# Global Confirmed & Active Cases
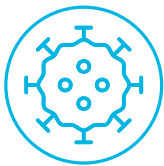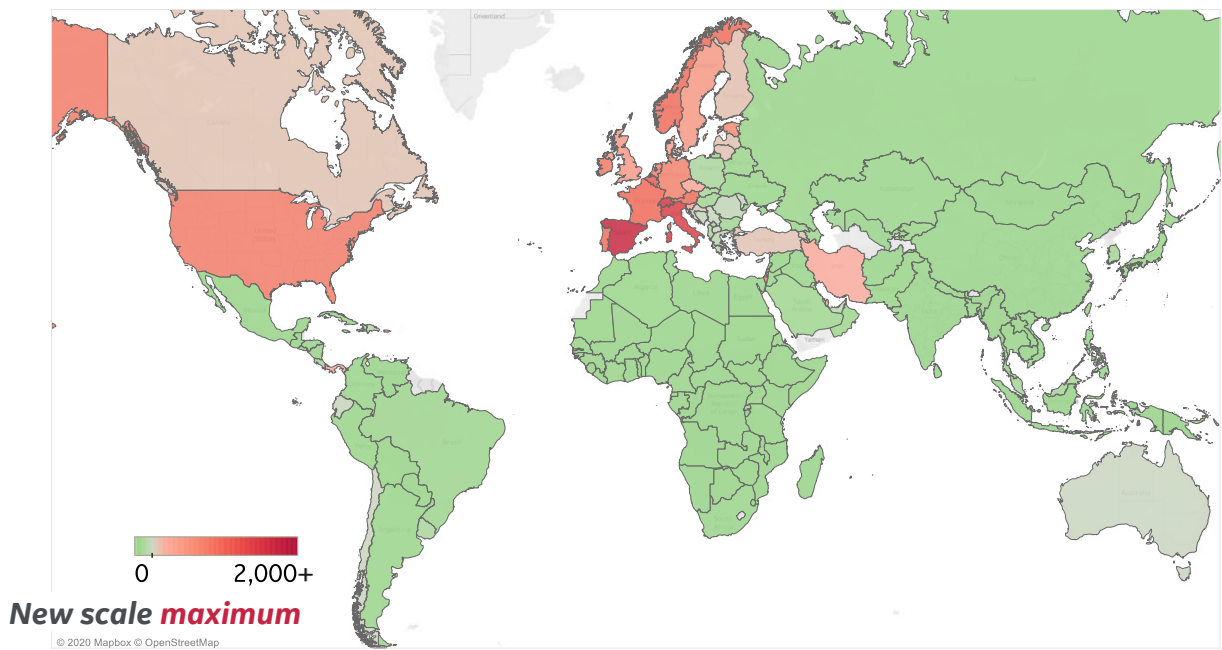
## How quickly are confirmed cases doubling?
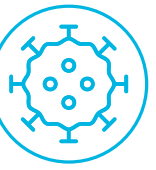


Legend:
- Confirmed Cases
- Active Cases

Callouts on chart:
- Doubled in **9 days**
- Doubled in **7 days**
- Doubled in **6 days**
- Doubled in **11 days**
- Doubled in **13 days**

Left axis: Confirmed cases per 1M (0, 20, 40, 60, 80, 100, 120, 140, 160)
Right axis: Total confirmed cases (0.0M, 0.1M, 0.2M, 0.3M, 0.4M, 0.5M, 0.6M, 0.7M, 0.8M, 0.9M, 1.0M, 1.1M, 1.2M, 1.3M)
X axis: 28 Jan, 04 Feb, 11 Feb, 18 Feb, 25 Feb, 03 Mar, 10 Mar, 17 Mar, 24 Mar, 31 Mar
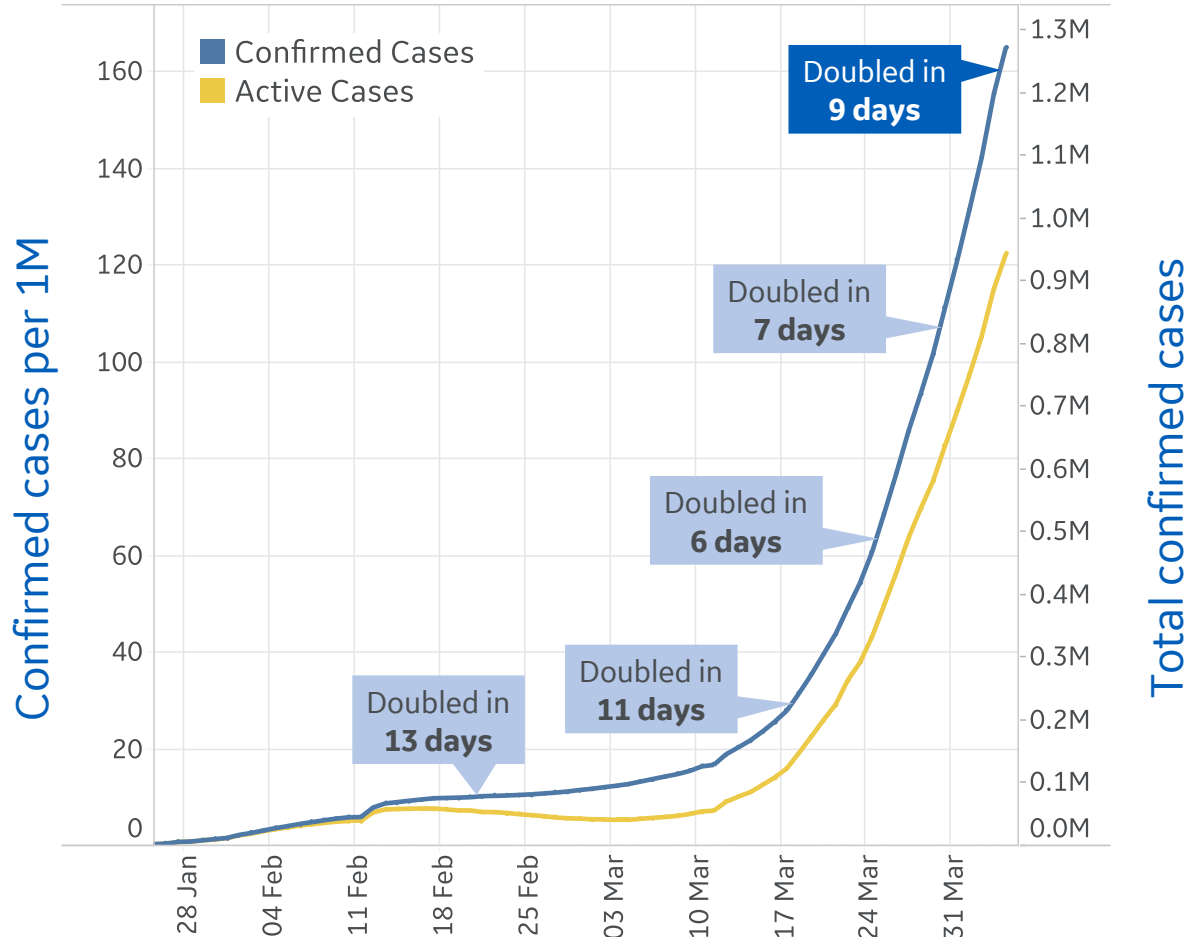
## Global Snapshot: Active Cases per 1M

*Active cases = Confirmed – Recovered – Deaths*



Scale: 0 — 2,000+
*New scale **maximum***

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| Per 1M: | Today | Change |
|---|---|---|
| Active Cases | 122 | + 6% |
| Confirmed Cases | 10 new | + 6% |
| Deaths | 1 new | + 7% |
| Recovered | 2 new | + 6% |

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1

# Global Summary

## Confirmed Case Volume

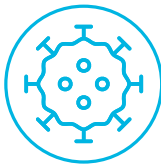| Country | Active Cases | New Today | | | Summary | | |
|---|---|---|---|---|---|---|---|
| | | Confirmed | Deaths | Recovered | Total Confirmed | Total Deaths | Total Recovered |
| US | 310,005 | 28,222 | 1,212 | 2,796 | 337,072 | 9,619 | 17,448 |
| Italy | 91,246 | 4,316 | 525 | 819 | 128,948 | 15,887 | 21,815 |
| Spain | 80,925 | 5,478 | 694 | 3,861 | 131,646 | 12,641 | 38,080 |
| Germany | 69,839 | 4,031 | 140 | 2,300 | 100,123 | 1,584 | 28,700 |
| France | 69,331 | 2,925 | 519 | 777 | 93,773 | 8,093 | 16,349 |
| UK | 43,264 | 5,959 | 623 | 14 | 48,436 | 4,943 | 229 |
| Iran | 34,887 | 2,483 | 151 | 0 | 58,226 | 3,603 | 19,736 |
| Turkey | 25,453 | 3,135 | 73 | 256 | 27,069 | 574 | 1,042 |
| Netherlands | 15,925 | 1,226 | 115 | n/a | 17,953 | 1,771 | 257 |
| Belgium | 14,493 | 1,260 | 164 | 504 | 19,691 | 1,447 | 3,751 |
| Switzerland | 13,970 | 595 | 49 | 0 | 21,100 | 715 | 6,415 |
| Canada | 12,485 | 2,778 | 41 | 435 | 15,756 | 259 | 3,012 |
| South Korea | 3,591 | 81 | 6 | 138 | 10,237 | 183 | 6,463 |
| China | 2,062 | 59 | 3 | 261 | 82,602 | 3,333 | 77,207 |
| Other | 155,253 | 12,162 | 453 | 1,704 | 179,483 | 4,722 | 19,508 |

*Active cases in **France** increased 50% compared to six days ago*
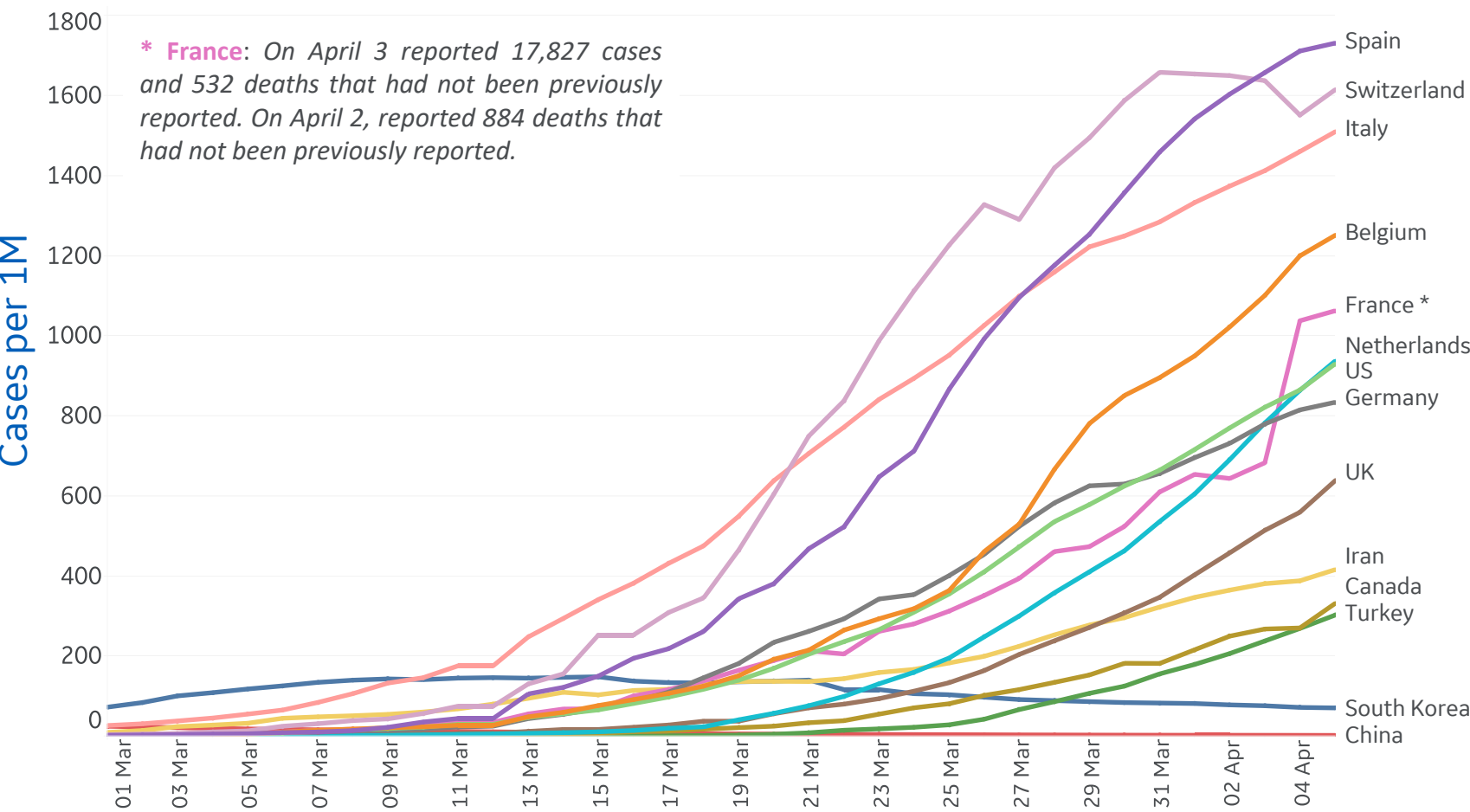
## Confirmed Cases per 1M

| Country | Active Cases | New Today | | | Summary | | |
|---|---|---|---|---|---|---|---|
| | | Confirmed | Deaths | Recovered | Total Confirmed | Total Deaths | Total Recovered |
| Spain | 1,731 | 117 | 15 | 83 | 2,816 | 270 | 814 |
| Switzerland | 1,614 | 69 | 6 | 0 | 2,438 | 83 | 741 |
| Italy | 1,509 | 71 | 9 | 14 | 2,133 | 263 | 361 |
| Belgium | 1,251 | 109 | 14 | 43 | 1,699 | 125 | 324 |
| France | 1,062 | 45 | 8 | 12 | 1,437 | 124 | 250 |
| US | 937 | 85 | 4 | 8 | 1,018 | 29 | 53 |
| Netherlands | 929 | 72 | 7 | 0 | 1,048 | 103 | 15 |
| Germany | 834 | 48 | 2 | 27 | 1,195 | 19 | 343 |
| UK | 637 | 88 | 9 | 0 | 713 | 73 | 3 |
| Iran | 415 | 30 | 2 | 0 | 693 | 43 | 235 |
| Canada | 331 | 74 | 1 | 12 | 417 | 7 | 80 |
| Turkey | 302 | 37 | 1 | 3 | 321 | 7 | 12 |
| South Korea | 70 | 2 | 0 | 3 | 200 | 4 | 126 |
| China | 1 | 0 | 0 | 0 | 57 | 2 | 54 |
| Other | 29 | 2 | 0 | 0 | 34 | 1 | 4 |

*In **Spain**, total recovered cases per million doubled compared to four days ago*

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# Trends in Active Cases

## Active Cases by Country
### Since 1 March 2020

* **France**: *On April 3 reported 17,827 cases and 532 deaths that had not been previously reported. On April 2, reported 884 deaths that had not been previously reported.*



Cases per 1M

Spain
Switzerland
Italy
Belgium
France *
Netherlands
US
Germany
UK
Iran
Canada
Turkey
South Korea
China

01 Mar 03 Mar 05 Mar 07 Mar 09 Mar 11 Mar 13 Mar 15 Mar 17 Mar 19 Mar 21 Mar 23 Mar 25 Mar 27 Mar 29 Mar 31 Mar 02 Apr 04 Apr

## Percent Change in Active Cases
### Over Previous 7 Days



Turkey
UK
US
France
Canada
Netherlands
Belgium
Iran
Spain
Germany
Italy
Switzerland
South Korea
China

-100% -50% 0% 50% 100% 150% 200%

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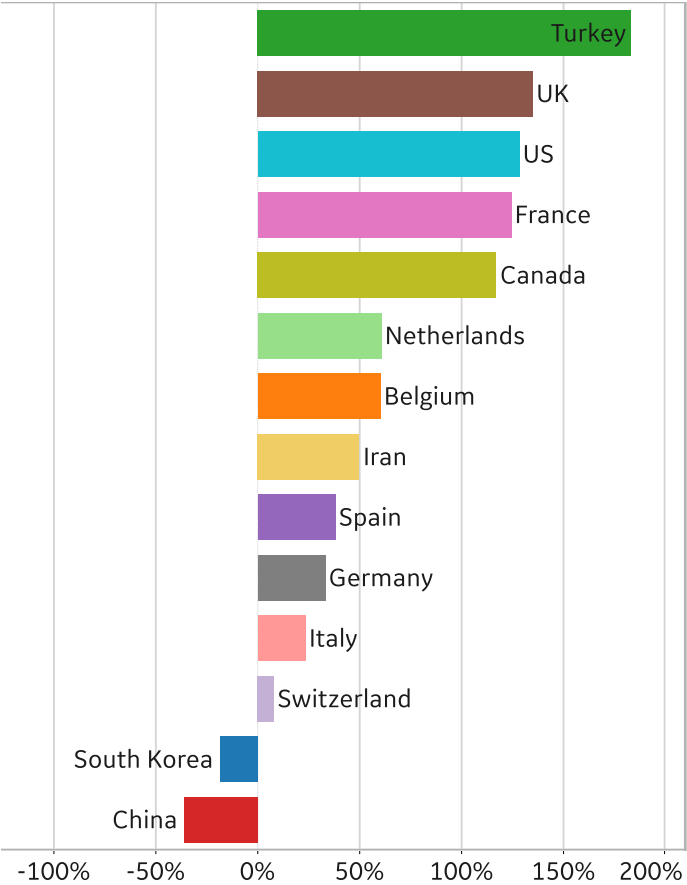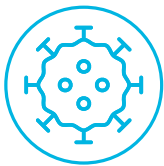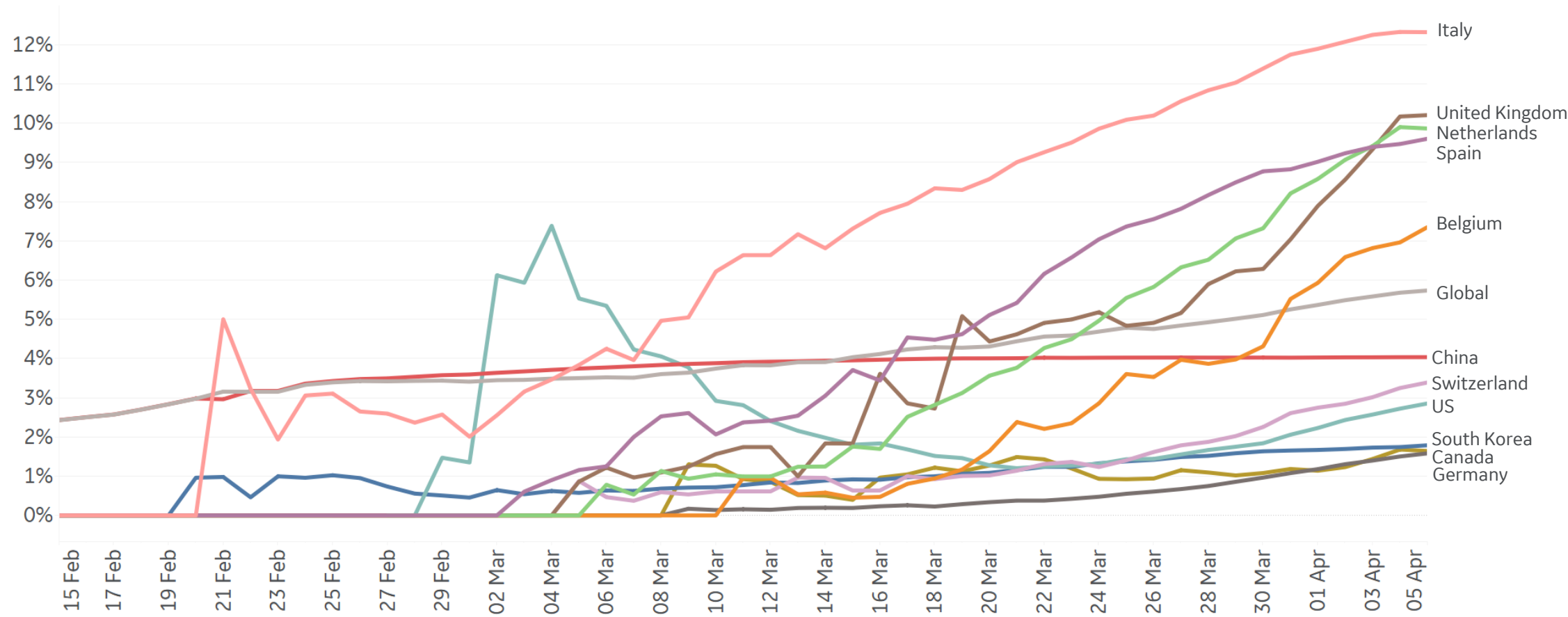
# Feature: How much capacity did canceling elective surgery create?
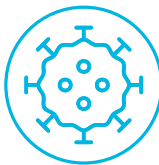
## Case Study: Teaching Hospital

**350 beds**

### Inpatient Beds

72 ICU

278 Acute

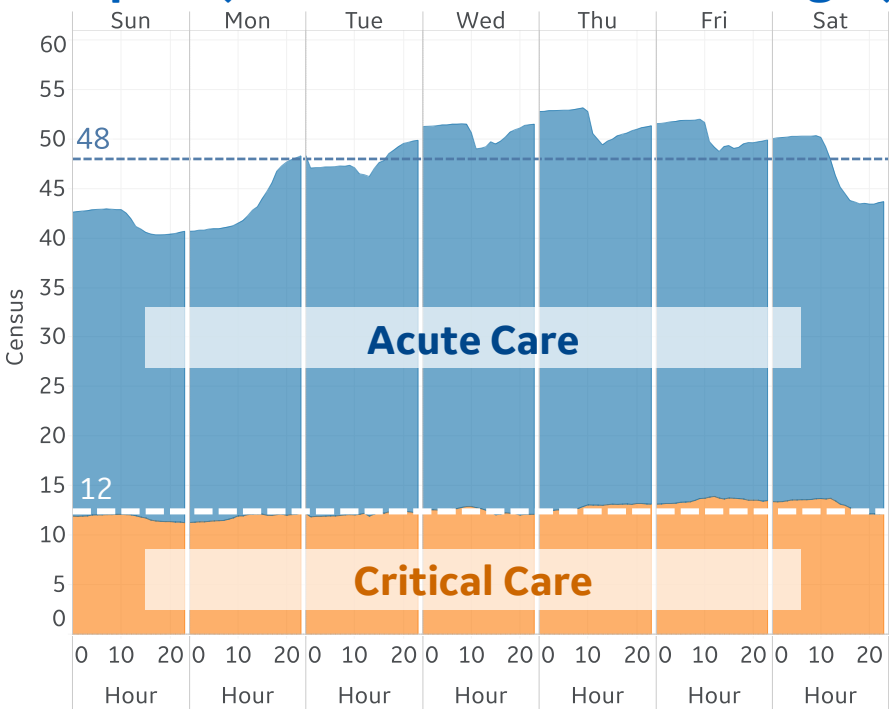92% Inpatient occupancy

### 10 Operating Rooms

96% Blocked, 4% Open

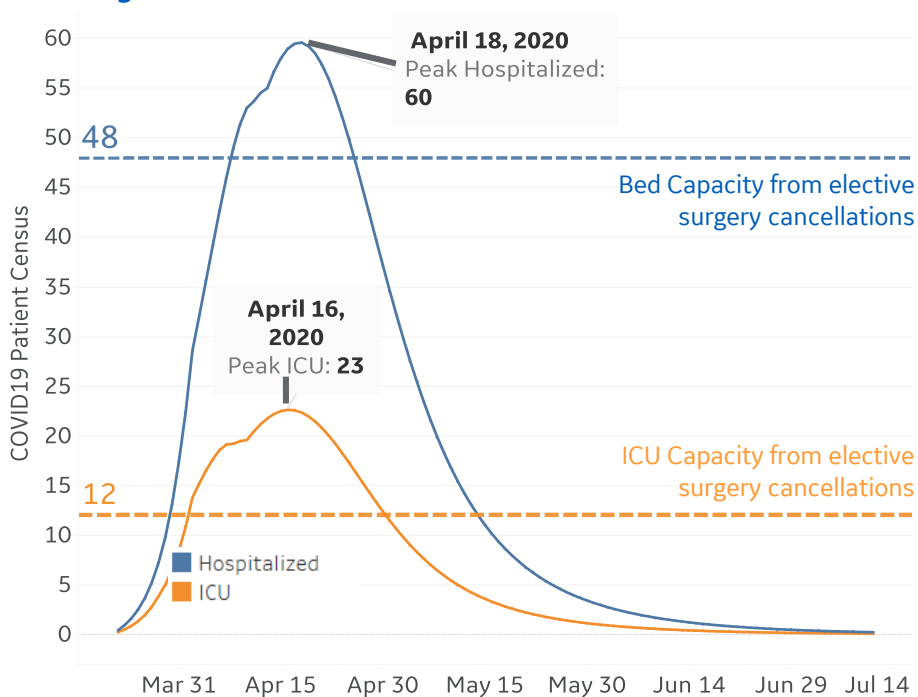73% Utilization

76% Elective

24% Urgent/Emergent

## IP Capacity created from Elective Surgery



- Canceling elective surgery will free up an average of **48 inpatient beds** for COVID19 patients
- 121 patients per week are having surgeries postponed
- Need 310 hours per week of surgery time to catch up

## Projected Census of COVID19 Patients



**April 18, 2020**
Peak Hospitalized: **60**

**April 16, 2020**
Peak ICU: **23**

Bed Capacity from elective surgery cancellations

ICU Capacity from elective surgery cancellations

Elective surgery beds free up 50% of needed ICU capacity and 80% of total bed capacity. Additional capacity is created by other cancelled procedures and fewer non-COVID19-related visits.

16 April: Peak ICU census, 23 beds
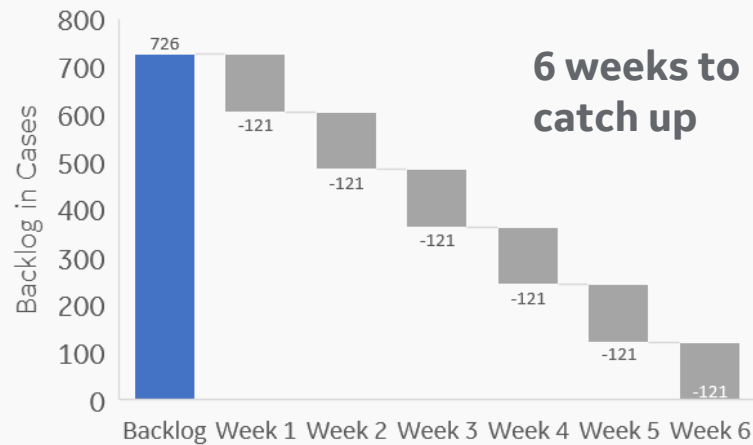
18 April: Peak census of COVID19 patients, 60 beds

16 May: 10 patients still hospitalized

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# Feature: How long will it take to catch up on elective surgeries?
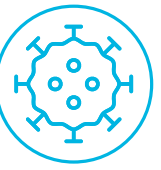
## Completion of Backlog by Week (assuming 6 week shutdown)

### Scenario 1: Standard Operating Schedule



**6 weeks to catch up**

- Current block schedule has very little open time to accommodate additional volume
- It will take at least 6 weeks to exhaust the backlog of 726 cases
- Surgeons' availability may be limited as clinic schedule was likely impacted

### Scenario 2: Extend Hours with Same Block



**5 weeks to catch up**
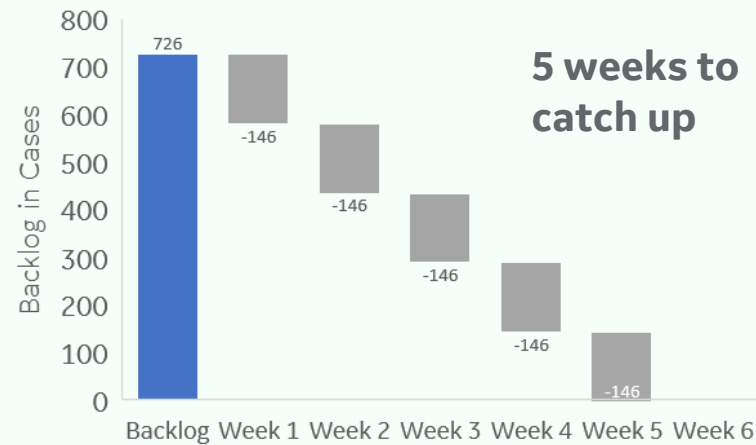
- Same schedule with extended hours can shorten the time to recover to 5 weeks
- Hours at the end of the day are not as well-utilized due to unpredictability of schedule
- Surgeon, staff, and inpatient bed availability are additional factors to be considered
- Inpatient capacity may be limited during the first month

### Scenario 3: Optimize Block Schedule



**4 weeks to catch up**
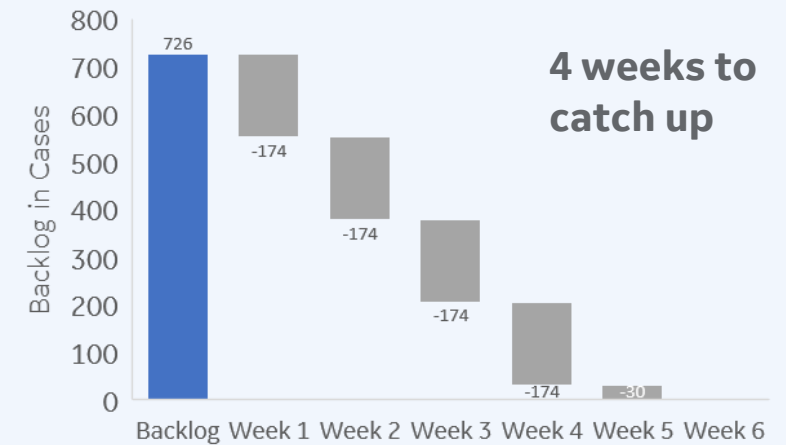
- Work with surgeons and staff to inventory backlog and demand
- Identify surgeon day-of-week constraints, given likely disruption of clinic schedule
- Model impact to downstream capacity
- Modify the block schedule to allocate based on demand while leaving sufficient open time for urgent/emergent cases and incremental case volume
- An optimized schedule can help eliminate 6 week backlog in 4 weeks

# Feature: US COVID19 Testing by State
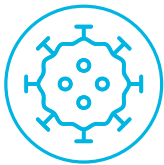
## Number of Tests Performed per 1M
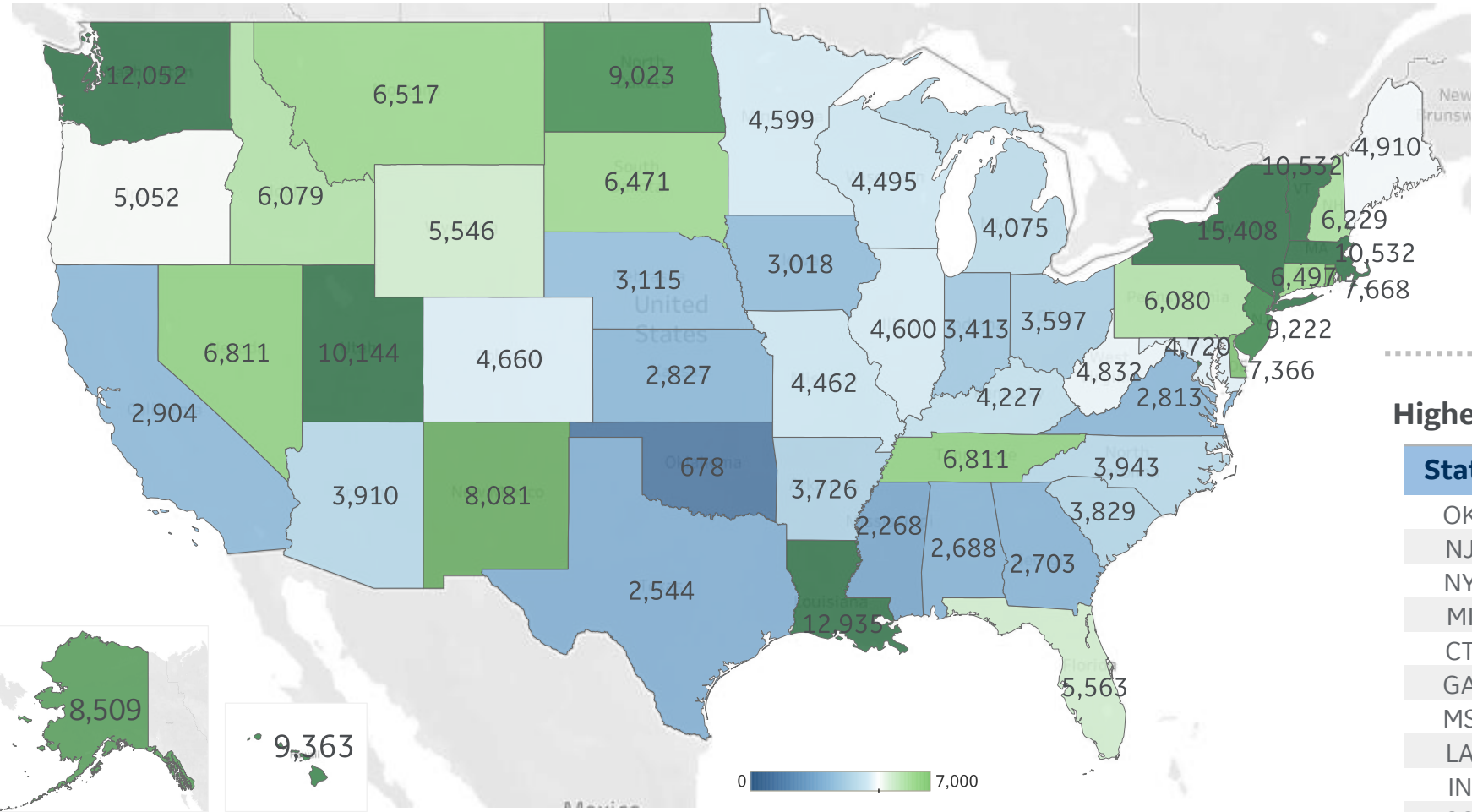


### Global Benchmarks

| Country | Tests per 1M | Positive |
|---|---|---|
| Italy | 10,896 | 19% |
| South Korea | 8,920 | 2% |
| US Overall | 5,385 | 19% |

## US State Highlights

| Highest Positive Rates | | Lowest Positive Rates | |
|---|---|---|---|
| **State** | **Positive** | **State** | **Positive** |
| OK | 47% | OR | 5% |
| NJ | 46% | UT | 5% |
| NY | 40% | MT | 4% |
| MI | 34% | SD | 4% |
| CT | 24% | WV | 4% |
| GA | 24% | MN | 3% |
| MS | 23% | NM | 3% |
| LA | 22% | ND | 3% |
| IN | 19% | AK | 3% |
| CO | 19% | HI | 3% |

# Europe & Middle East

## Per 1M in Region

| | Today | Change |
|---|---|---|
| Active Cases | 540 | + 5% |
| Confirmed Cases | 37 new | + 5% |
| Deaths | 3 new | + 7% |
| Recovered | 9 new | + 7% |

## Most Active Cases per 1M

| | |
|---|---|
| Spain | 1,731 |
| Switzerland | 1,614 |
| Italy | 1,509 |
| Belgium | 1,251 |
| Portugal | 1,070 |
| Norway | 1,030 |
| Austria | 983 |
| Ireland | 974 |
| Netherlands | 929 |
| Israel | 913 |

*\* Excludes regions with population < 1M*



*Active cases =
Confirmed – Recovered – Deaths*

New scale *maximum*

0    2,000+

Map values:
289 (5), 1,030 (13), 616 (40), 769 (11), 510 (31), 291 (5), 53 (1), 974 (32), 637 (73), 102 (2), 28 (1), 1,251 (125), 834 (?), Zurich Conf: 1,658, 87 (0), 983 (23), Madrid Conf: 5,642 D: 742, 1,062 (124), 174 (8), 1,509 (263), 183 (7), 213 (6), 68 (3), 1,070 (29), 1,731 (270), 152 (7), 302 (7), 256 (2), 1 (0), 67 (3), 15 (2), 415 (43), 913 (6), 107 (0), 8 (1), 156 (2), 54 (1)

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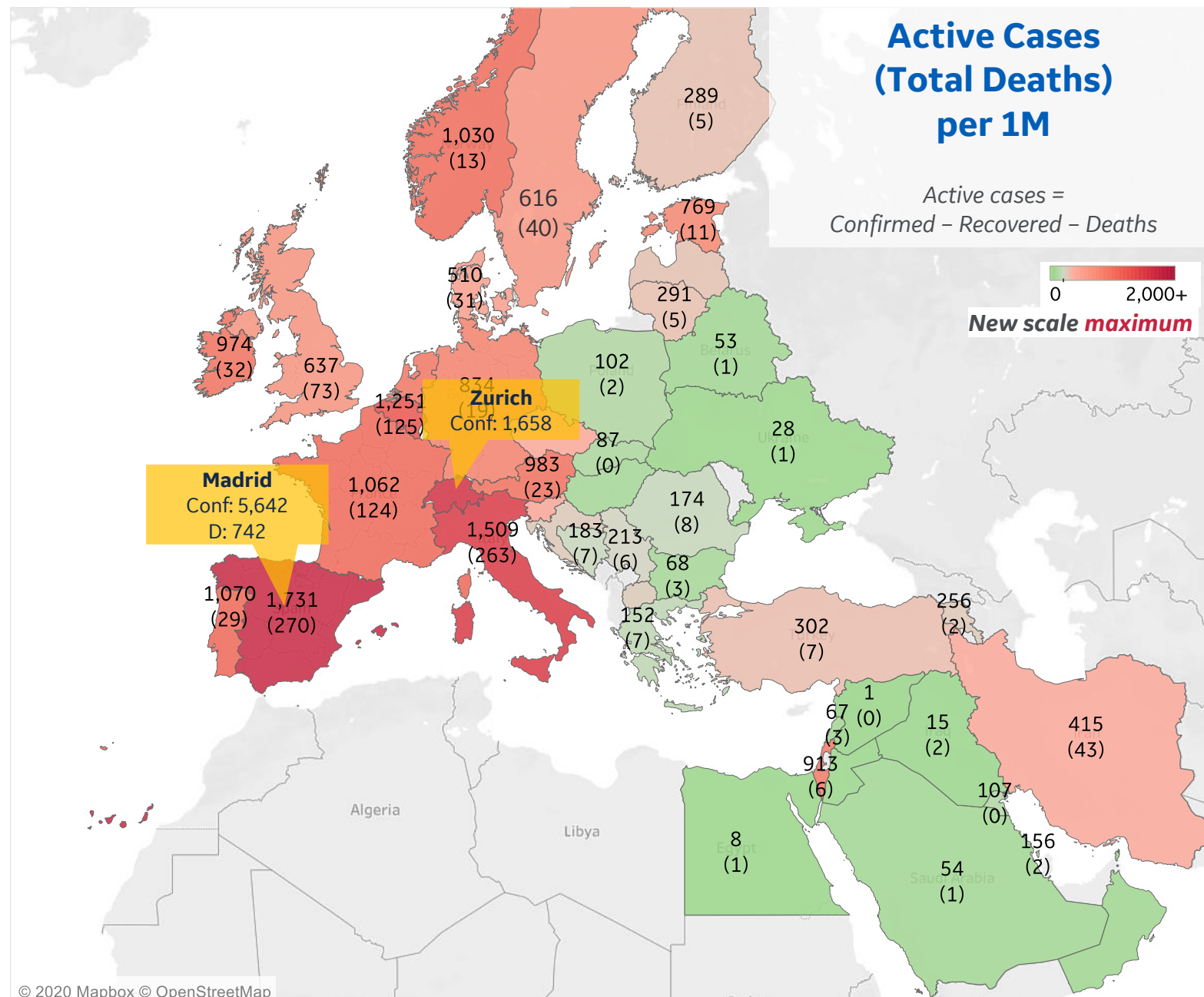
# Italy

## Per 1M in Region

|  | Today | Change |
|---|---|---|
| Active Cases | 1,509 | + 3% |
| Confirmed Cases | 71 new | + 3% |
| Deaths | 9 new | + 3% |
| Recovered | 14 new | + 4% |

## Most Active Cases per 1M

| | |
|---|---|
| Emilia-Romagna | 2,879 |
| Lombardia | 2,795 |
| Marche | 2,346 |
| Piemonte | 2,336 |
| Liguria | 1,995 |
| Veneto | 1,918 |
| Trentino-Alto Adige | 1,674 |
| Toscana | 1,390 |
| Sudtirol | 1,143 |

*Excludes regions with population < 1M*

## Active Cases (Total Deaths) per 1M

*Active cases = Confirmed – Recovered – Deaths*

0    2,000+

*New scale maximum*



4,584 (724)
2,795 (885)
1,918 (129)
1,122 (127)
2,336 (268)
2,879 (460)
1,995 (359)
1,390 (87)
2,346 (393)
1,018 (49)
1,083 (120)
542 (37)
612 (43)
452 (33)
451 (23)
502 (45)
497 (26)
363 (29)
296 (19)

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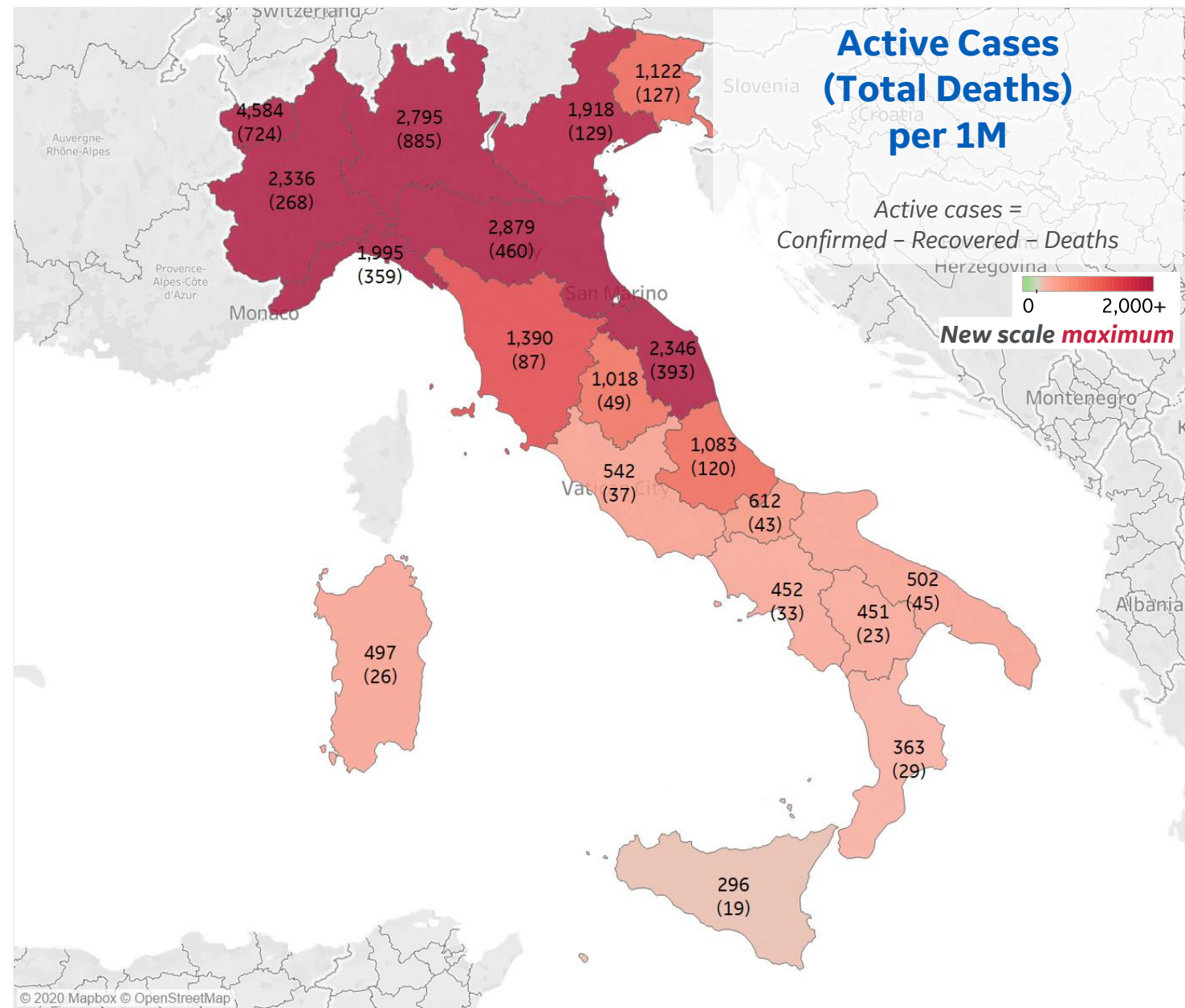
# UK & Ireland

## Per 1M in Region

| | Today | Change |
|---|---|---|
| Active Cases | 660 | + 13% |
| Confirmed Cases | 87 new | + 13% |
| Deaths | 9 new | + 14% |
| Recovered | 0.2 new | + 6% |

## Most Active Cases per 1M

| Ireland | 974 |
|---|---|
| Wales | 966 |
| Scotland | 641 |
| England | 629 |
| Northern Ireland | 549 |

*Excludes regions with population < 1M*

*Active cases =
Confirmed – Recovered – Deaths*

0    2,000+

***New scale maximum***

641
(40)

549
(30)

Isle of Man

**Dublin**
Conf: 1,851

974
(32)

629
(80)

966
(53)

**London**
Conf: 1,345

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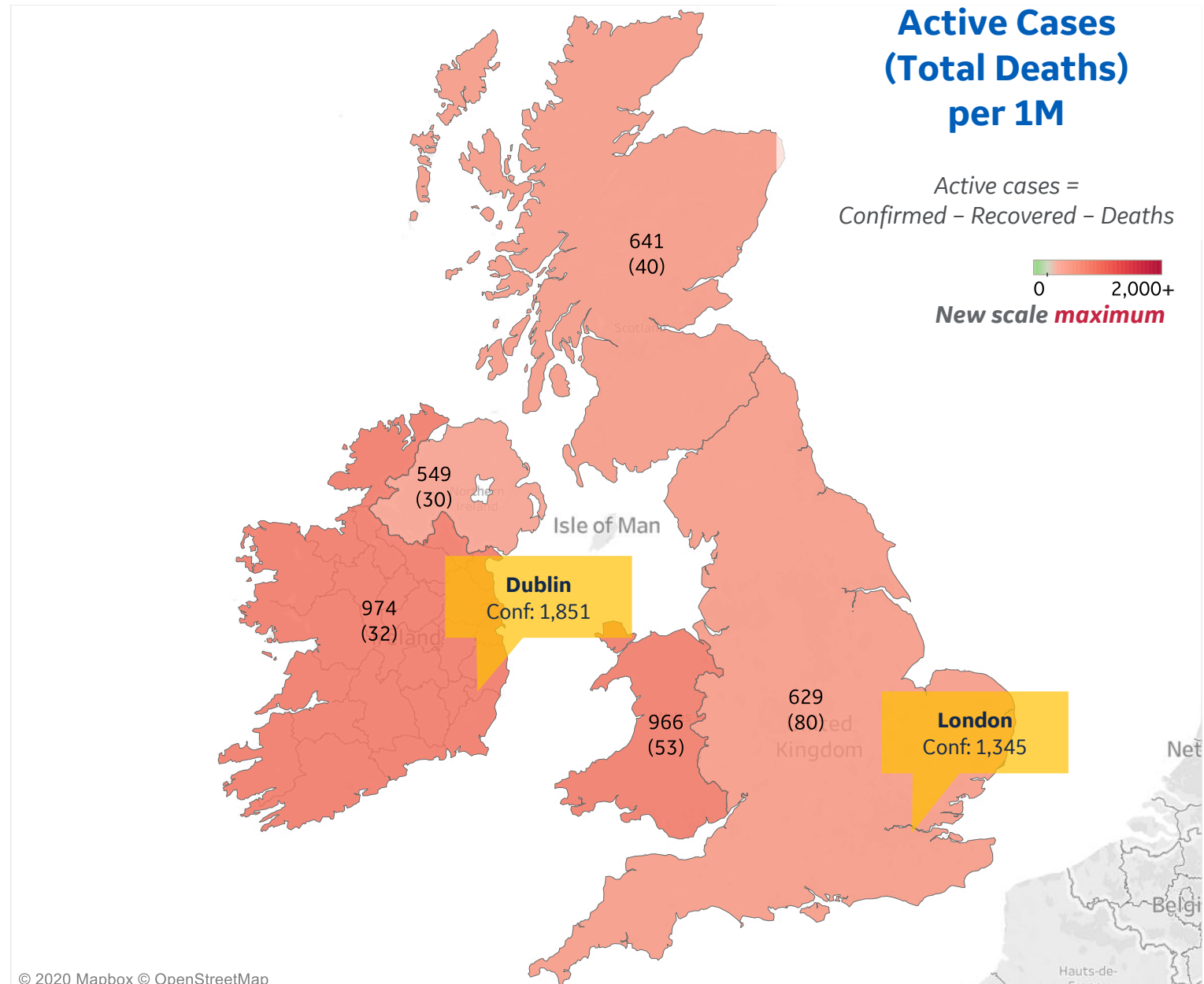
# US & Canada

## Per 1M in Region

|  | **Today** | **Change** |
|---|---|---|
| Active Cases | 875 | + 9% |
| Confirmed Cases | 84 new | + 10% |
| Deaths | 3 new | + 15% |
| Recovered | 9 new | + 19% |

*Active cases =
Confirmed – Recovered – Deaths*

## Most Active Cases per 1M

| | |
|---|---|
| New York | 5,483 |
| New Jersey | 4,109 |
| Louisiana | 2,685 |
| Massachusetts | 1,779 |
| Connecticut | 1,525 |
| Michigan | 1,511 |
| DC | 1,017 |
| Washington | 899 |
| Illinois | 863 |
| Colorado | 828 |



Vancouver
Conf: 443

Toronto
Conf: 376
(10)

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0    2,000+

*New scale maximum*

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# US by County & Metro Area



Seattle Metro
1,249
(57)

Metro Detroit
2,970
(126)

Boston Metro
2,104
(28)

New York City
8,139
(271)

Chicago Metro
1,165
(28)

Portland Metro
299
(9)

Denver Metro
871
(21)

SF Metro
503
(11)

Cincinnati Metro
269
(9)

Cleveland Metro
552
(11)

LA Metro
548
(12)

Phoenix Metro
289
(6)

Dallas Metro
326
(6)

New Orleans Metro
6,933
(272)

Metro Miami
943
(12)

**Confirmed Cases
(Total Deaths)
per 1M**

0        2,000+
*New scale* **maximum**

| Counties* with Most Confirmed Cases per 1M | | |
|---|---|---|
| Nassau County | NY | 10,611 |
| Suffolk County | NY | 8,891 |
| New York City ** | NY | 8,139 |
| Wayne County | MI | 4,298 |
| Oakland County | MI | 2,413 |
| Philadelphia County | PA | 2,013 |
| Middlesex County | MA | 1,633 |
| Cook County | IL | 1,560 |
| Miami-Dade County | FL | 1,526 |
| King County | WA | 1,406 |

*\* Includes counties with at least 1M population and at least 800 confirmed cases*
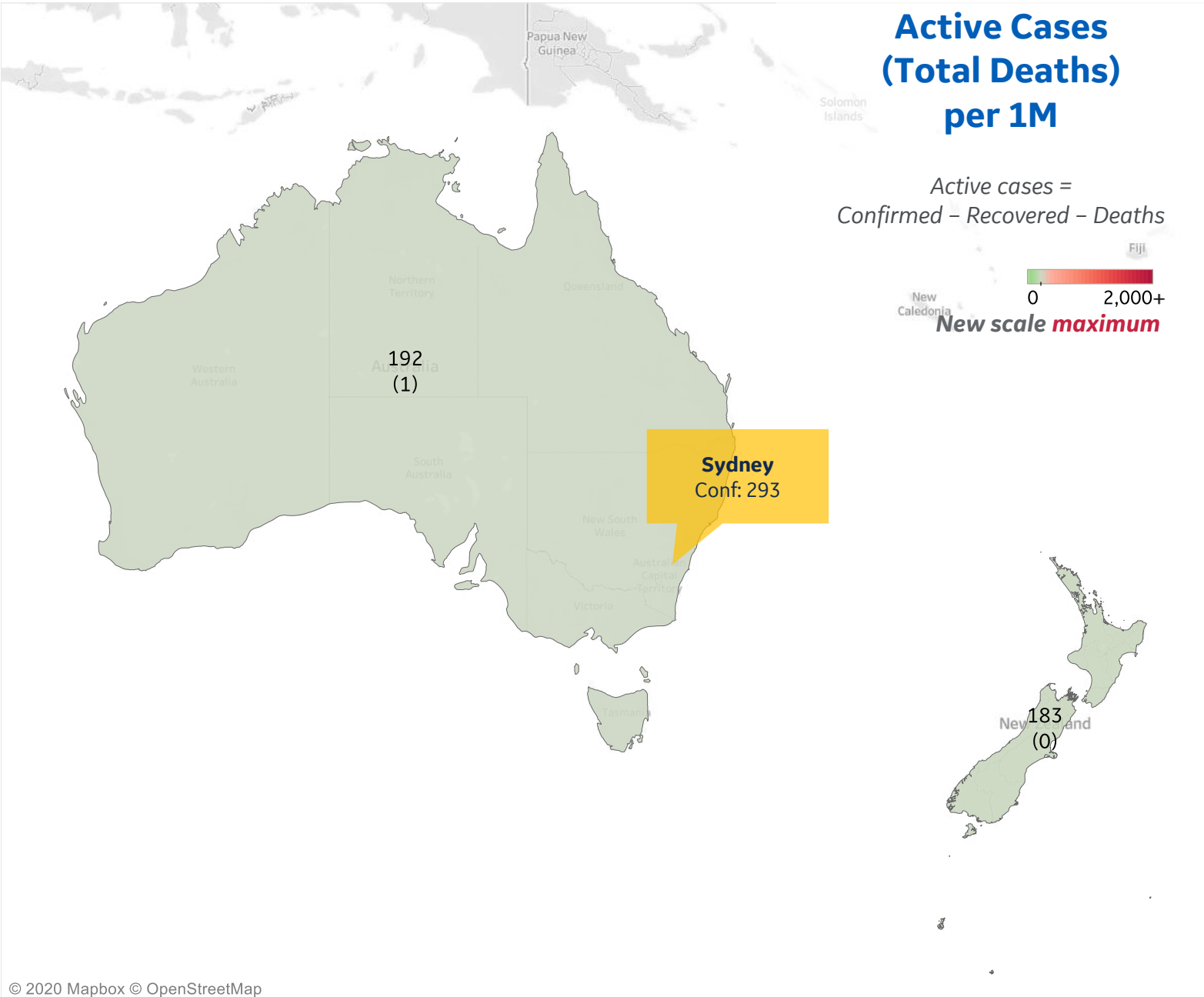*\*\* New York City counties aggregated into one reporting area*

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# Oceania

## Per 1M in Region

|  | Today | Change |
|---|---|---|
| Active Cases | 191 | + 2% |
| Confirmed Cases | 7 new | + 3% |
| Deaths | 0.16 new | + 16% |
| Recovered | 3 new | + 10% |

## Most Active Cases per 1M

| Australia | 192 |
|---|---|
| New Zealand | 183 |

*Excludes regions with population < 1M*

**Active Cases
(Total Deaths)
per 1M**

*Active cases =
Confirmed – Recovered – Deaths*

0    2,000+

**New scale maximum**

192
(1)

**Sydney**
Conf: 293

183
(0)

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# Latin & South America

## Per 1M in Region

| | Today | Change |
|---|---|---|
| Active Cases | 42 | + 8% |
| Confirmed Cases | 4 new | + 8% |
| Deaths | 0.2 new | + 11% |
| Recovered | 0.3new | + 6% |

## Most Active Cases per 1M

| | |
|---|---|
| Panama | 404 |
| Chile | 200 |
| Ecuador | 191 |
| Uruguay | 87 |
| Costa Rica | 86 |
| Trinidad and Tobago | 69 |
| Brazil | 49 |
| Peru | 37 |
| Colombia | 27 |
| Argentina | 25 |

*Excludes regions with population < 1M*

*Active cases =*
*Confirmed – Recovered – Deaths*

0    2,000+
*New scale* **maximum**

**Rio de Janeiro**
Conf: 78
(4)

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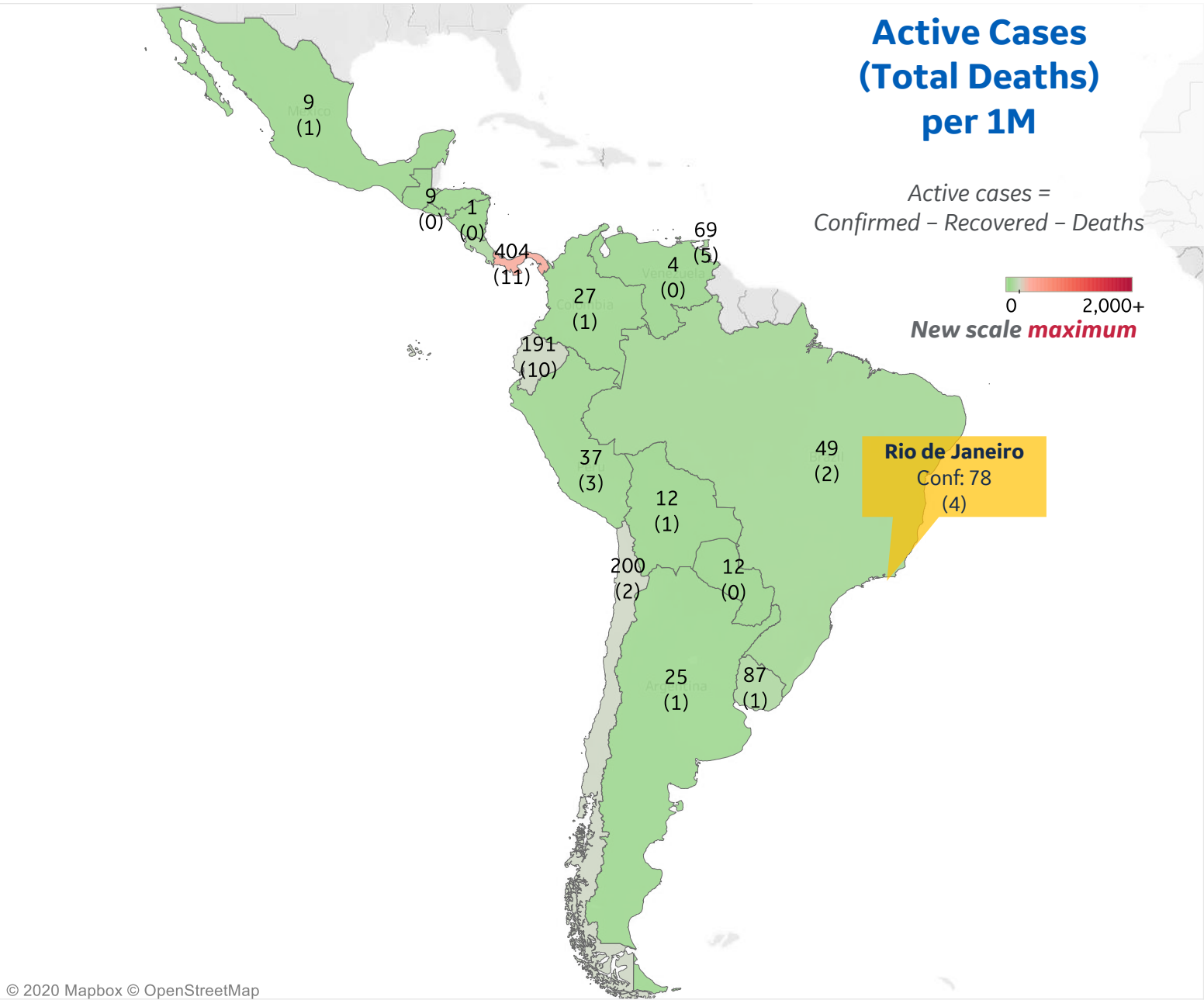
# Asia

## Per 1M in Region

| | Today | Change |
|---|---|---|
| Active Cases | 7 | + 9% |
| Confirmed Cases | 1 new | + 2% |
| Deaths | 0.01 new | + 1% |
| Recovered | 0.2 new | + 1% |

## Most Active Cases per 1M

| | |
|---|---|
| Singapore | 168 |
| Malaysia | 80 |
| South Korea | 70 |
| Russia | 34 |
| Kazakhstan | 29 |
| Philippines | 28 |
| Kyrgyzstan | 21 |
| Japan | 20 |
| Thailand | 19 |
| Pakistan | 13 |

*Excludes regions with population < 1M*

*Active cases =*
*Confirmed – Recovered – Deaths*

0    2,000+

*New scale*
*maximum*

Moscow
Conf: 311

34
(0)

29
(0)

4
(0)

Wuhan
Conf: 4,513
(232)

Tokyo
Conf: 64
(2)

9
(0)

21
(0)

8
(0)

1

Hong Kong
Conf: 119
(1)

70
(4)

20
(1)

0
(0)

0

2
(0)

2
(0)

28
(1)

6
(0)

4
(0)

168
(1)

7
(1)

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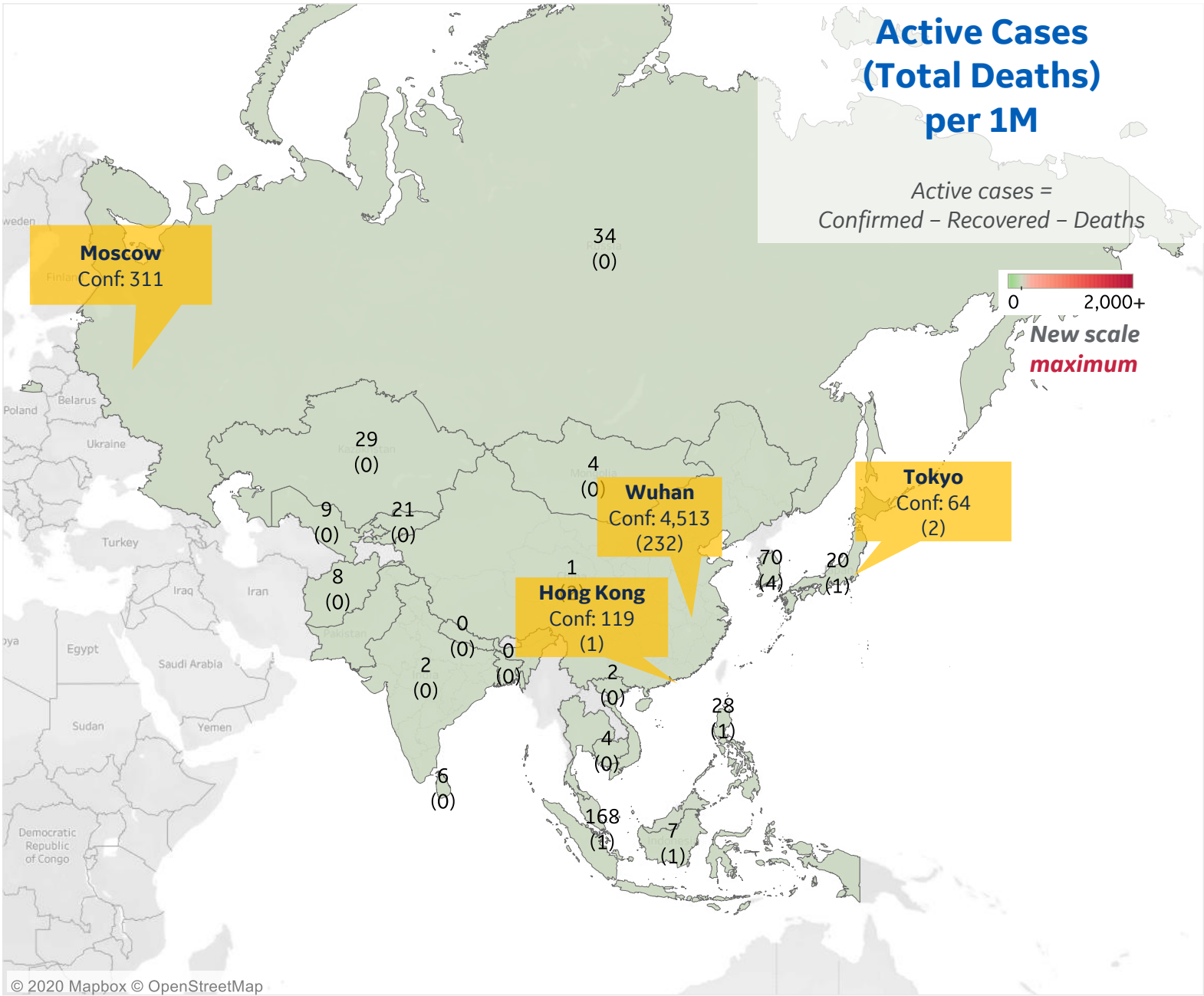
# Africa

## Per 1M in Region

| | Today | Change |
|---|---|---|
| Active Cases | 7 | + 7% |
| Confirmed Cases | 1 new | + 8% |
| Deaths | 0.05 new | + 16% |
| Recovered | 0.08 new | + 12% |

## Most Active Cases per 1M

| | |
|---|---|
| Mauritius | 167 |
| Tunisia | 46 |
| South Africa | 26 |
| Algeria | 25 |
| Morocco | 24 |
| Cameroon | 24 |
| Burkina Faso | 11 |
| Equatorial Guinea | 11 |
| Gabon | 9 |
| Senegal | 8 |

*Excludes regions with population < 1M*

## Active Cases (Total Deaths) per 1M

*Active cases =*
*Confirmed – Recovered – Deaths*

0 ——— 2,000+
*New scale* **maximum**

Lagos
Conf: 6

Johannesburg /
Pretoria
Conf: 57

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**GE HEALTHCARE COMMAND CENTERS**
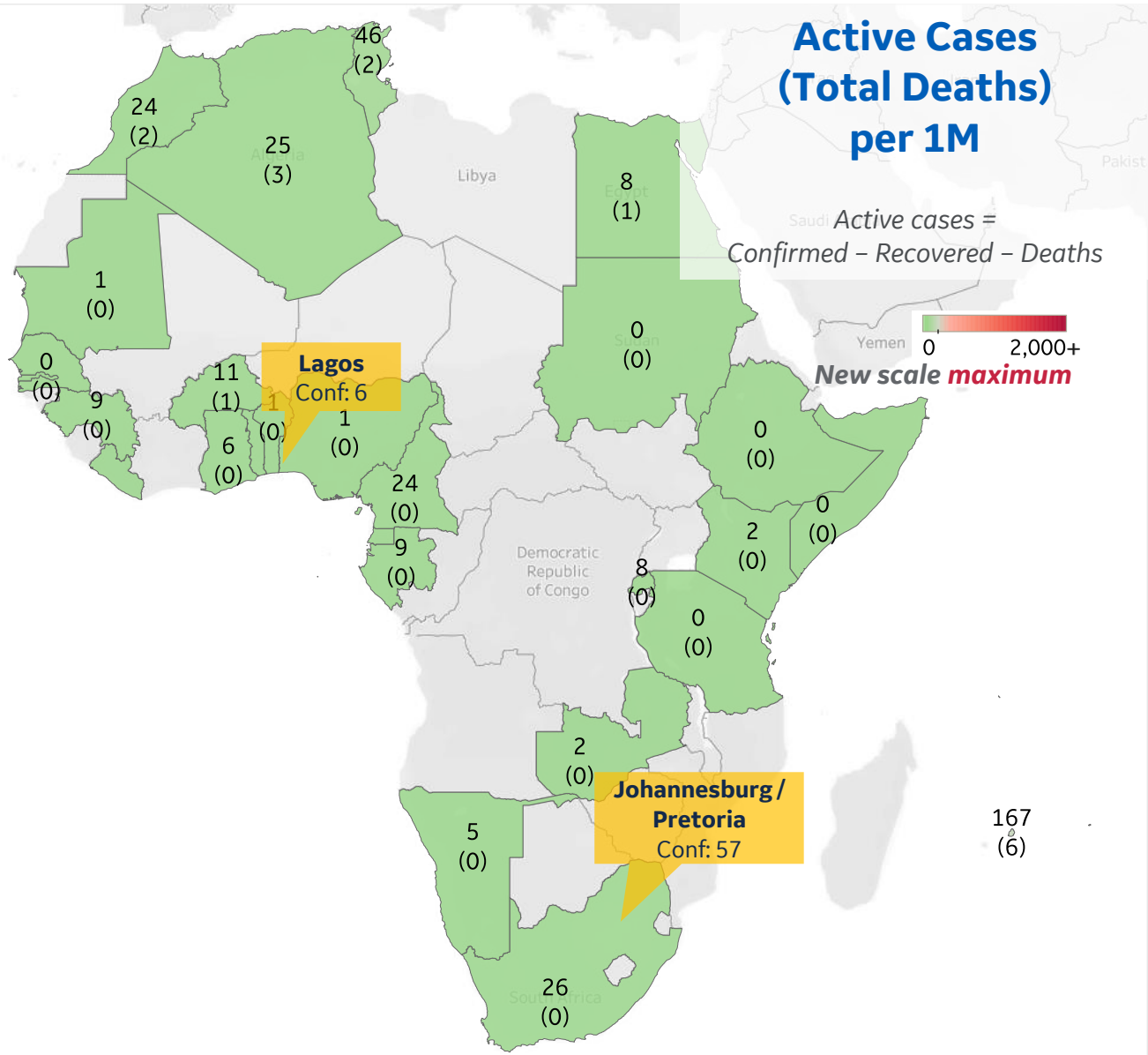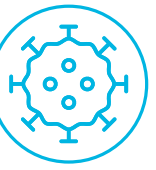
# Sources

**Johns Hopkins Coronavirus Resource Center:**
https://coronavirus.jhu.edu/map.html

**WHO Situation Reports:**
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

**Worldometer Coronavirus Reporting:**
https://www.worldometers.info/coronavirus/

**Public Health England:**
https://www.gov.uk/government/publications/covid-19-track-coronavirus-cases

**US Department of Homeland Security, Homeland Infrastructure Foundation-Level Data:**
https://hifld-geoplatform.opendata.arcgis.com/datasets/hospitals

**City of New York, NYC Health:**
https://www1.nyc.gov/site/doh/covid/covid-19-data.page

**Chicago Coronavirus Latest Data:**
https://www.chicago.gov/city/en/sites/covid-19/home/latest-data.html

**National Health Commission of the PRC:**
http://www.nhc.gov.cn/xcs/yqtb/202003/bf66696029ba420098164607240074f8.shtml

**Italy EpiCentro**
https://www.epicentro.iss.it/coronavirus/

**Spain Ministry of Health**
https://www.mscbs.gob.es/en/profesionales/saludPublica/ccayes/alertasActual/nCov-China/

**Netherlands National Institute for Public Health and Environment**
https://www.rivm.nl/

**Population by Age Group and Country**
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**Italian Ministry of Health:**
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