

Global Epidemiology Update with a Focus on Latin America

Beatriz Grinsztejn, MD, PhD

Instituto Nacional de Infectologia Evandro Chagas (INI)

Fundação Oswaldo Cruz (FIOCRUZ)

Rio de Janeiro - Brazil



My Disclosures

I have served on scientific advisory boards for Janssen, GSK, and Merck Inc.

Coronavirus disease 2019 (COVID-19)

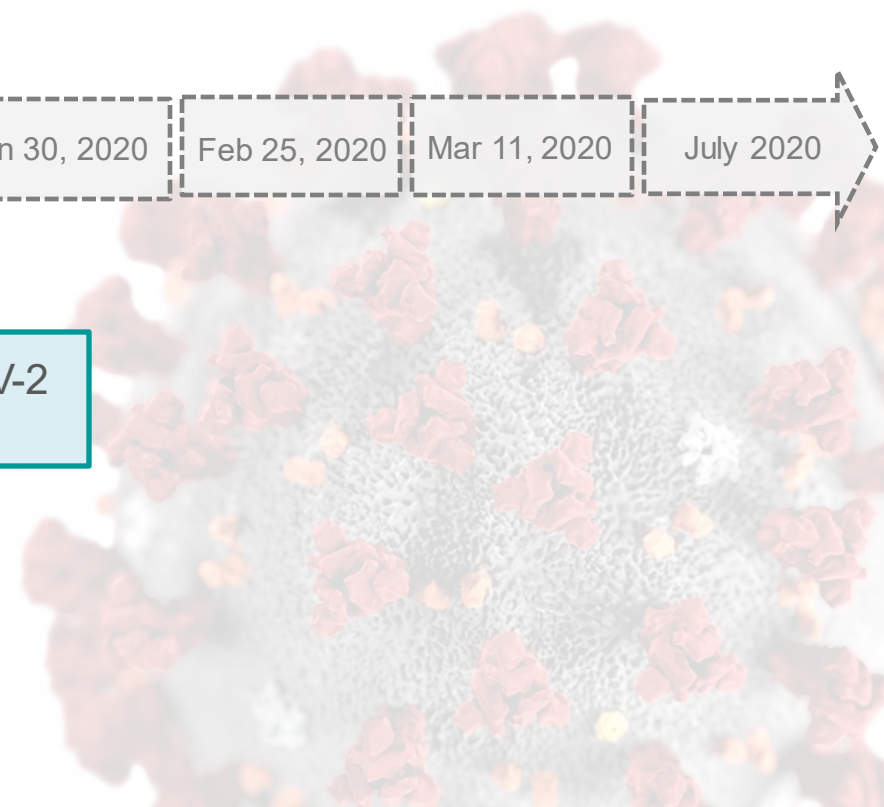
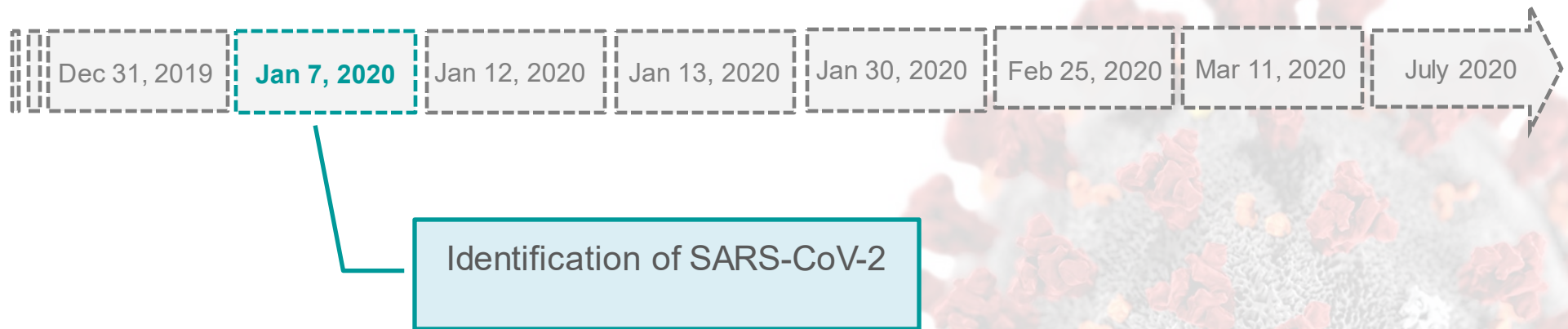


Coronavirus disease 2019 (COVID-19)

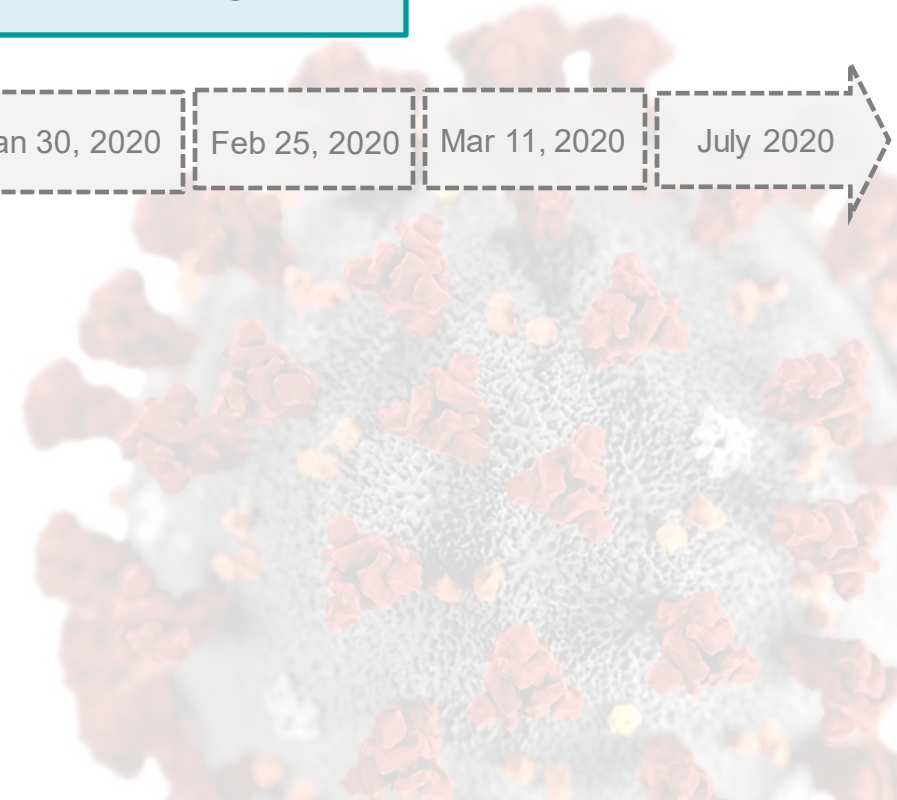
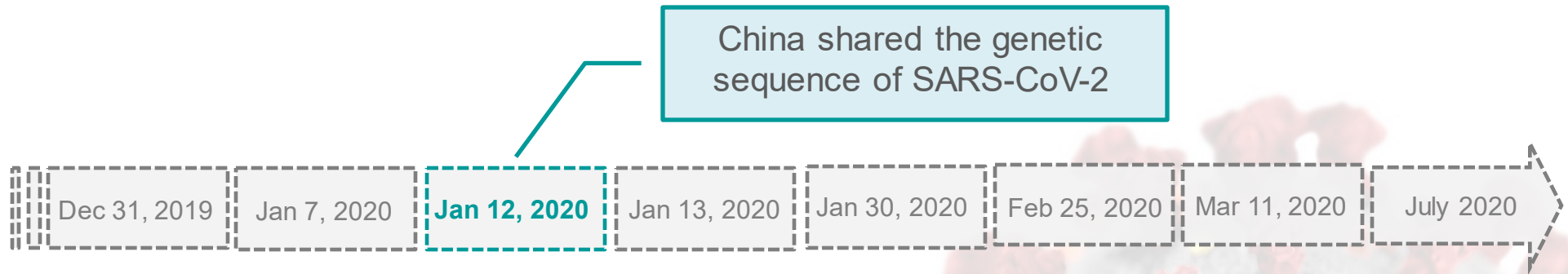
WHO received communication from health authorities in China of a cluster of viral pneumonia cases of unknown cause in Wuhan, Hubei



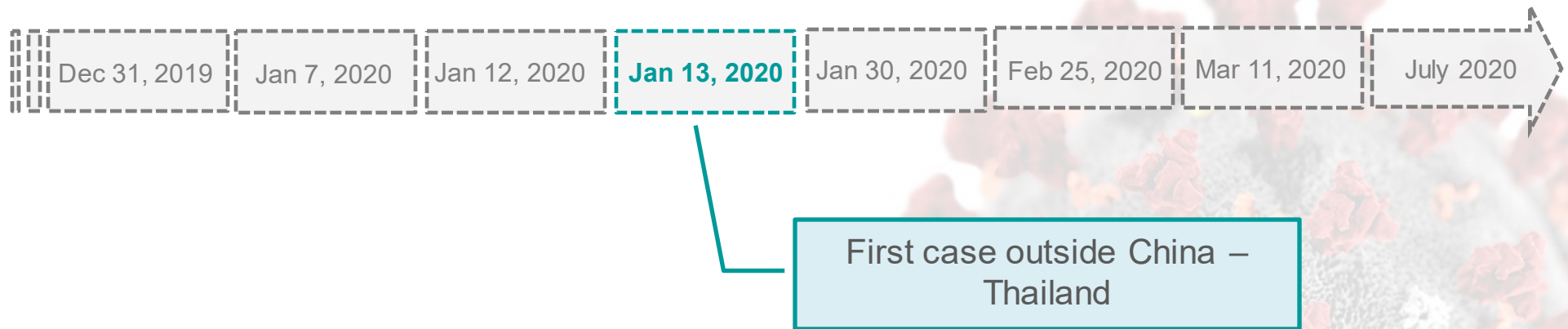
Coronavirus disease 2019 (COVID-19)



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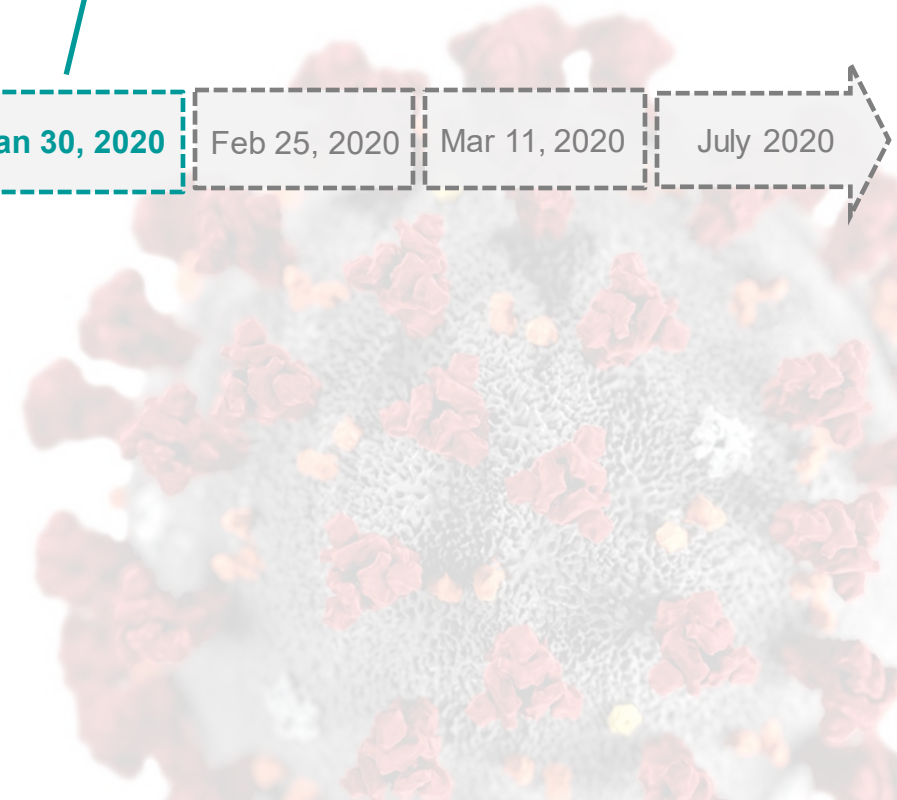


Coronavirus disease 2019 (COVID-19)



Coronavirus disease 2019 (COVID-19)

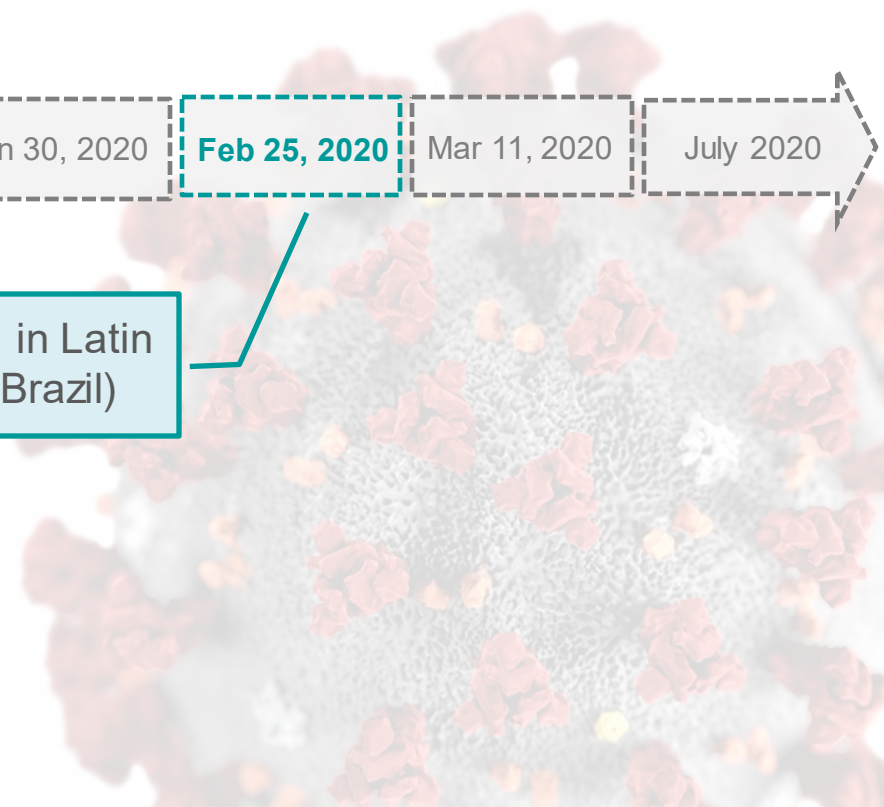
WHO declared the outbreak a Public Health Emergency of International Concern (PHEIC) with 7,818 cases confirmed globally, affecting 19 countries in five WHO regions



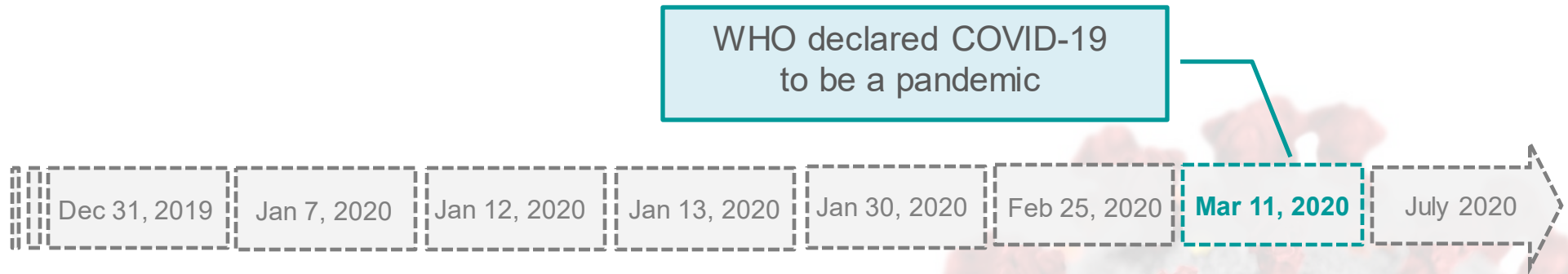
Coronavirus disease 2019 (COVID-19)



First case of COVID-19 in Latin America (São Paulo, Brazil)



Coronavirus disease 2019 (COVID-19)



COVID-19 evolution worldwide

Cumulative cases

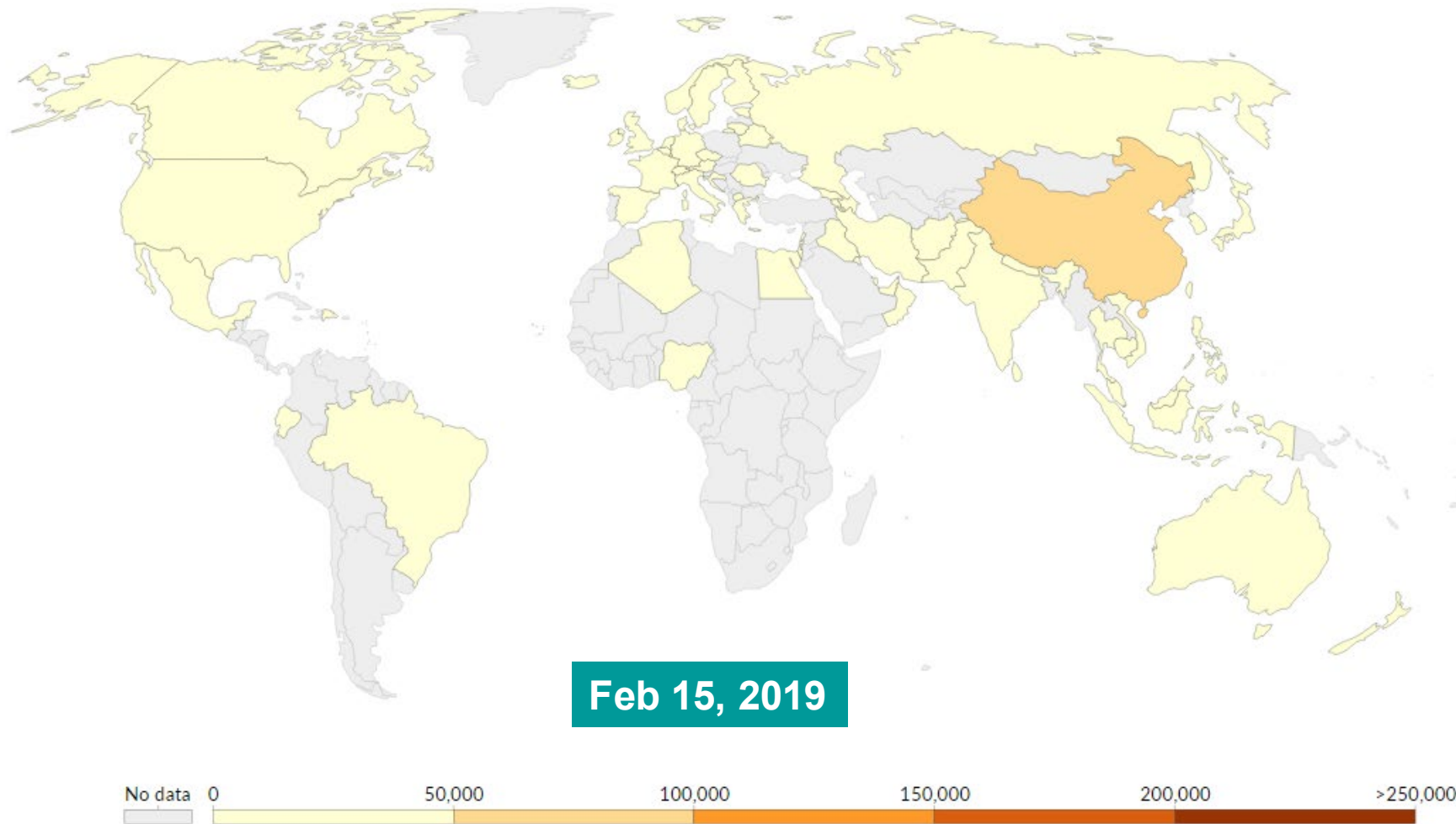


Source: European CDC - Situation Update Worldwide - Data last updated 10th Jul, 06:32 (GMT-03:00), European CDC - Situation Update Worldwide

<https://ourworldindata.org/coronavirus>

COVID-19 evolution worldwide

Cumulative cases

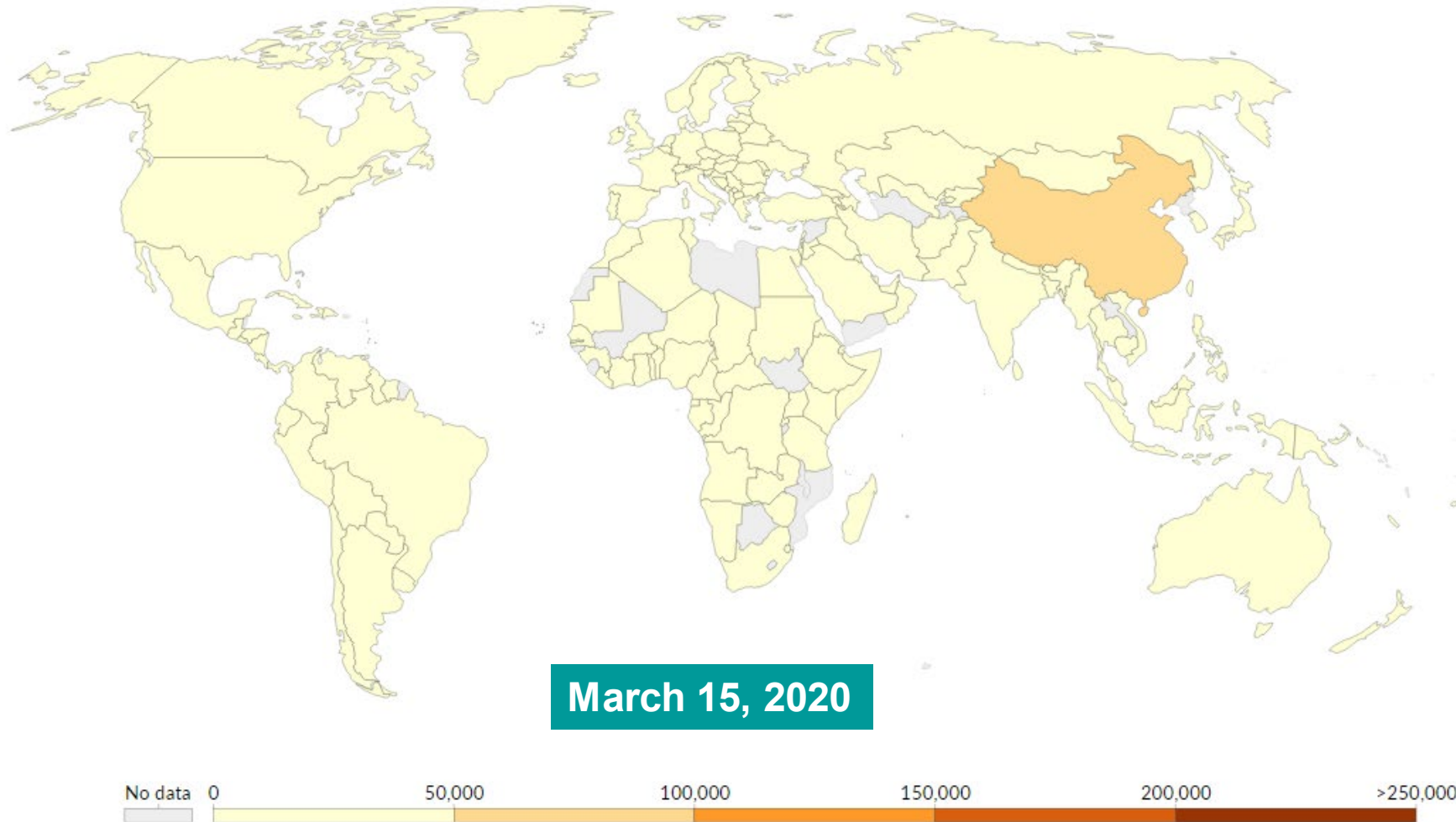


Source: European CDC - Situation Update Worldwide - Data last updated 10th Jul, 06:32 (GMT-03:00), European CDC - Situation Update Worldwide

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COVID-19 evolution worldwide

Cumulative cases

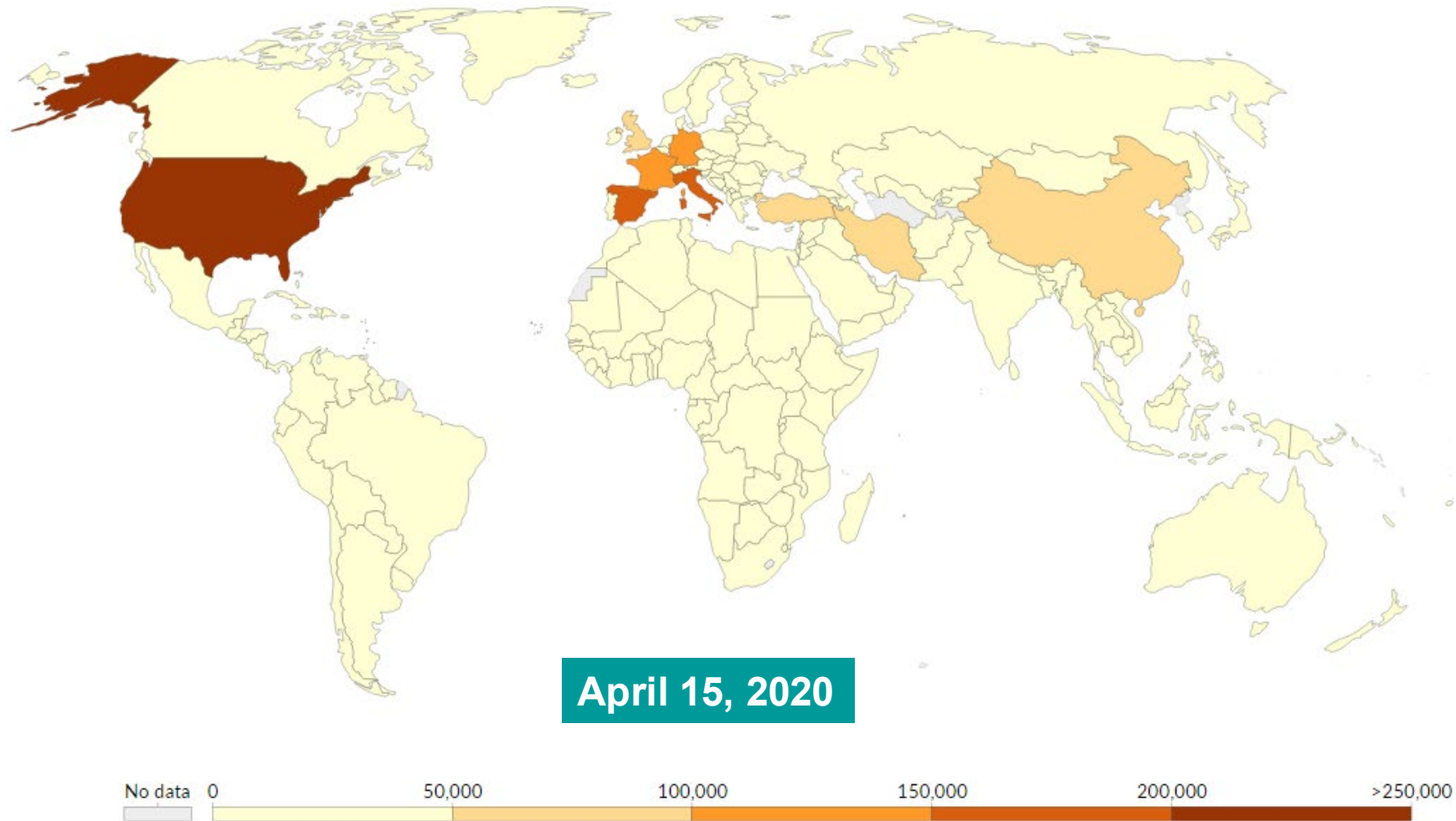


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COVID-19 evolution worldwide

Cumulative cases

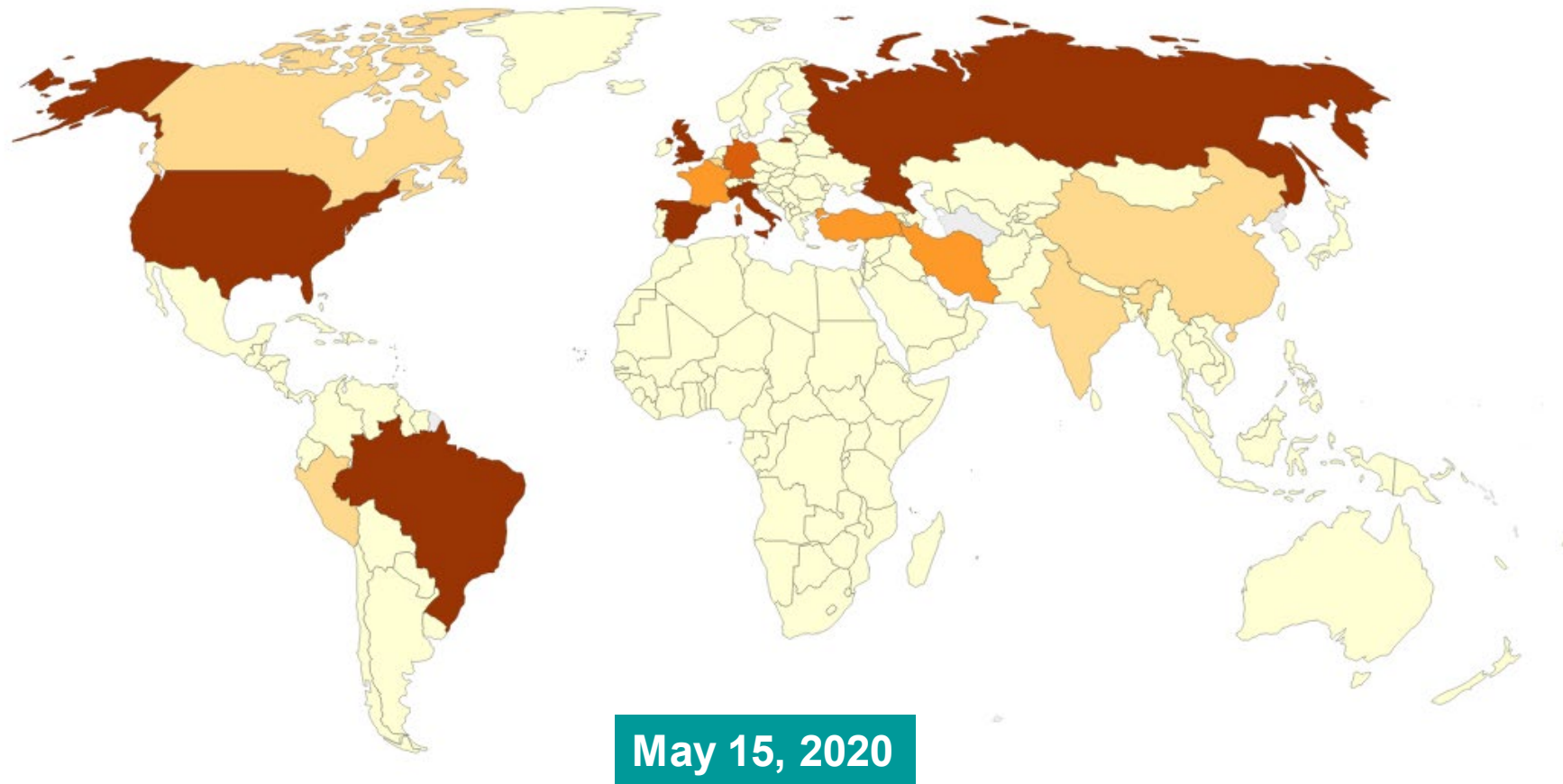


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COVID-19 evolution worldwide

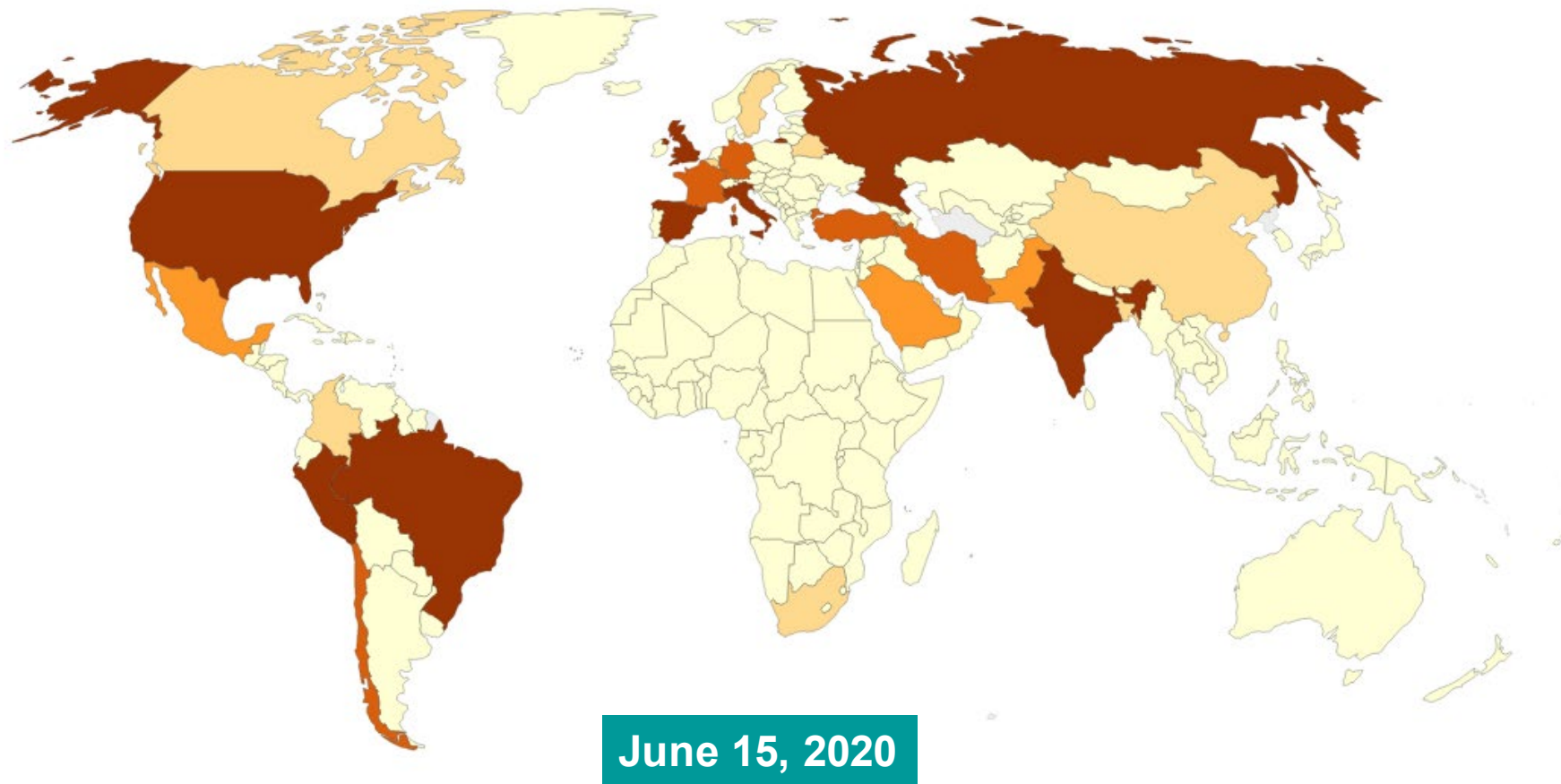
Cumulative cases



No data 0 50,000 100,000 150,000 200,000 >250,000

COVID-19 evolution worldwide

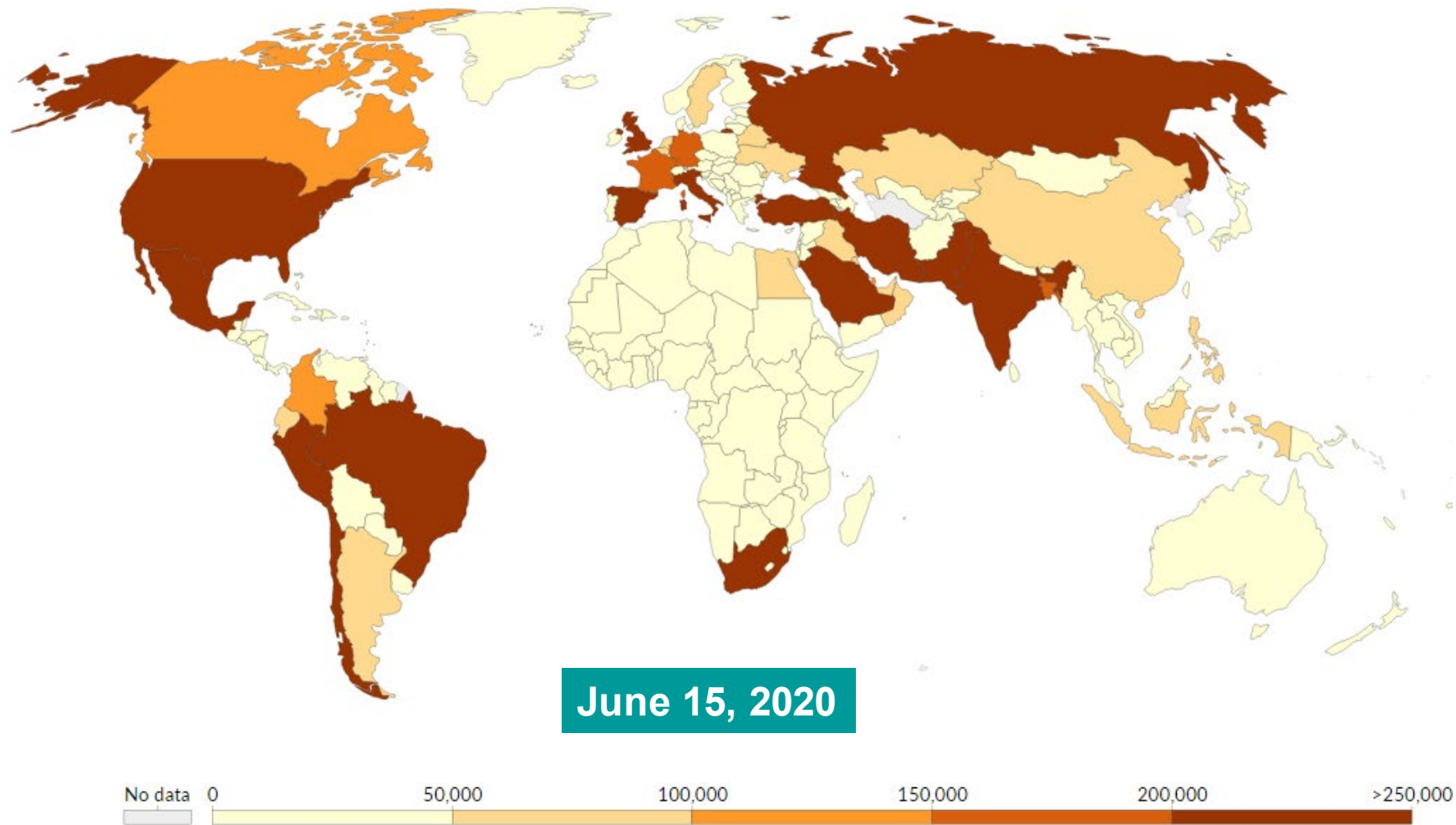
Cumulative cases



No data 0 50,000 100,000 150,000 200,000 >250,000

COVID-19 evolution worldwide

Cumulative cases

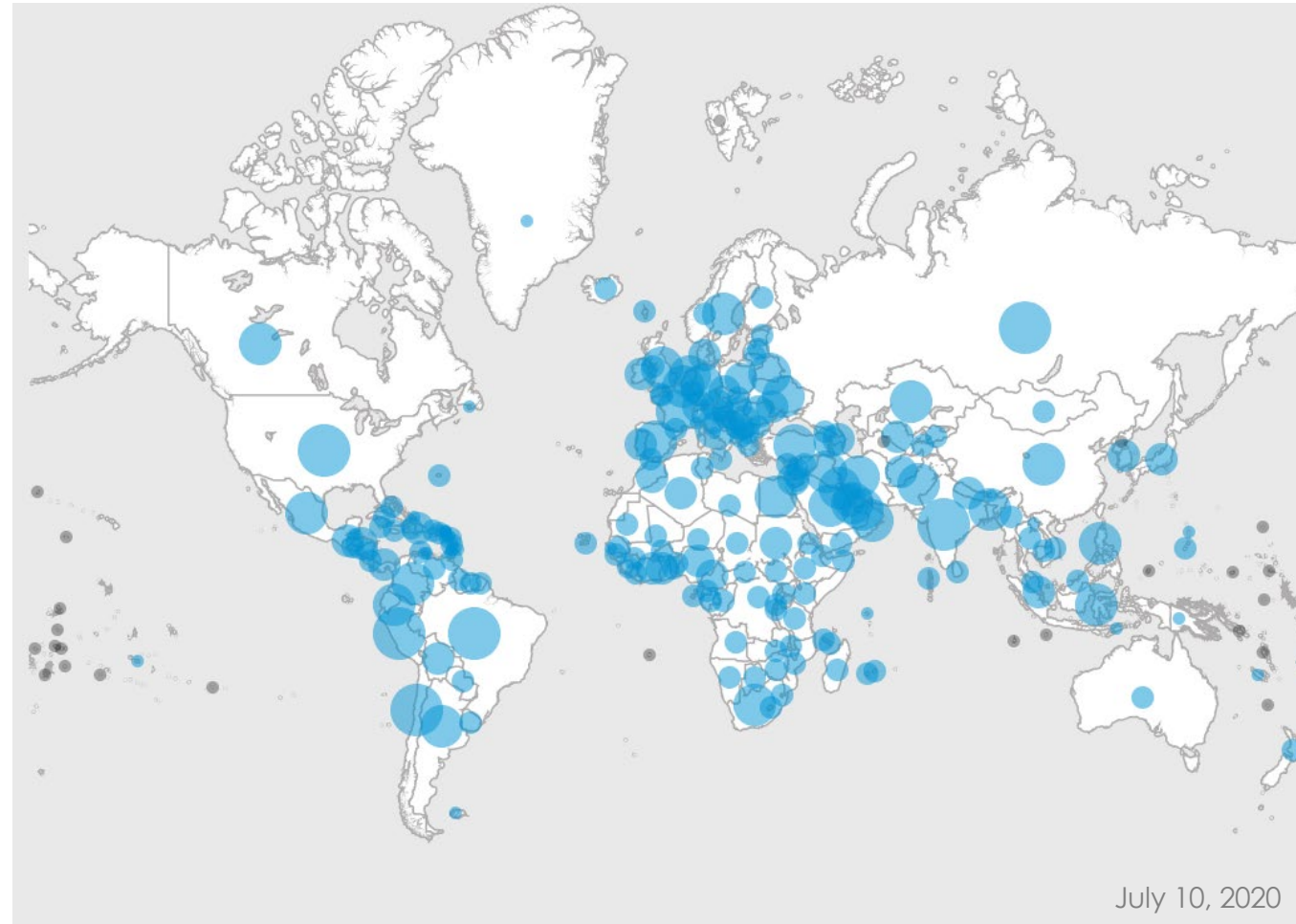
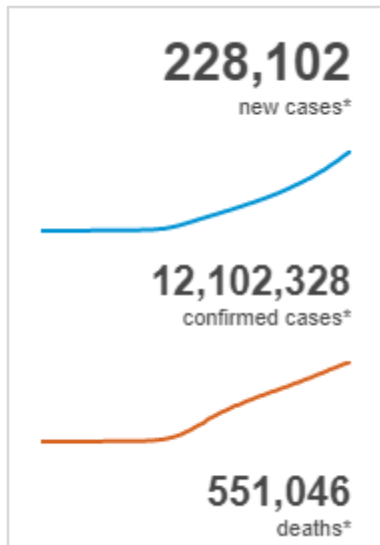


Source: European CDC - Situation Update Worldwide - Data last updated 10th Jul, 06:32 (GMT-03:00), European CDC - Situation Update Worldwide

<https://ourworldindata.org/coronavirus>

COVID-19 evolution worldwide

Current situation



COVID-19 evolution worldwide

Cumulative cases per WHO region

Situation by WHO Region

Americas



6,264,626
confirmed

Europe



2,847,887
confirmed

Eastern Mediterranean



1,238,779
confirmed

South-East Asia



1,065,093
confirmed

Africa

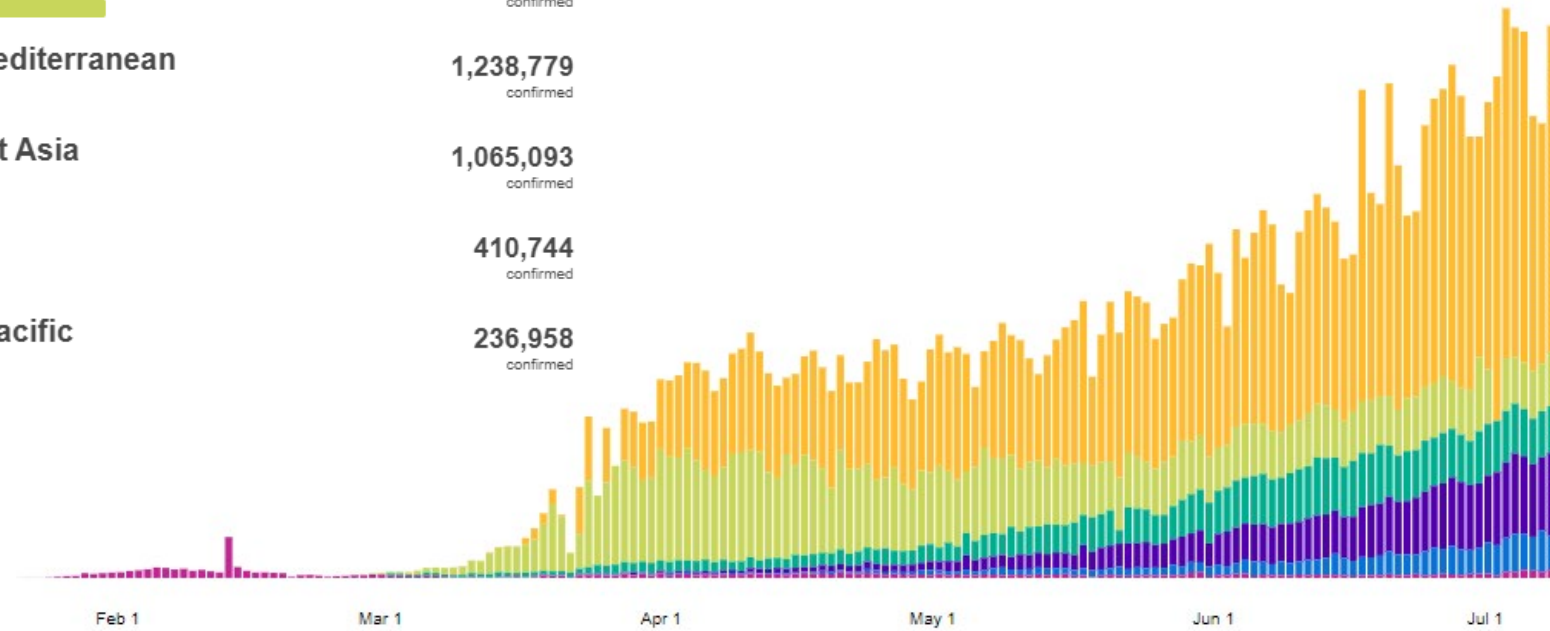


410,744
confirmed

Western Pacific



236,958
confirmed



COVID-19 evolution worldwide

Cumulative deaths per WHO region

Situation by WHO Region

Americas



276,370
deaths

Europe



202,341
deaths

Eastern Mediterranean



29,690
deaths

South-East Asia



27,382
deaths

Africa



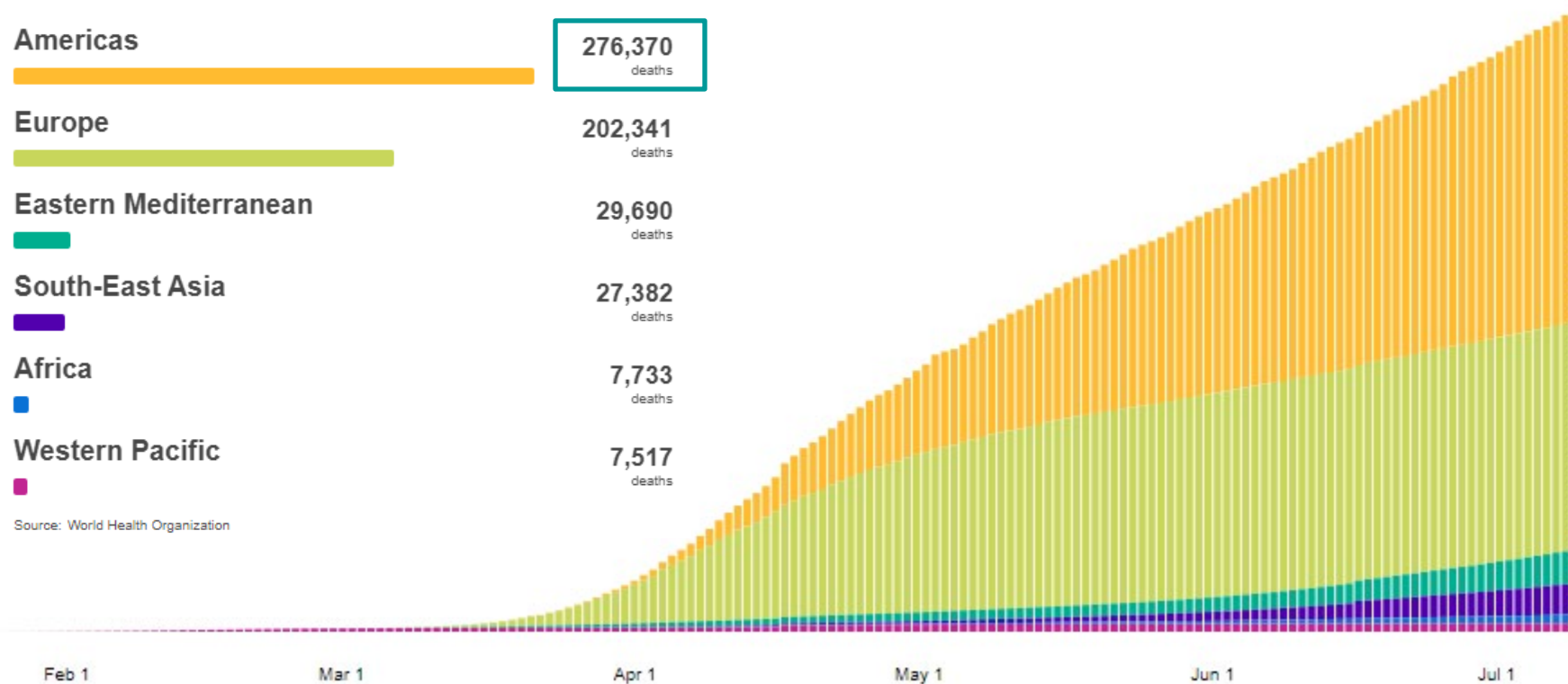
7,733
deaths

Western Pacific



7,517
deaths

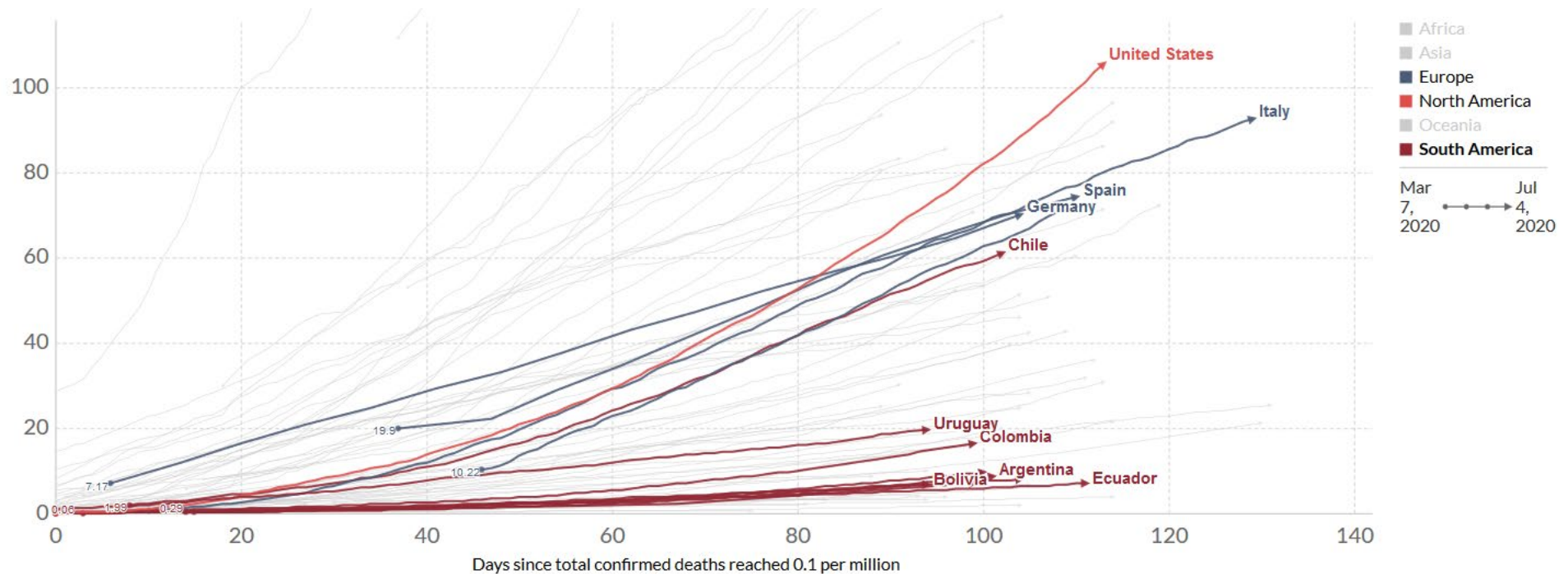
Source: World Health Organization



COVID-19 epidemic in Latin America

Cumulative COVID-19 tests

South American countries have lower testing rates [per 1,000 habitants] compared to USA and European countries



Source: Official data collated by Our World in Data, European CDC - Situation Update Worldwide

Note: For testing figures, there are substantial differences across countries in terms of the units, whether or not all labs are included, the extent to which negative and pending tests are included and other aspects. Details for each country can be found on ourworldindata.org/covid-testing.

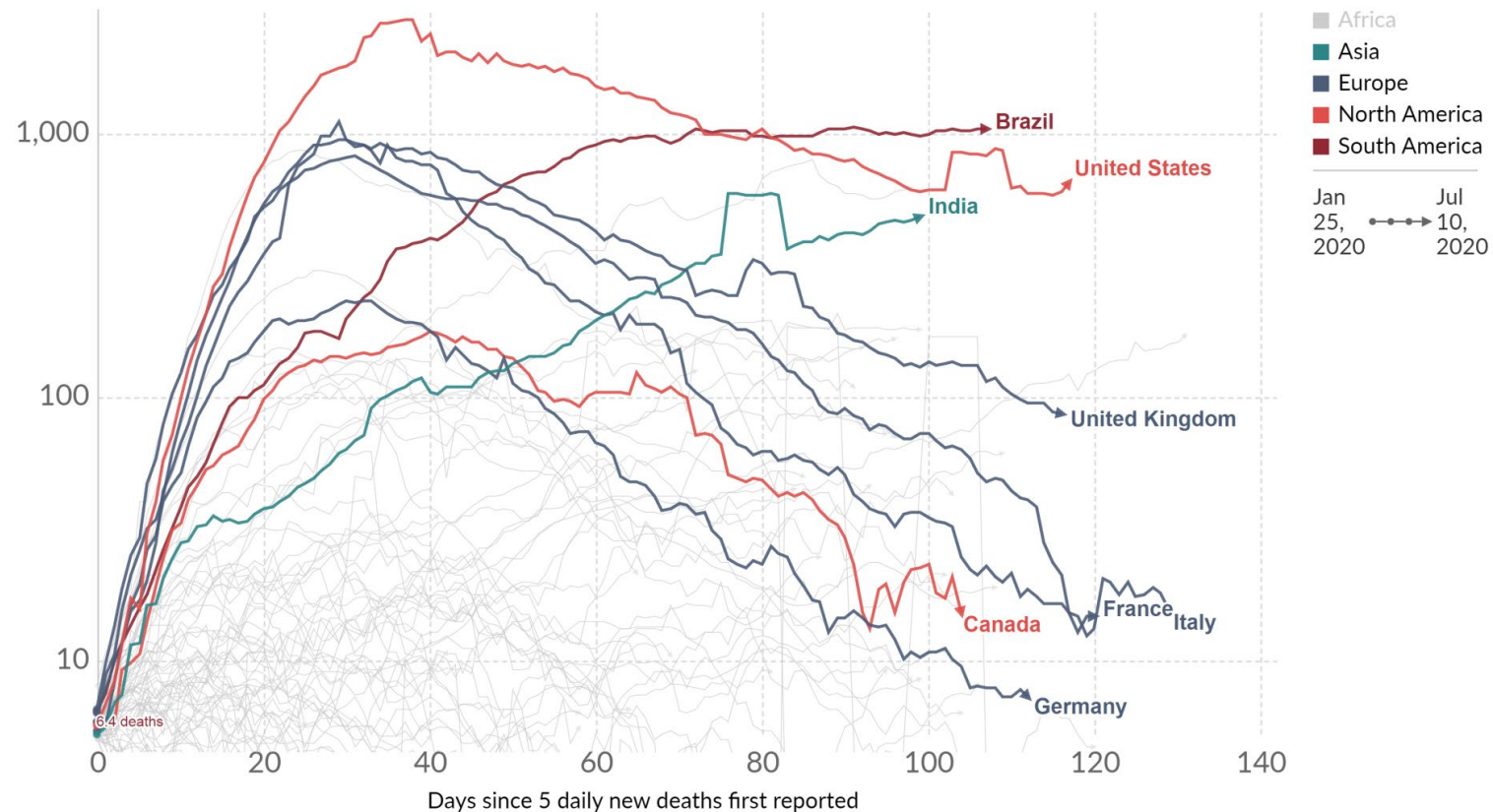
CC BY

COVID-19 evolution worldwide

New confirmed deaths per leading countries

Daily new confirmed COVID-19 deaths

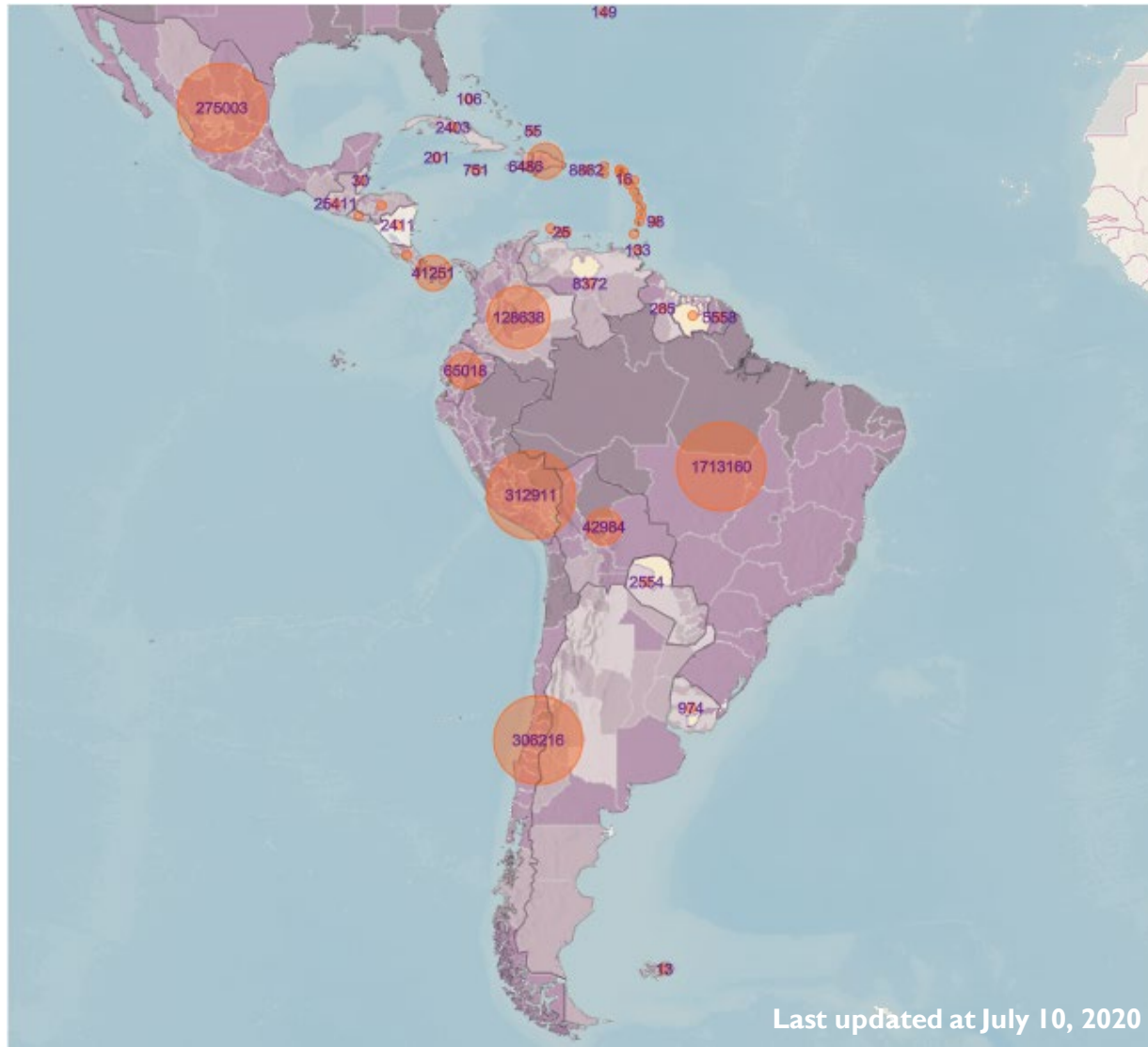
Shown is the rolling 7-day average. Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.



Source: European CDC - Situation Update Worldwide - Data last updated 10th Jul, 06:32 (GMT-03:00), European CDC - Situation Update Worldwide CC BY

COVID-19 epidemic in Latin America

The new epicenter



Last updated at July 10, 2020



Top Countries

Brazil

Peru

Chile

Colombia

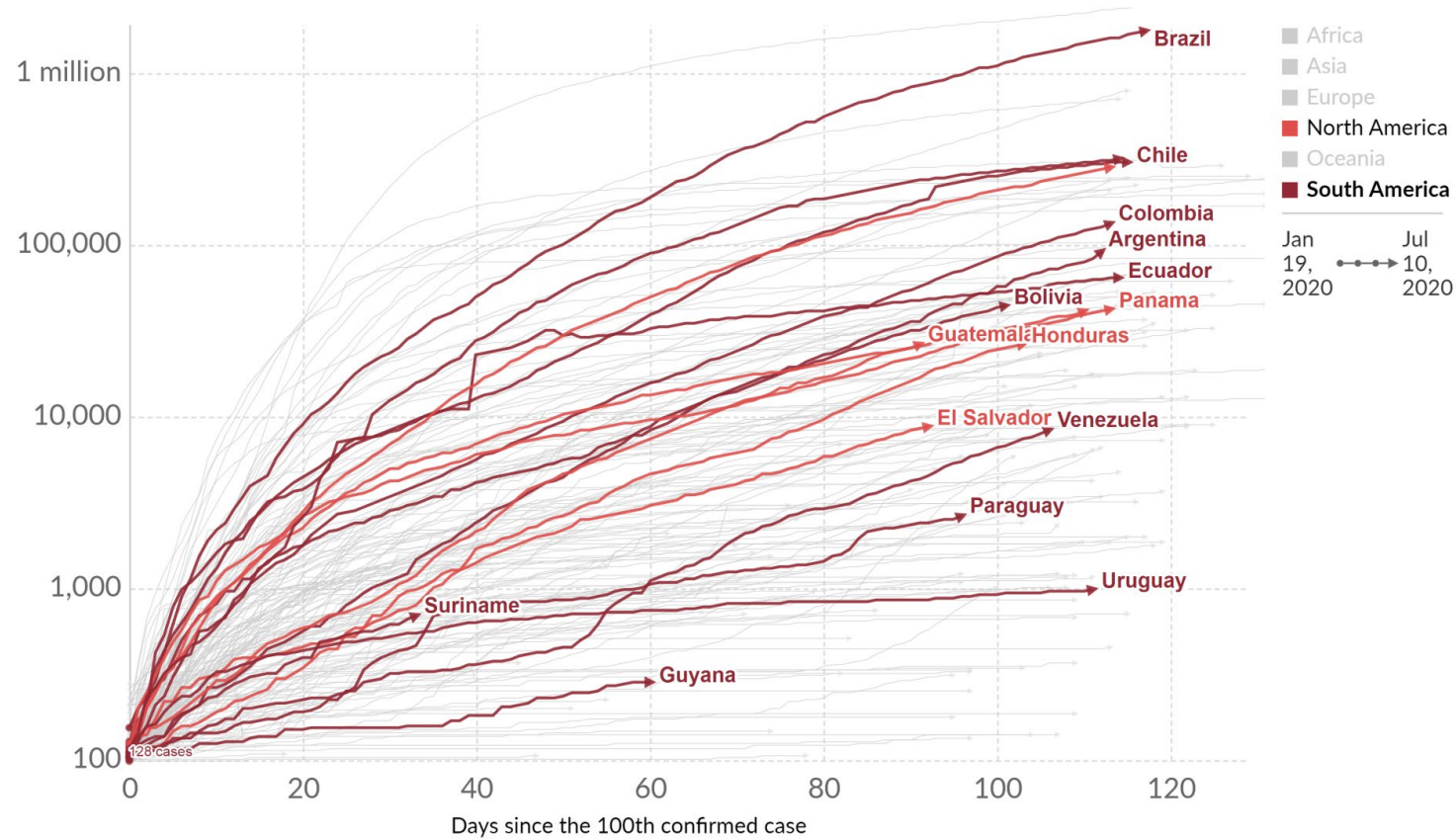
COVID-19 epidemic in Latin America

Cumulative confirmed cases

Cumulative confirmed COVID-19 cases

The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

Our World
in Data

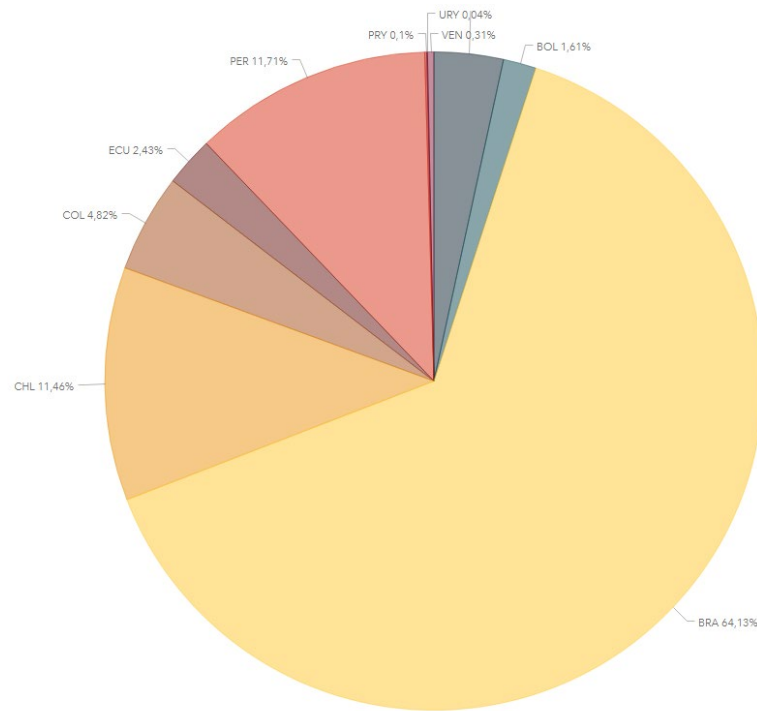


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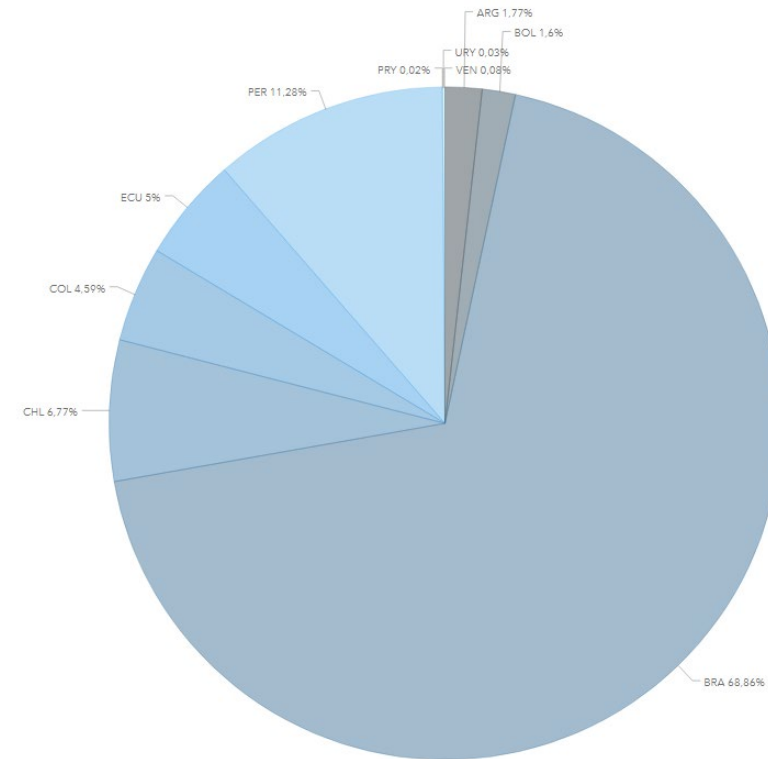
COVID-19 epidemic

South America

Percentual distribution of cases by country

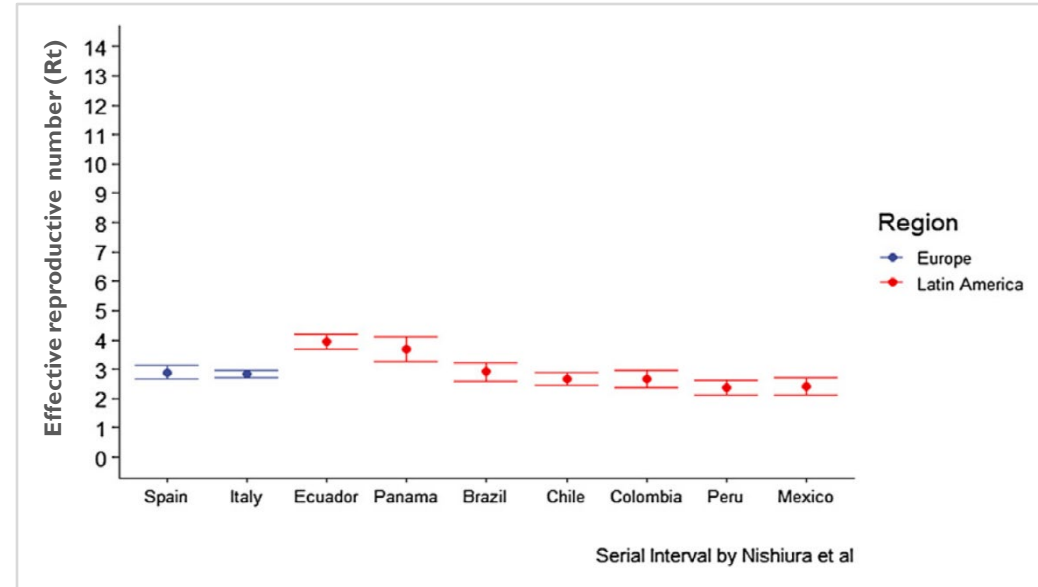


Percentual distribution of deaths by country



Rt of SARS-CoV-2 in Latin America

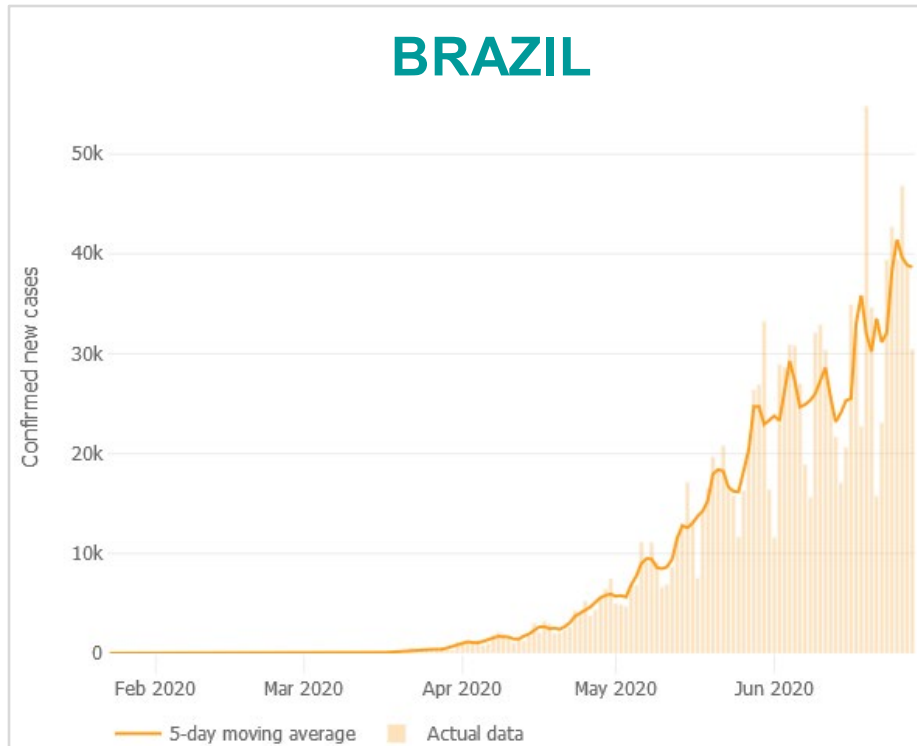
- The initial stage of COVID-19 epidemic in LA suggested a high effective Rt of SARS-CoV-2
- All LA countries had Rt >2



Country	Date of 25rd case	Days between start of outbreak and cum. inc. of 25 cases	Rt in the first 10 days (95% CI)
Spain	26-February	25	2.90 (2.67-3.14)
Italy	22-February	22	2.83 (2.70-2.96)
Ecuador	14-March	13	3.95 (3.70-4.21)
Brazil	09-March	12	2.91 (2.60-3.23)
Chile	13-March	10	2.67 (2.45-2.89)
Colombia	15-March	9	2.67 (2.38-2.98)
Peru	13-March	7	2.36 (2.11-2.63)

COVID-19 epidemic in Latin America

Trends of new cases in top leaders countries



1st case: Feb 25, 2020

Time elapsed from 1st case: 123 days

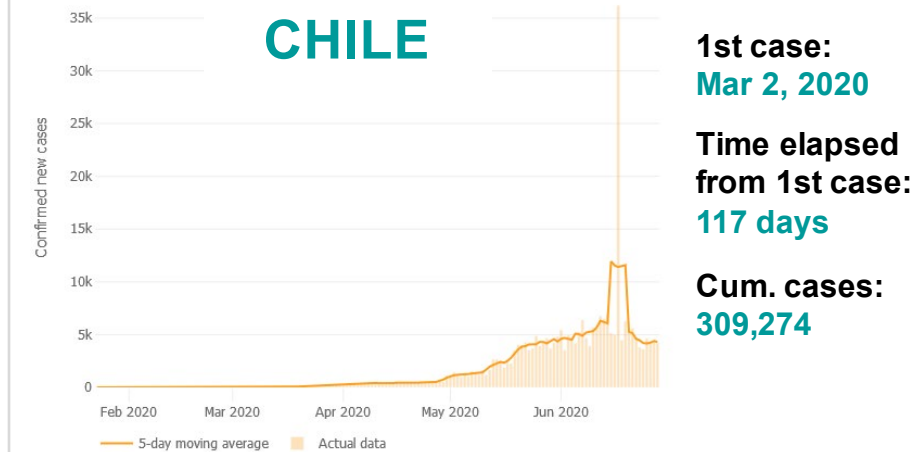
Cumulative cases: 1,755,779



**1st case:
Mar 5, 2020**

**Time elapsed
from 1st case:
114 days**

**Cum. cases:
316,448**



**1st case:
Mar 2, 2020**

**Time elapsed
from 1st case:
117 days**

**Cum. cases:
309,274**

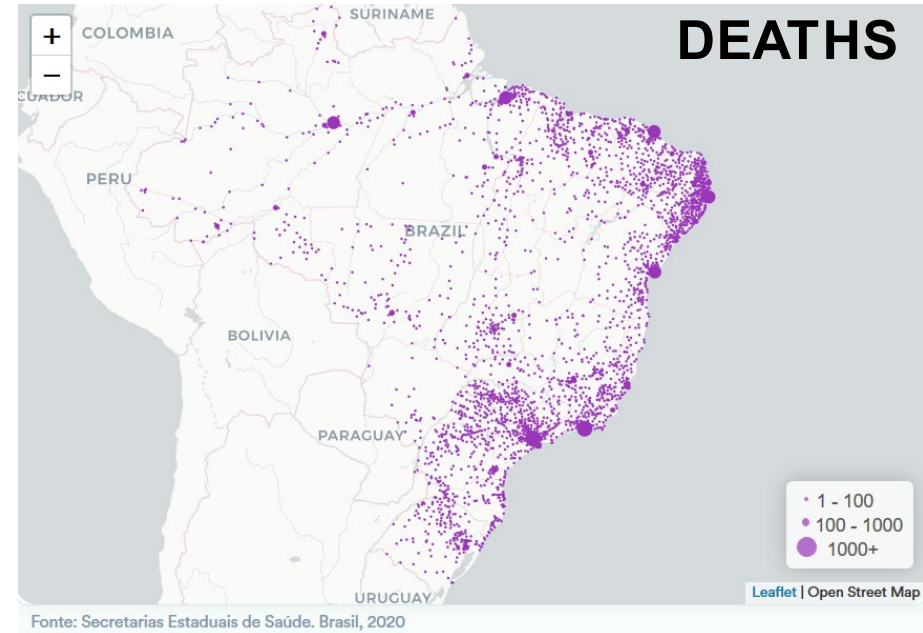
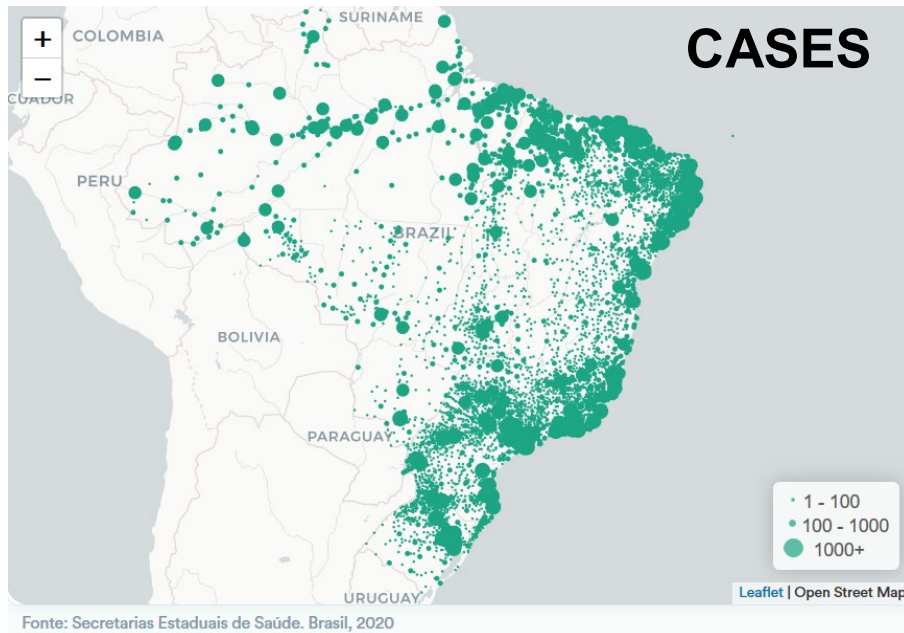
COVID-19 epidemic in Latin America

Challenges for COVID-19 epidemic control in the region

- High number of people living in conditions where social distancing and hand-washing are virtually impossible
 - Brazil has 13 million people living in *favelas*
- Latin America has one of the most overcrowded prisons worldwide
- Presence of competing epidemics (COVID-19 and dengue)
- Denial of the severity of the pandemic by political leaders
- Prioritization of the economic recover vis a vis the health of the population
- Shortage of PPE and ventilators/intensive care beds
- Limited testing capacity



COVID-19 epidemic in Brazil



Region	# Cases	# Deaths	Incidence ¹	Mortality rate ¹
North	291,160	10,039	1,580	55
Northeast	552,582	21,235	968	37
Central-West	121,428	2,328	745	14
Southeast	559,122	29,9	633	34
South	98,992	1,985	330	7
Total	1,623,284	65,487	773	31

52%

cases

48%

deaths

¹ per 100,000 habitants

Ethnic and regional variations in hospital mortality from COVID-19 in Brazil: a cross-sectional observational study

Lancet Glob Health 2020

Published Online

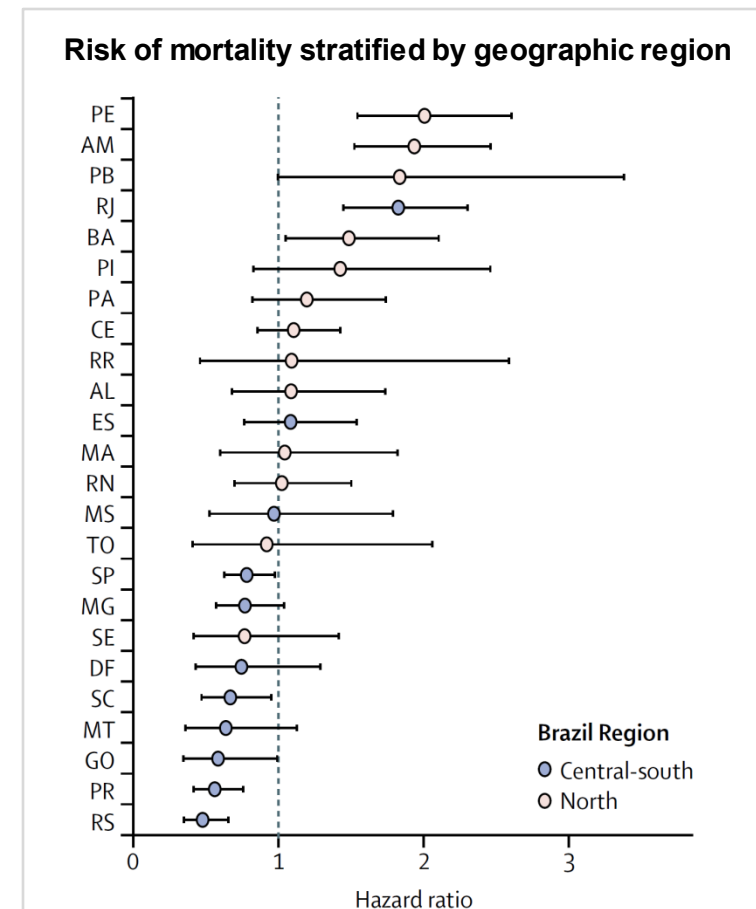
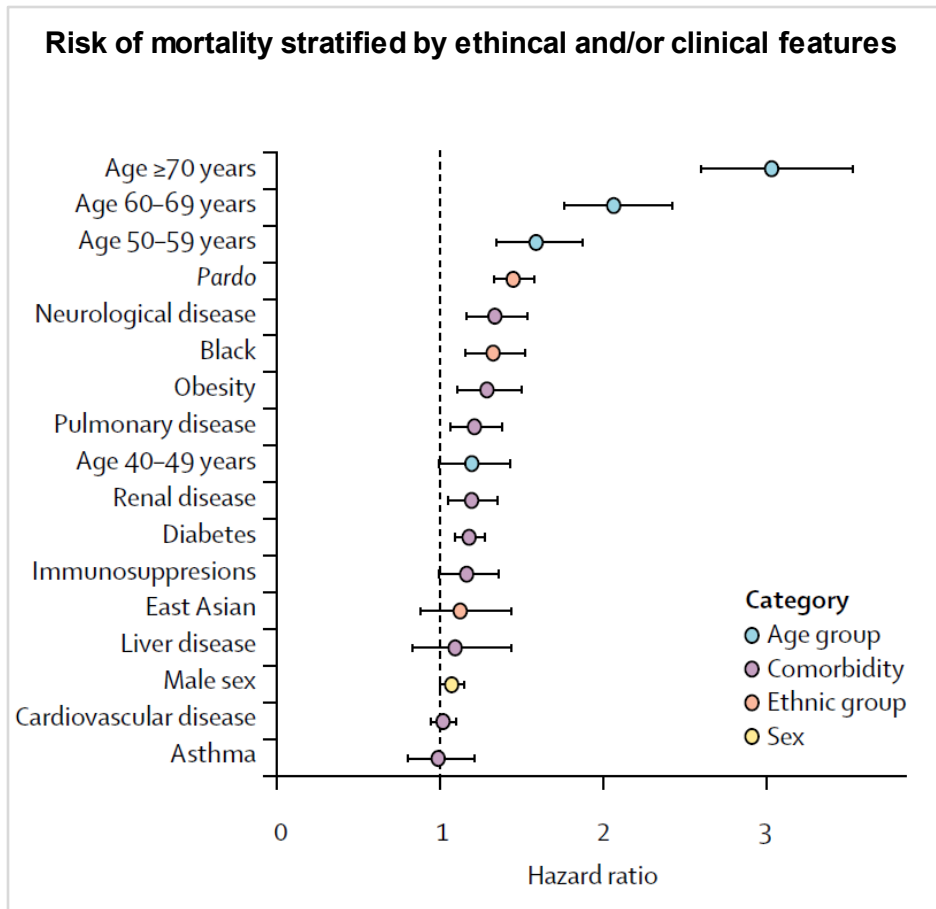
July 2, 2020

[https://doi.org/10.1016/S2214-109X\(20\)30285-0](https://doi.org/10.1016/S2214-109X(20)30285-0)

S2214-109X(20)30285-0

Pedro Baqui*, Ioana Bica*, Valerio Marra, Ari Ercole, Mihaela van der Schaar

N=11,321 hospitalized patients with COVID-19 in Brazil

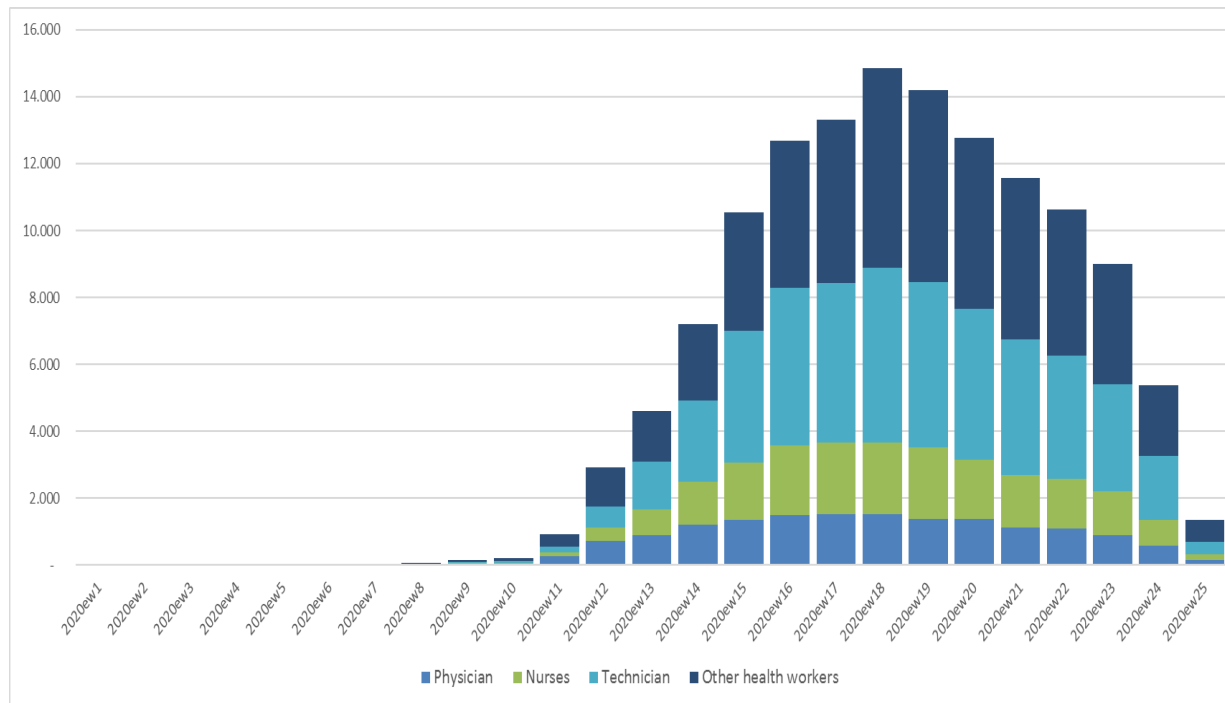


Risk of mortality: Older age, Black/mixed, Comorbidities, North region

COVID-19 epidemic in Brazil

Cases among health care workers

132,433 (10% of confirmed cases at national level)



- Physicians: 15,678 (12%)
 - Nurses: 19,984 (15%)
 - Nurse technicians: 45,984 (35%)
 - Other HCWs: 50,787 (38%)
 - Additional confirmed cases*:** 4,163 (total)
 - Additional confirmed cases:**
 - Among Physicians: 437
 - Among Nurses: 663
- *since 18 Jun 2020

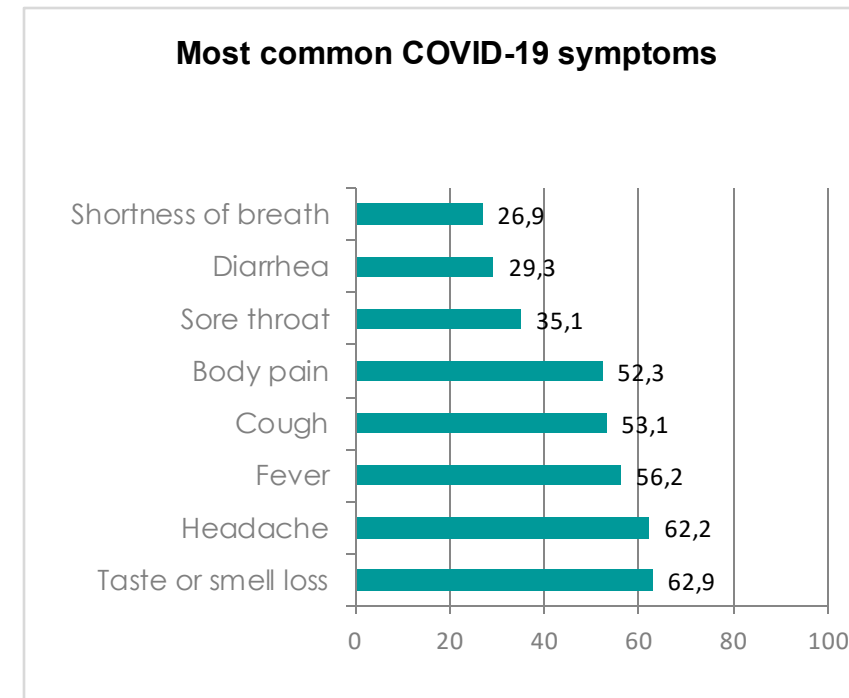
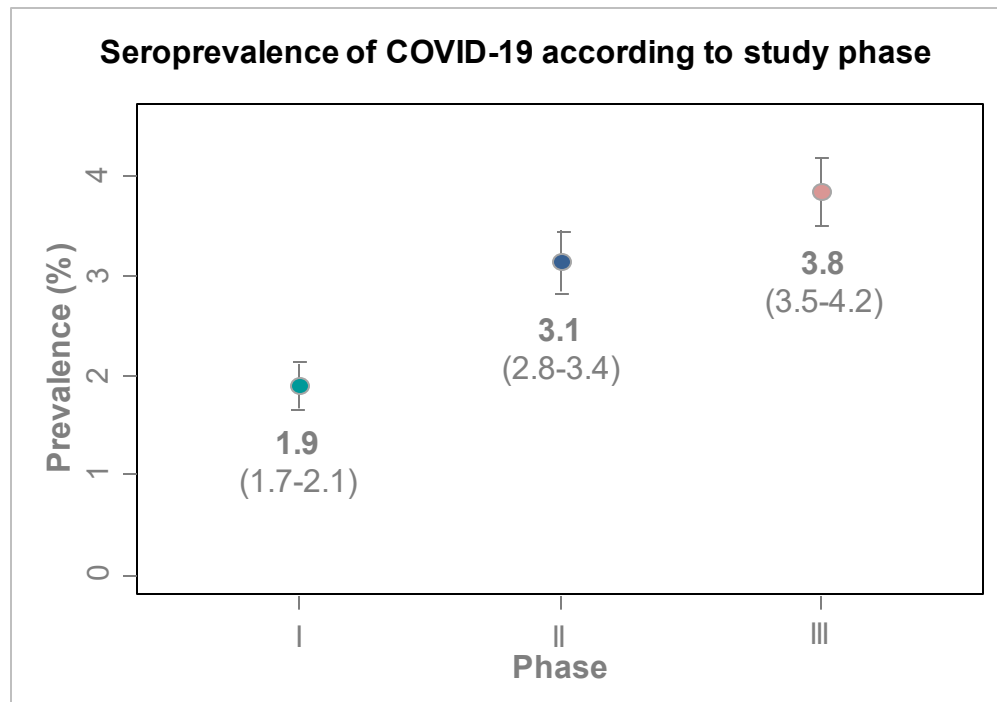
PAHO

COVID-19 epidemic in Brazil

Seroprevalence of COVID-19 IgG antibodies

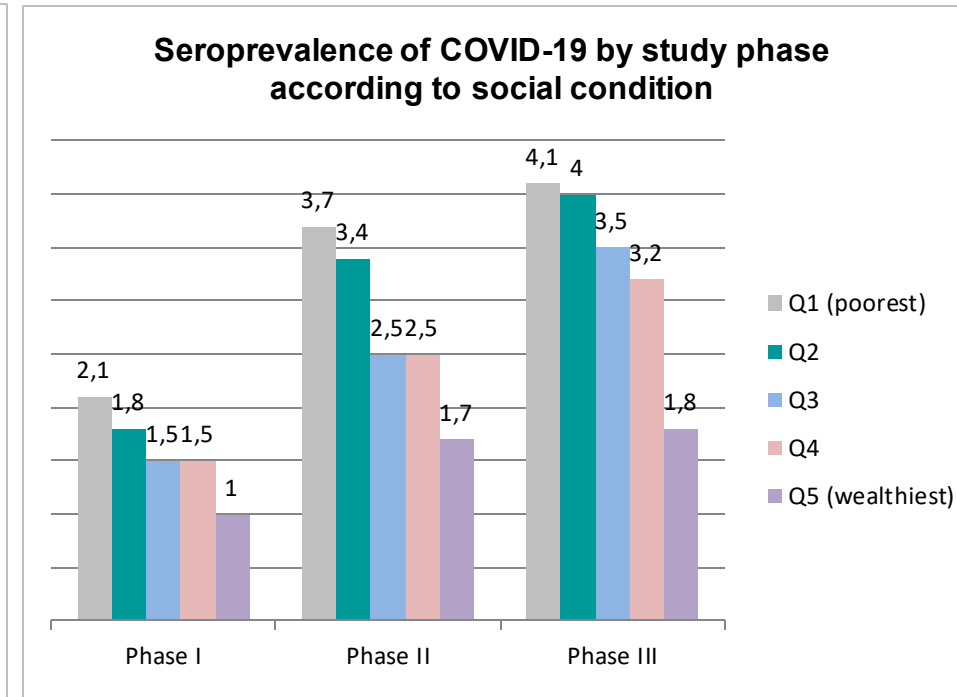
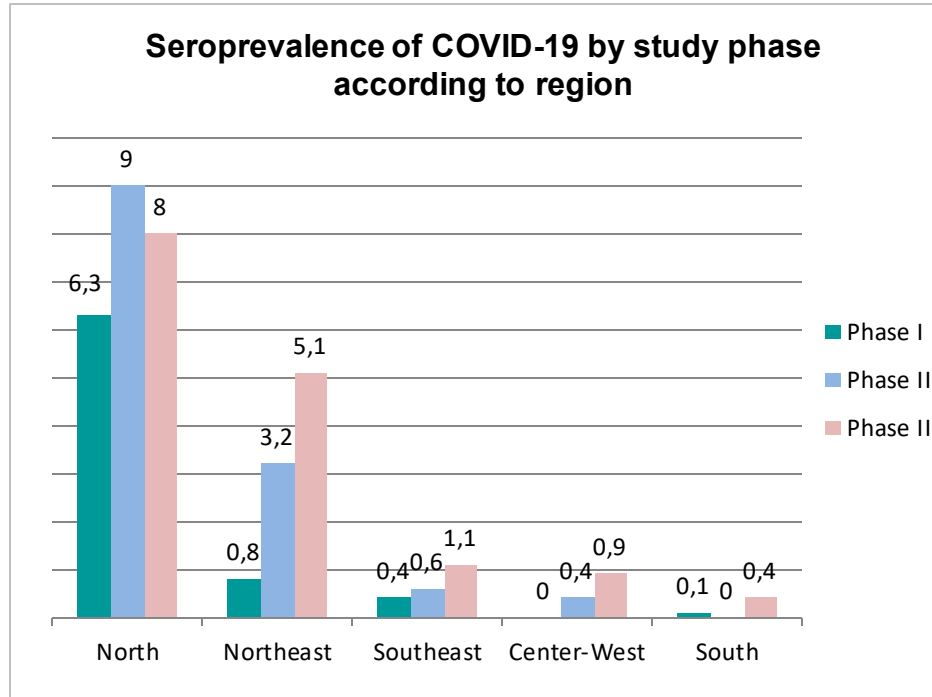
EPICOVID19 study

- 25,025 rapid tests
- 133 Brazilian cities
- Three phases (late May, early June, and late June)



COVID-19 epidemic in Brazil

Seroprevalence of COVID-19 IgG antibodies



Race/color	# Tested	# Positives
Black	11,304	282 (2.5%)
Mixed	40,088	1,237 (3.1%)
Yellow	2,446	52 (2.1%)
Indigenous	1,219	66 (5.4%)
White	32,383	372 (1.1%)

Final Remarks

- Worldwide, more than 11 million cases of COVID-19 were confirmed and 545,000 deaths were caused by COVID-19 so far.
- The US and Latin America represent around 40-45% of all COVID-19 cases and deaths.
- Latin America is the new epicenter of COVID-19 pandemic - Brazil, Peru and Chile are the top-10 leaders of cumulative COVID-19 cases.
- High transmission rates, specific characteristics and limited testing capacity might contribute to high impact of COVID-19 in Latin America
- Social determinants of health play an important role in the pandemic impact in Brazil.



Thank you!

Beatriz Grinsztein

gbeatriz@ini.fiocruz.br