort can be defined as:

(1) "Staff/Patient ratio" or

(2) "Hours Per Patient Per Day (HPPD)

If you specify both then the Staff-Patient ratio will be used. Guidance on HPPD values is available in the **Workforce effort** worksheet. The values provided are based on WHO Euro research.

All other parameters are the same as in the **Staff(Support)** worksheet.

Note that the Percentage of severe cases and the Percentage of case hospitalized are defined in the **Requirements** worksheet. They are provided here for reference.

Staff/Patient ratio and HPPD are just different ways of expressing workforce effort. Use whichever one works best for you.

Percentage severe cases	6.0%
Percent cases hospitalized	100.0%

				1 Staff/Patient ratio		2 Hours Per Patient Day			
Group ID	Occupational title	Current staff (Optional)	Staff sickness rate (percent)	Standard	Stretch	Standard	Stretch	Average hours per week	Required service hours per week
1	Medical specialists	1	0.0%	50.0	50.0			40.00	56.00
2	Medical Doctor (residents)	5	0.0%	12.0	15.0			40.00	168.00
3	Nurse leads	2	0.0%	50.0	50.0			40.00	168.00
4	Nurse	7	0.0%	8.0	10.0			40.00	168.00
5									
6									
7									
8									
9									
10									

These names are in the same order as the workforce tab, so there may be gaps if a workforce group does not deliver service at this level of severity.

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3. Explore the requirements (draft)

(1) Specify the Percentage of cases by severity, and the Percentage hospitalized.

(2) Specify the Number of beds (this will define the support staff needed) and (3) the Number of COVID-19 cases.

(4) If the calculation is set to “Requirements” then the required workforce numbers are calculated. If it is set to “Supply gap” then the gap between required and actual staff is calculated – but only if staff numbers have been provided.

(5) The Staffing ratios can be either “Standard” or “Stretch”.

(6) The “Crisis threshold” is new. It is a specified percentage of beds occupied, above which only severe cases will be hospitalized. This means that below the threshold we may have mild, moderate and severe cases occupying beds, depending on the percentage hospitalized, but only severe cases will be considered above the threshold.

4 Calculation ->	Requirements
5 Staffing ratios ->	Standard
Number of beds (2)	100
Number of cases (3)	312
6 Crisis threshold	75%

	Mild	Moderate	Severe (1)
Percentage cases	80.0%	14.0%	6.0%
Percentage hospitalized	5.0%	100.0%	100.0%
Beds required	12	44	19
Deficit (red) or surplus (black)			
Beds if threshold exceeded	12	44	19

Total beds	75
Total beds	75

The threshold is variable so you can see the effect of changing it. If the threshold is exceeded the beds required are highlighted in red.

	Medical specialists	Medical Doctor (residents)	Nurse leads	Nurse	Administrator - maintenance officer	Cleaners	Cooks	Data clerks	Electrician	IPC Focal Points	IPC specialists	ITC team lead	Lab technicians	Laundry assistants	Morgue assistants	Pharmacists	Plumber	Porters	Psychologists	Security guards	Translators	Ward boys	WASH technicians	Waste management assistants
Support					3	70	17	2	9	9	2	2	9	9	3	17			3	27		42	6	9
Mild		5		7																				
Moderate		16	4	24																				
Severe	1	7	2	10																				
Staff required	1	28	6	41	3	70	17	2	9	9	2	2	9	9	3	17			3	27		42	6	9
Current staff	1	18	5	27	1	24	7	1	2	4	2	1	2	3	4	2	2	6	2	9		16	2	4

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4. Explore shift patterns

This tab is a simple estimator for shift planning.

(1) List the team names, from one to four. Only list the number of teams required.

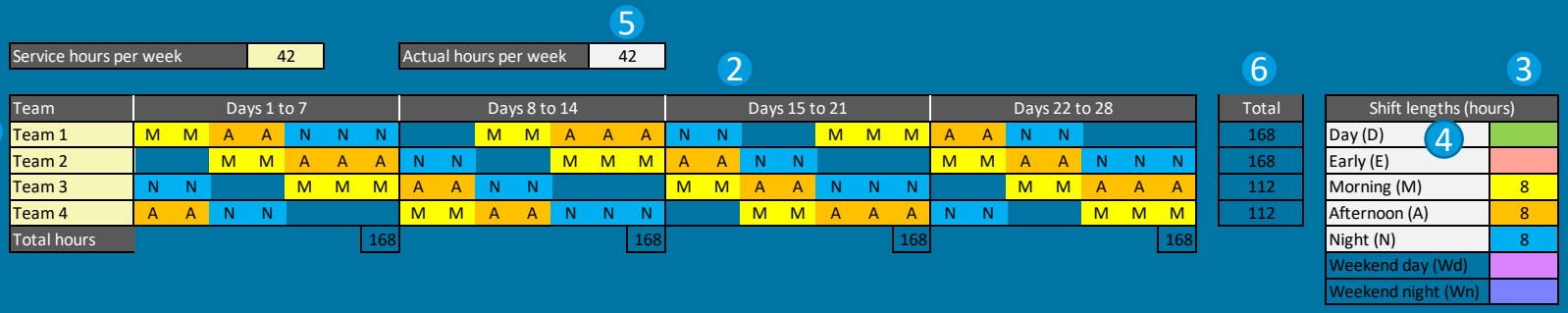
(2) Specify the time over four weeks for each of the teams. There are a variety of shifts types that can be used.

(3) Specify the length of each shift, and (4) type the code in the appropriate cell. For example, to show a day shift type "D" or "d".

(5) "Service hours per week" is not used in the calculation, but is as a target, if required.

(5) The "Actual hours per week" are calculated according to the shift pattern you have defined.

(6) Note that some patterns may take more than four weeks to complete. This will be seen if the average hours per week is not the same for all teams.



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5. Workforce effort

This worksheet provides example patient time per COVID-19 severity across a defined set workforce groups. It uses standardized workforce terminology, coding, and modified workforce definitions from the International Labour Organization's (ILO) International Standard Classification of Occupations (2008) (available at https://www.ilo.org/public/english/bureau/stat/isco/isco08/).

It is not linked to any of the other worksheets.

Further information

For further information please contact:

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If you have ideas for enhancements, or specific requests change, please provide the details to the contact above.

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