

FINAL

New COVID-19 Forecasts for Europe:
Italy & Spain have passed the peak of their epidemics;
UK, early in its epidemic, faces a fast-mounting death toll

151,680 Europeans and UK Residents Projected to Die in 'First Wave' of Pandemic

Significant Shortage Projected for Hospital Beds, ICU Beds, and Ventilators

'Unequivocally evident that social distancing can help control the trajectory of the pandemic'

SEATTLE – (April 7, 2020) New COVID-19 estimates find that, among European nations, the peak daily death rate from the pandemic will occur during the third week of April, with the pandemic spreading from Southern Europe.

The new forecasts, released today by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington's School of Medicine, find that approximately 151,680 people will die during what researchers are calling the "first wave" of the pandemic. By comparison, the US is expected to face 81,766 deaths, according to forecasts released on Sunday by IHME.

"We are expecting a foreboding few weeks for people in many parts of Europe," said IHME Director Dr. Christopher Murray. "It seems likely the number of deaths will exceed our projections for the United States."

This is despite the declines in deaths that are now occurring in Italy and Spain.

The death toll in many countries is compounded by demand for hospital resources well in excess of what is available. For example, peak demand in the UK is expected to total 102,794 hospital beds needed compared to 17,765 available, 24,544 ICU beds compared to 799 ICU beds

available, and 20,862 ventilators needed (with data currently unavailable on ventilators available).

Today's announcement on Europe finds that most regions of Italy and Spain have passed their peaks in the number of deaths, while other nations are approaching their peaks and still others facing peak mortality later in April.

Countries that are about to peak or are quickly approaching peak in this wave of the epidemic include The Netherlands, Ireland, Austria, and Luxembourg. The Czech Republic and Romania are midway through their expected trajectories. Other nations including the United Kingdom, Germany, Norway, and Greece are still early in their trajectories and face fast-rising death tolls through their peaks in the second and third weeks of April.

“It is unequivocally evident that social distancing can, when well implemented and maintained, control the epidemic, leading to declining death rates,” Murray said. “Those nations hit hard early on implemented social distancing orders and may have the worst behind them as they are seeing important progress in reducing their death rates. Each nation's trajectory will change – and dramatically for the worse – if people ease up on social distancing or relax other precautions.”

Murray cautioned that easing these precautions too soon during the first wave of the pandemic could lead to new rounds of infections, hospitalizations, and deaths. He defines the end of this “wave” as a ratio of 0.3 deaths per 1 million people. IHME's projections assume that social distancing measures, if not currently implemented, will be implemented within one week.

“To decrease the risk of a second wave in places where the first wave is controlled by robust social distancing, governments would need to consider mass testing, contact tracing, and quarantines for those infected until a vaccination is available, mass produced, and distributed widely,” Murray said.

IHME started making projections of the pandemic's impact in the United States state-by-state on March 26. Today's announcement is the first set of predictions for European nations and is based on modeling the peak in death rates and hospital usage in Wuhan City in China, where the virus was first discovered, as well as data from seven European locations that have peaked, including Madrid, Spain; Castile-La Mancha, Spain; Tuscany, Italy; Emilia-Romagna, Italy; Liguria, Italy; Piedmont, Italy; and Lombardy, Italy.

Of these eight locations that have reached the peak regarding daily deaths, only one, Wuhan, has currently brought new cases to nearly zero.

The analysis is based on an extensive range of information and data sources, including:

- Local governments, national governments, and the World Health Organization
- Government declarations on implementation of social distancing policies
- Age-specific death rate data from China, Italy, South Korea, and the US

Here are some country-specific findings from IHME's latest forecasting:

- **ITALY:** The first wave of the pandemic has peaked in Italy, and peak resource use for ICU beds and ventilators was on March 28. Deaths are forecast to peak in Calabria on April 7, and in Puglia on April 16. On April 6, 699 daily deaths were projected, with only three provinces (Lombardy, Piedmont, and Emilia-Romagna) seeing more than 50 deaths daily.
- **SPAIN:** Almost all regions of Spain are at or past the peak. Excess demand for ICU beds is particularly high in Spain compared to many other countries in Europe. The forecasts predict 19,209 total deaths from COVID-19 in Spain by August 4.
- **UK:** Deaths in the UK are forecast to peak the third week of April, with an estimated 2,932 deaths on April 17. The model shows that the UK will not have enough beds and ICU beds to meet demand, with the shortage peaking at 23,745 ICU beds on April 17, and predicts 66,314 total deaths in the country by August 4.
- **PORTUGAL:** Deaths in Portugal peaked on April 3 with an estimated 37 deaths. The model shows that while Portugal did not have a total bed shortage, it did not have enough ICU beds to meet demand, with the shortage peaking at 118 ICU beds on April 3. The model predicts 471 total deaths in the country by August 4.

- FRANCE: The model shows that France is just passing the peak and will have a total of 15,058 deaths by August 4. The country is expected to have enough total beds to meet demand, but a shortage of 4,330 ICU beds. The forecasts predict 6,091 ICU beds will be needed for COVID-19 patients in France.
- GERMANY: Deaths in Germany are forecast to peak in the third week of April, with an estimated 377 deaths on April 19. The model shows that Germany will have enough beds and ICU beds to meet demand, with the required number of total beds peaking at 12,222 on April 14, and predicts 8,802 total deaths in the country by August 4.
- SWEDEN: Deaths in Sweden are forecast to peak the last week of April, with an estimated 134 deaths on April 24. The model shows that Sweden will not have enough beds and ICU beds to meet demand, with the shortage peaking at 1,090 ICU beds on April 25, and predicts 4,182 total deaths in the country by August 4.

For the complete update, please visit <http://www.healthdata.org/covid/updates>.

For a video of Dr. Murray summarizing key points of IHME's COVID-19 data analysis for Europe, please visit <https://www.youtube.com/watch?v=9vM0pwEulCs&feature=youtu.be>
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NOTE: Dr. Murray will conduct a briefing for journalists on the new Europe COVID-19 forecasts on Tuesday, April 7

WHO: Dr. Christopher Murray, Founder and Director, Institute for Health Metrics and Evaluation (IHME) at the University of Washington's School of Medicine

WHAT: Briefing for journalists on new Europe forecasts on COVID-19

WHEN: 6 AM (Pacific Time); 3 PM (Central European Time); 2 PM (UK Time),
Tuesday, April 7, 2020

WHERE: Via Zoom: <https://washington.zoom.us/j/382600333>
Meeting ID: 382 600 333
Find your local number: <https://washington.zoom.us/u/ac7iy5zTFE>

NOTE: Hospital administrators, government officials, and others not associated with the news media may contact COVID19@healthdata.org.

IHME is grateful to the Microsoft AI for Health program for supporting our hosting of COVID-19 data visualizations in the Azure cloud.

About the Institute for Health Metrics and Evaluation

The Institute for Health Metrics and Evaluation (IHME) is an independent global health research organization at the University of Washington School of Medicine that provides rigorous and comparable measurement of the world's most important health problems and evaluates the strategies used to address them. IHME is committed to transparency and makes this information widely available so that policymakers have the evidence they need to make informed decisions on allocating resources to improve population health.