SANNIDHI SARVADHAVABHATLA

941 Indian Spring Lane, Buffalo Grove, IL, 60089 · 8472265080 sannidhi.sarva@gmail.com · sannidhisarva.com · in sannidhisarvadhavabhatla

Coronavirus Situation Report

Definition of COVID-19

COVID-19 is officially named as "severe acute respiratory syndrome coronavirus 2" (also known as SARS-CoV-2) (WHO). Those who are older or have any underlying medical conditions may be at a higher risk for contracting the virus.

Situation by Numbers (WHO)

,	Total Cases	Total Deaths
Globally	7,941,791	434,796
Africas	181, 903	4,235
Americas	3,841,609	203,574
Eastern Mediterranean	796,759	17,558
Europe	2,434,184	188,779
South-East Asia	486,673	13,409
Western Pacific	199,922	7,228

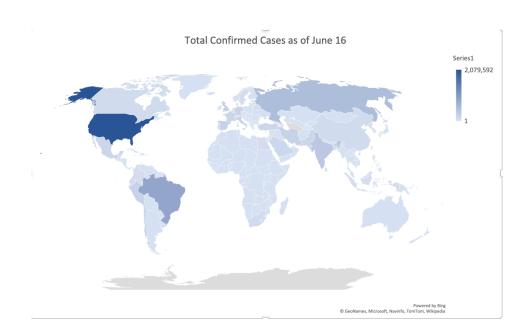
as of June 16, 2020

Risk Assessment

Currently, the Global Risk Assessment is Very High.

Surveillance

Map



Graph

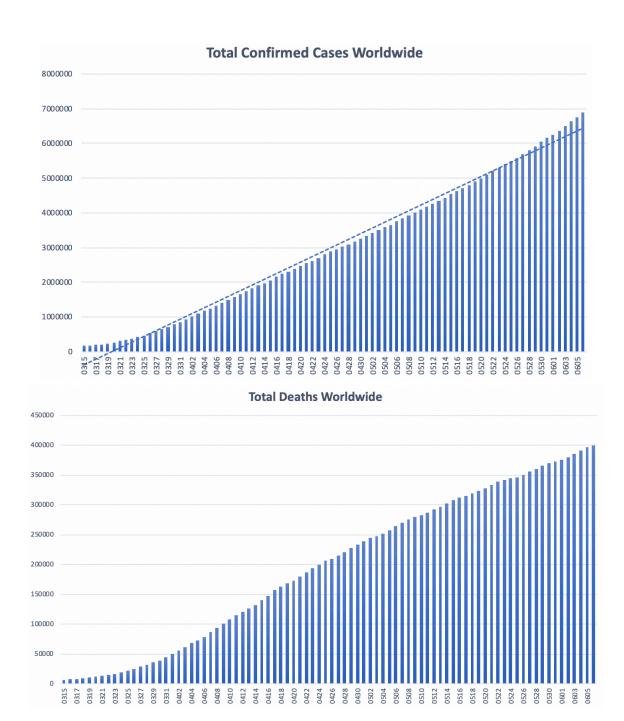


Table (WHO)

Reporting Country/Territory/ Area	Total Confirmed Cases	Total Confirmed New Cases	Total Deaths	Total New Deaths	Transmission Classification	Days since last reported case
Africa						
South Africa	73,533	3,495	1,568	88	Community transmission	0
Nigeria	16,658	573	424	4	Community transmission	0

Ghana	11,964	542	54	3	Community	0
					transmission	
Algeria	11,031	112	777	10	Community	0
					transmission	
Cameroon	9,864	292	276	1	Community	0
					transmission	
Senegal	5,090	0	60	0	Community	1
GA 147 .	7.004				transmission	
Côte d'Ivoire	5,084	0	45	0	Community	1
D (' D 11'	4 777	0	106	0	transmission	1
Democratic Republic	4,777	U	106	0	Community transmission	1
of the Congo Guinea	4,572	38	26	1	Community	0
Guillea	4,372	36	20	1	transmission	0
Gabon	4,033	570	27	4	Community	0
Guoon	1,033	370	27	'	transmission	, and the second
Kenya	3,727	133	104	1	Community	0
<i>j</i> :-	,,,_,				transmission	
Ethiopia	3,521	176	60	3	Community	0
1					transmission	
Central African	2,222	0	7	0	Community	1
Republic					transmission	
Mali	1,860	51	104	0	Community	0
					transmission	
Mauritania	1,783	0	87	0	Clusters of cases	1
South Sudan	1,755	62	30	3	Clusters of cases	0
Guinea-Bissau	1,460	0	15	0	Community	2
					transmission	
Zambia	1,382	24	11	0	Community	0
26.1	1.000	10	1.0		transmission	
Madagascar	1,290	18	10	0	Clusters of cases	0
Sierra Leone	1,176	7	51	0	Community	0
					transmission	
Equatorial Guinea	1,043	0	12	0	Community	23
NI.	000	0		0	transmission	1
Niger	980	0	66	0	Community	1
Burkina Faso	894	0	53	0	transmission	1
Б игкша Гаѕо	094	U	33	U	Community transmission	1
Congo	883	104	27	2	Community	0
Congo	003	107	21		transmission	
Chad	850	0	73	0	Community	1
					transmission	
Uganda	823	0	0	0	Sporadic cases	2
Cabo Verde	760	10	7	1	Clusters of cases	0
Rwanda	612	30	2	0	Sporadic cases	0
17 W and	012				Sporaule cases	"

Mozambique	609	26	3	1	Clusters of cases	0
Malawi	556	9	6	0	Clusters of cases	0
Togo	531	1	13	0	Community	0
					transmission	
United Republic of	509	0	21	0	Community	39
Tanzania	706	1.6	4	0	transmission	
Eswatini	506	16	4	0	Clusters of cases	0
Liberia	498	40	33	1	Community transmission	0
Benin	483	13	9	2	Community transmission	0
Sao Tome and Principe	388	0	10	0	Clusters of cases	5
Zimbabwe	387	4	4	0	Sporadic cases	0
Mauritius	337	0	10	0	Clusters of cases	10
Comoros	176	0	2	0	Community transmission	2
Angola	142	2	6	0	Clusters of cases	0
Eritrea	109	13	0	0	Sporadic cases	0
Burundi	104	10	1	0	Clusters of cases	0
Botswana	60	0	1	0	Clusters of cases	3
Namibia	32	0	0	0	Sporadic cases	2
Gambia	28	0	1	0	Sporadic cases	7
Seychelles	11	0	0	0	Clusters of cases	70
Lesotho	4	0	0	0		12
	4	0	U	0	Sporadic cases	12
Territories	2 210	28	28	-1	Clusters of cases	0
Mayotte	2,310					
Réunion	496	1	1	0	Clusters of cases	0
Americas	2.050.502	21.754	117.404	2.72		
United States of America	2,079,592	21,754	115,484	372	Community transmission	0
Brazil	867,624	17,110	43,332	612	Community	0
Bruzir	007,02	17,110	13,552	012	transmission	
Peru	229,736	4,604	6,688	190	Community transmission	0
Chile	179,436	5,143	3,362	39	Community	0
	1.7,150	,,,,,,	2,502		transmission	
Mexico	146,837	4,147	17,141	269	Community	0
G 1	20.505	255	0.445	20	transmission	
Canada	98,787	377	8,146	39	Community	0
Colombia	50,939	2,193	1,667	75	transmission Community	0
					transmission	

Ecuador	47,322	571	3,929	33	Community transmission	0
Argentina	31,577	1,282	842	23	Community transmission	0
Dominican Republic	23,271	309	605	13	Community transmission	0
Panama	20,686	627	437	8	Community transmission	0
Bolivia	18,459	617	611	26	Community transmission	0
Guatemala	9,845	354	384	17	Community transmission	0
Honduras	8,858	403	312	2	Community transmission	0
Haiti	4,309	144	73	3	Community transmission	0
El Salvador	3,826	106	74	2	Community transmission	0
Venezuela (Bolivarian Republic of)	2,978	74	25	1	Community transmission	0
Cuba	2,262	14	84	0	Clusters of cases	0
Costa Rica	1,715	53	12	0	Clusters of cases	0
Nicaragua	1,655	0	55	0	Community transmission	5
Paraguay	1,296	7	12	1	Community transmission	0
Uruguay	848	1	23	0	Clusters of cases	0
Jamaica	617	2	10	0	Clusters of cases	0
Suriname	208	21	4	1	Clusters of cases	0
Guyana	159	0	12	0	Clusters of cases	2
Trinidad and Tobago	123	6	8	0	Sporadic cases	0
Bahamas	104	1	11	0	Clusters of cases	0
Barbados	97	1	7	0	Clusters of cases	0
Saint Vincent and the Grenadines	27	0	0	0	Sporadic cases	7
Antigua and Barbuda	26	0	3	0	Clusters of cases	2
Grenada	23	0	0	0	Clusters of cases	20
Belize	21	0	2	0	Sporadic cases	1
Saint Lucia	19	0	0	0	Sporadic cases	10
Dominica	18	0	0	0	Clusters of cases	3
Saint Kitts and Nevis	15	0	0	0	Sporadic cases	56
Territories						
Puerto Rico	5,890	79	147	0	Community transmission	0

French Guiana	1,326	71	3	0	Community transmission	0
Martinique	202	0	14	0	Clusters of cases	9
Cayman Islands	187	0	1	0	Clusters of cases	2
Guadeloupe	171	0	14	0	Clusters of cases	3
Bermuda	144	0	9	0	Clusters of cases	1
Aruba	101	0	3	0	No cases	41
Sint Maarten	77	0	15	0	Sporadic cases	10
United States Virgin Islands	72	0	6	0	Clusters of cases	5
Saint Martin	41	0	3	0	Sporadic cases	16
Curação	22	0	1	0	Sporadic cases	5
Falkland Islands (Malvinas)	13	0	0	0	Clusters of cases	51
Turks and Caicos Islands	12	0	1	0	Sporadic cases	49
Montserrat	11	0	1	0	Sporadic cases	63
British Virgin Islands	8	0	1	0	Sporadic cases	31
Bonaire, Sint Eustatius and Saba	7	0	0	0	No cases	21
Saint Barthélemy	6	0	0	0	No cases	77
Anguilla	3	0	0	0	Sporadic cases	73
Saint Pierre and Miquelon	1	0	0	0	No cases	69
Eastern Meditteranean						
Iran	189,876	2,449	8,950	113	Community transmission	0
Pakistan	148,921	4,443	2,839	110	Clusters of cases	0
Saudi Arabia	132,048	4,507	1,011	39	Clusters of cases	0
Qatar	80,876	1,274	76	3	Community transmission	0
Egypt	46,289	1,691	1,672	97	Clusters of cases	0
United Arab Emirates	42,636	342	291	2	Pending	0
Kuwait	36,431	511	298	2	Clusters of cases	0
Afghanistan	25,633	106	484	8	Clusters of cases	0
Oman	24,524	1,043	108	4	Clusters of cases	0
Iraq	21,315	1,106	652	45	Clusters of cases	0
Bahrain	19,013	469	46	3	Clusters of cases	0
Morocco	8,885	92	212	0	Clusters of cases	0
Sudan	7,435	215	468	9	Community transmission	0
Djibouti	4,501	36	43	0	Clusters of cases	0

Somalia	2,642	47	88	0	Sporadic cases	0
Lebanon	1,464	18	32	0	Clusters of cases	0
Tunisia	1,110	14	49	0	Community	0
					transmission	
Jordan	979	18	9	0	Clusters of cases	0
Yemen	848	116	209	44	Pending	0
Libya	467	49	10	2	Clusters of cases	0
Syrian Arab Republic	177	0	6	0	Community transmission	1
Territories						
occupied Palestinian territory	689	13	5	0	Clusters of cases	0
Europe						
Russian Federation	545,458	8,248	7,284	193	Clusters of cases	0
The United Kingdom	296,861	968	41,736	38	Community	0
					transmission	
Spain	244,109	181	27,136	0	Community	0
					transmission	
Italy	237,290	301	34,371	26	Community	0
					transmission	
Germany	186,839	378	8,800	9	Community	0
					transmission	
Turkey	179,831	1,592	4,825	18	Community transmission	0
France	152,819	52	29,373	30	Community	0
France	132,019	32	29,373	30	transmission	U
Belgium	60,100	71	9,661	6	Community	0
8		-	,,,,,,		transmission	
Belarus	54,680	707	312	4	Community	0
					transmission	
Sweden	52,383	769	4,891	17	Community	0
					transmission	
Netherlands	48,783	0	6,059	0	Community	1
					transmission	
Portugal	37,036	346	1,520	3	Community	0
					transmission	
Ukraine	32,476	666	913	12	Community	0
					transmission	
Switzerland	31,048	14	1,676	0	Community	0
D 1 1	20.500	206	1.076		transmission	
Poland	29,788	396	1,256	9	Community	0
T., -1, 1	25 221	10	1.707		transmission	
Ireland	25,321	18	1,706	0	Community	0
Romania	22,165	166	1,427	17	transmission Community	0
Komama	22,103	100	1,74/	1 /	transmission	
	L				u ansimissiun	1

Israel	19,121	113	302	2	Pending	0
Armenia	17,489	a	293	8	Community transmission	0
Austria	17,065	27	678	1	Community transmission	0
Kazakhstan	15,192	383	81	4	Clusters of cases	0
Serbia	12,367	57	255	1	Pending	0
Denmark	12,217	24	598	1	Community transmission	0
Republic of Moldova	11,879	139	417	11	Community transmission	0
Azerbaijan	10,324	367	122	3	Clusters of cases	0
Czechia	10,064	40	330	1	Clusters of cases	0
Norway	8,631	25	242	0	Clusters of cases	0
Finland	7,108	4	326	0	Pending	0
Uzbekistan	5,293	190	19	0	Clusters of cases	0
Tajikistan	5,097	62	50	0	Pending	0
North Macedonia	4,157	100	193	5	Clusters of cases	0
Hungary	4,077	1	565	2	Community transmission	0
Luxembourg	4,072	2	110	0	Clusters of cases	0
Bulgaria	3,341	51	176	2	Clusters of cases	0
Greece	3,134	13	184	1	Clusters of cases	0
Bosnia and Herzegovina	3,039	38	164	1	Community transmission	0
Kyrgyzstan	2,472	100	29	2	Clusters of cases	0
Croatia	2,254	2	107	0	Sporadic cases	0
Estonia	1,974	1	69	0	Clusters of cases	0
Iceland	1,810	0	10	0	Community transmission	1
Lithuania	1,773	5	76	1	Community transmission	0
Albania	1,672	82	37	1	Clusters of cases	0
Slovakia	1,552	4	28	0	Clusters of cases	0
Slovenia	1,496	1	109	0	Clusters of cases	0
Latvia	1,097	0	28	0	Clusters of cases	2
Cyprus	985	2	18	0	Clusters of cases	0
Georgia	879	0	14	0	Community transmission	1
Andorra	853	0	51	0	Community transmission	3
San Marino	695	0	42	0	Community transmission	11

Malta	649	3	9	0	Sporadic cases	0
Montenegro	326	1	9	0	Clusters of cases	0
Monaco	99	0	1	0	Sporadic cases	9
Liechtenstein	83	0	1	0	Pending	51
Holy See	12	0	0	0	Sporadic cases	40
Territories						
Kosovo	1,572	129	23	0	Community transmission	0
Isle of Man	336	0	24	0	Pending	25
Jersey	313	0	30	0	Community transmission	6
Guernsey	252	0	13	0	Community transmission	44
Faroe Islands	187	0	0	0	Pending	53
Gibraltar	176	0	0	0	Clusters of cases	7
Greenland	13	0	0	0	Pending	18
South-East Asia						
India	343,091	10,667	9,900	380	Clusters of cases	0
Bangladesh	90,619	3,099	1,209	38	Community transmission	0
Indonesia	39,294	1,017	2,198	64	Community transmission	0
Nepal	6,211	451	19	0	Sporadic cases	0
Thailand	3,135	0	58	0	Clusters of cases	2
Maldives	2,065	30	8	0	Clusters of cases	0
Sri Lanka	1,905	16	11	0	Clusters of cases	0
Myanmar	262	0	6	0	Clusters of cases	1
Bhutan	67	1	0	0	Sporadic cases	0
Timor-Leste	24	0	0	0	Clusters of cases	53
Western Pacific						
China	84,823	45	4,645	0	Clusters of cases	0
Singapore	40,818	214	26	0	Clusters of cases	0
Philippines	26,420	490	1,098	10	Community transmission	0
Japan	17,587	85	927	2	Clusters of cases	0
Republic of Korea	12,155	34	278	1	Clusters of cases	0
Malaysia	8,494	41	121	0	Clusters of cases	0
Australia	7,335	15	102	0	Clusters of cases	0
New Zealand	1,156	2	22	0	Clusters of cases	0
Viet Nam	334	0	0	0	Clusters of cases	2
Mongolia	197	0	0	0	Sporadic cases	3

Brunei Darussalam	141	0	2	0	Clusters of cases	39
Cambodia	128	0	0	0	Sporadic cases	1
Lao People's Democratic Republic	19	0	0	0	Sporadic cases	64
Fiji	18	0	0	0	Sporadic cases	56
Papua New Guinea	8	0	0	0	Sporadic cases	54
Territories						
Guam	60	1	5	0	Clusters of cases	0
French Polynesia	60	0	0	0	Sporadic cases	41
Northern Mariana Islands	30	0	2	0	Pending	6
New Caledonia	21	0	0	0	Sporadic cases	6
			10.1.00			
Subtotal for all regions	7,941,050	118,502	434,783	3,255		
Other*	741	0	13	0	Not applicable	-
Grand total	7,941,791	118,502	434,796	3,255		

as of June 16, 2020

Transmission Classification:

- Community transmission: people within a certain area have been infected with the virus, some don't know who or where they became infected
- Cluster of cases: an aggregate of cases that are grouped in a specific place and time that is appeared to be greater than expected
- Sporadic cases: infrequent or irregular appearance of cases
- No Cases: no known individuals have been infected with the virus

Incidence Rate:

- Low: There have been 10 or fewer new cases per 100,000 people in the past two weeks
- Moderate: There have been between 10 and 50 new cases per 100,000 people in the past two weeks.
- **Moderately High:** There have been between 50 and 100 new cases per 100,000 people in the past two weeks.
- **High:** There have been more than 100 new cases per 100,000 people in the past two weeks.

Guidelines by CDC

Recommendations

The CDC recommends that all individuals should wear a mask when in public and practice social distancing of at least 6 feet. Gatherings should be limited to <10 people. Social distancing, also known as "physical distancing" is important as the droplets from one individual's sneeze, cough can be spread and land onto another person's nose or mouth and get into the lungs.

Additionally, people who are infected with the virus, but don't show any symptoms (asymptomatic) also can spread the virus.

It is also possible to get infected by touching a surface that may have been exposed to the virus and then touching your face, nose, mouth. However, this isn't the most common cause of the spread of the virus, as the virus can't survive long hours on surfaces.

Current Treatments

Currently, there is no vaccine for the SARS-CoV-2. However, there are various treatments that are being tested in hospitals.

People with mild symptoms are able to recover at home with over the counter medication (pain killers, decongestants, cough suppressants).

The FDA and CDC both disagree on the effect of hydroxychloroquine, the malaria drug, to prevent COVID-19. A UK study said that "in a group of 1542 hospitalized patients treated with hydroxychloroquine, 25.7% had died after 28 days, compared with 23.5% in a group of 3132 patients who had only received standard care (Kupferschmidt)." This rules out the benefit of this drug.

The drug *remdesivir*, is a new intravenous antiviral that hasn't been approve yet but is far along on their clinical trial phase. This drug has been shown to have some effect against SARS, MERS, and Ebola (Tran). Current studies, *in vitro*, have shown that *remdesivir* prevented human cells from being infected with the coronavirus. Currently, the FDA approved this drug for EUA, emergency use authorization on May 1, 2020.

Another drug, *dexamethasone*, is a common steroid used to treat many autoimmune conditions and allergic reactions⁴. A UK study seemed to suggest that this drug is helpful for patients who were on a ventilator or needed more oxygen due to the virus.

Lastly, an antibiotic *azithromycin*, is commonly used to treat bacterial infections such as bronchitis and pneumonia (Tran). It was shown that this antibiotic had "some *in vitro* activity against viruses like influenza A and Zika, but did not work against the coronavirus that causes MER. (Tran)."

Comparison to the SARS Outbreak in 2002

Both viruses – SARS-CoV-2 and SARS – originated in China and are spread through respiratory droplets. Both had a more severe effect for older individuals of ages greater than 60.

The CDC reported ~8,098 people were infected with SARS in 26 countries and a total of 774 individuals died (Dutton). This number is significantly smaller than the number of infected cases from the coronavirus.

There has been research suggesting that both originated and came from bats, specifically horseshoe bats. In 2002, horseshoe bats were sold in China's wet markets. The SARS outbreak occurred in Guangdong province and has been linked to these specific wet markets (Dutton). By 2019, these bats were no longer sold in the markets.

However, these bats don't live near Wuhan, therefore there isn't a clear reason for the origin of the SARS-CoV-2. According to Wuhan University, COVID-19 was linked to horseshoe bats, but are currently used in research and two labs in Wuhan are studying this. Research suggest that the scientist may have been bitten by a bat and became infected, starting the spread (Dutton) but there is no clear consensus.

Appendix

Data and Tables

Caution taken when looking at data as it might not be fully accurate. Various sources have slight differences in the total counts.

Work Cited

- Naming the coronavirus disease (COVID-19) and the virus that causes it. (2020, February 11). Retrieved from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it#:~:text=ICTV on 11 February 2020.
- WHO. (2020). *Coronavirus disease (COVID-2019) situation reports*. WHO. Retrieved June 22, 2020, from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports.
- Kupferschmidt, K. (2020, June 09). Three big studies dim hopes that hydroxychloroquine can treat or prevent COVID-19. Retrieved June 23, 2020, from https://www.sciencemag.org/news/2020/06/three-big-studies-dim-hopes-hydroxychloroquine-can-treat-or-prevent-covid-19
- Tran, J. (2020, June 18). COVID-19 Treatments: An Updated List of Drugs and Medications in Development GoodRx. Retrieved June 23, 2020, from https://www.goodrx.com/blog/coronavirus-treatments-on-the-way/
- Dutton, G. (2020, April 03). Compare: 2003 SARS Pandemic Versus 2020 COVID-19 Pandemic. Retrieved June 24, 2020, from https://www.biospace.com/article/comparison-2003-sars-pandemic-vs-2020-covid-19-pandemic/