

#### **Current situation**

- Reported daily cases grew from mid-May to the beginning of August and have since declined slightly to an average of under 250,000 a day (Figure 1). Daily deaths peaked mid-April at around 7,500 a day, declined to around 4,500 a day in June, and then increased to 6,000 a day in the first two weeks of August (Figure 2a). Since then, daily deaths have declined to just over 5,500 a day. The contrasting trends in daily cases and daily deaths reflects the scale-up of testing in many regions of the world.
- COVID-19 is the fifth leading cause of death in the world this week (Table 1). 27% of global COVID-19 deaths are below age 60 (Figure 2b).
- Effective R is above 1 in select US states and Canadian provinces; in Bolivia, Paraguay, and Argentina; and in parts of Spain, France, Sweden, Turkey, Ukraine, Belarus, Egypt, Indonesia, and multiple states in India (Figure 3).
- The cumulative percentage of the population infected is over 20% in Ecuador, Peru, multiple states of Brazil, and several states in Mexico (Figure 4).
- Globally, less than 1 infection in 10 has been detected through testing (Figure 5).

#### Trends in key drivers

- Countries still maintaining more than three social distancing mandates are concentrated in Central America, South America, and select countries in sub-Saharan Africa. Only one mandate is in place many US states and parts of Europe.
- Global mobility as measured through cellphone app use on Android and iOS phones dropped to a low of 50% below pre-COVID-19 baseline in late March and early April and increased steadily to 20% below baseline in late June. Since that date, global mobility has remained relatively constant around 20% below baseline. Reductions greater than 40% are seen in several countries in Latin America, and in India.
- According to surveys of Facebook users and other cellphone surveys, global mask use has been stable at around 60% since mid-April. High reported levels of mask use are seen in all of Latin America, southern Africa, southern Europe, South Asia, and Southeast Asia, with the exceptions of Myanmar, Laos, and Cambodia.
- Global testing per capita has risen steadily from very low levels in March to over 50 per 100,000. Rates range from less than 10 per 100,000 in sub-Saharan Africa to over 350 per 100,000 in some US states and parts of Europe.

#### Forecasts

- We extended our forecasts to January 1. We expect daily global deaths to reach nearly 30,000 a day in December. The number of cumulative deaths expected by January 1 is 2.8 million; this is 1.9 million deaths from now until the end of the year.
- If a herd immunity strategy is pursued namely no further government intervention is taken from now to January 1 – then the death toll could increase to 4 million deaths by the end of the year. Compared to the reference scenario, this would be 1.2 million more deaths from now to the end of the year.



- Increasing mask use remains an extraordinary opportunity for the world. Increasing mask use to the levels seen in Singapore would decrease the cumulative death toll to 2.0 million, or 770,000 lives saved compared to the reference scenario. This would be a 27% reduction in the deaths expected from now until the end of the year.
- Forecasts for some countries are lower than in our August 27 estimates. This reflects the fact that our estimates continue to reflect fluctuations in actual data on COVID-19 cases, hospitalizations, and deaths.
- Some locations are not included in our model because their epidemics affect too few people to produce a reliable projection. For example, Vietnam and several provinces of China do not meet the threshold for projections.

# **COVID-19** Results Briefing: Global

### Institute for Health Metrics and Evaluation (IHME)

### September 03, 2020

 $This\ briefing\ contains\ s\ ummary\ information\ o\ n\ the\ latest\ p\ rojections\ from\ the\ I\ HME\ m\ odel\ o\ n\ C\ OVID-19\ in\ Global.$ 

# Updates on September 03, 2020

Starting this week, we are reporting our projections up to January 1, 2021. Updates to the model this week include additional data on deaths, cases, and updates on covariates. Since our model two weeks ago, we have been using an updated infection to fatality ratio (IFR) that substantially affects the number of estimated infections in our model, particularly in younger age groups. The Preface Figure shows the age pattern as previously used and the new age pattern. This curve is a global pattern and affects all locations.

#### Preface Figure.





## **Current situation**

#### Figure 1. Reported daily COVID-19 cases







Table 1. Ranking of COVID-19 among the leading causes of mortality this week, assuming uniform d	leaths
of non-COVID causes throughout the year	

Cause name	Weekly deaths	Ranking
Ischemic heart disease	175,727	1
Stroke	126,014	2
Chronic obstructive pulmonary disease	63,089	3
Lower respiratory infections	$47,\!946$	4
COVID-19	$39,\!579$	5
Tracheal, bronchus, and lung cancer	39,282	6
Neonatal disorders	36,201	7
Alzheimer's disease and other dementias	31,217	8
Diabetes mellitus	29,830	9
Diarrheal diseases	29,509	10

Figure 2a. Reported daily COVID-19 deaths and smoothed trend estimate



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Figure 2b. Estimated cumulative deaths by age group

**Figure 3.** Mean effective R on August 20, 2020. The estimate of effective R is based on the combined analysis of deaths, case reporting and hospitalizations where available. Current reported cases reflect infections 11-13 days prior so estimates of effective R can only be made for the recent past. Effective R less than 1 means that transmission should decline all other things being held the same.







Figure 4. Estimated percent infected with COVID-19 on August 31, 2020

Figure 5. Percent of COVID-19 infections detected. This is estimated as the ratio of reported COVID-19 cases to estimated COVID-19 infections based on the SEIR model.







Figure 6. Daily COVID-19 death rate per 1 million on August 31, 2020



# Critical drivers

Figure 7. Total number of mandates







Figure 8a. Trend in mobility as measured through smartphone app use compared to January 2020 baseline

Global

Figure 8b. Mobility level as measured through smartphone app use compared to January 2020 baseline (percent)







Figure 9a. Trend in the proportion of the population reporting always wearing a mask when leaving home

Figure 9b. Proportion of the population reporting always wearing a mask when leaving home on August 31, 2020







Figure 10a. Trend in COVID-19 diagnostic tests per 100,000 people

Figure 10b. COVID-19 diagnostic tests per 100,000 people on August 31, 2020







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Figure 11. Increase in the risk of death due to pneumonia on February 1 compared to August 1



### **Projections and scenarios**

Figure 12. Cumulative COVID-19 deaths until January 01, 2021 for three scenarios. The reference scenario is our forecast of what we think is most likely to happen. The mandate easing scenario is what would happen if governments continue to ease social distancing mandates. The universal mask mandate scenario is what would happen if mask use increased immediately to 95%.



Fig 13. Daily COVID-19 deaths until January 01, 2021 for three scenarios. The reference scenario is our forecast of what we think is most likely to happen. The mandate easing scenario is what would happen if governments continue to ease social distancing mandates. The universal mask mandate scenario is what would happen if mask use increased immediately to 95%.



Fig 14. Daily COVID-19 infections until January 01, 2021 for three scenarios. The reference scenario is our forecast of what we think is most likely to happen. The mandate easing scenario is what would happen if governments continue to ease social distancing mandates. The universal mask mandate scenario is what would happen if mask use increased immediately to 95%.

Global



Fig 15. Month of assumed mandate re-implementation. (Month when daily death rate passes 8 per million, when model assumes mandates will be re-imposed.)



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Figure 16. Forecasted percent infected with COVID-19 on January 01, 2021

Figure 17. Daily COVID-19 deaths per million forecasted on January 01, 2021 in the reference scenario



PROJECTIONS AND SCENARIOS



Global

Cause name	Weekly deaths	Ranking
Ischemic heart disease	175,727	1
Stroke	126,014	2
COVID-19	$84,\!353$	3
Chronic obstructive pulmonary disease	$63,\!089$	4
Lower respiratory infections	47,946	5
Tracheal, bronchus, and lung cancer	39,282	6
Neonatal disorders	36,201	7
Alzheimer's disease and other dementias	31,217	8
Diabetes mellitus	29,830	9
Diarrheal diseases	29,509	10

**Table 2.** Ranking of COVID-19 among the leading causes of mortality in the week of January 01, 2021, assuming uniform deaths of non-COVID causes throughout the year

Mask data source: Premise; Facebook Global symptom survey (This research is based on survey results from University of Maryland Social Data Science Center); Kaiser Family Foundation; YouGov COVID-19 Behaviour Tracker survey

#### A note of thanks:

We would like to extend a special thanks to the Pan American Health Organization (PAHO) for key data sources; our partners and collaborators in Argentina, Brazil, Bolivia, Chile, Colombia, Cuba, the Dominican Republic, Ecuador, Egypt, Honduras, Israel, Japan, Malaysia, Mexico, Moldova, Panama, Peru, the Philippines, Russia, Serbia, South Korea, Turkey, and Ukraine for their support and expert advice; and to the tireless data collection and collation efforts of individuals and institutions throughout the world.

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