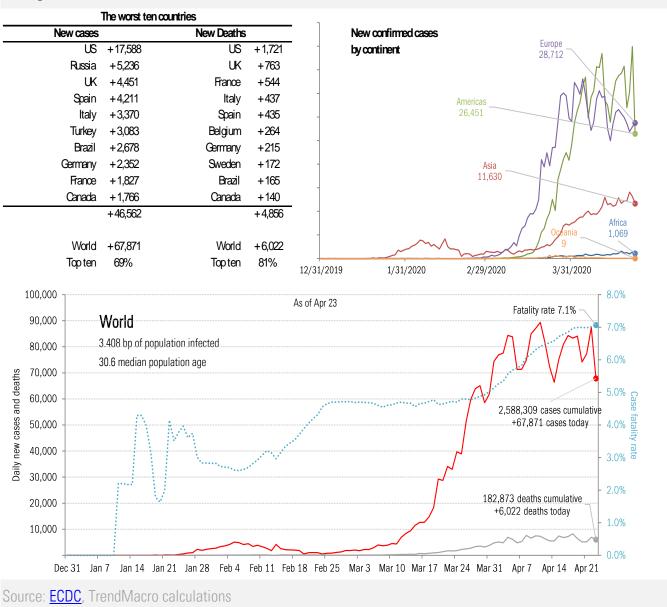


Trend Macrolytics, LLC Donald Luskin, Chief Investment Officer Thomas Demas, Managing Director Michael Warren, Energy Strategist

Data Insights: Covid-2019 Monitor

Thursday, April 23, 2020

The global scorecard



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The US scorecard

National and state-by-state data do not line up because of different sources

NJ +3, CA +2, CT +2, IL +2, MA +1, MI +9, TX +8, GA +8, FL +8, +20	-999 C -873 L -859 P	$\begin{array}{cccc} J & +310 \\ A & +221 \\ T & +121 \\ II & +113 \\ L & +97 \\ A & +86 \\ A & +68 \\ A & +68 \\ A & +58 \\ L & +54 \\ \hline & +1,602 \end{array}$	FL GA MD CO OH SC MS WI AL MN	+234 +180 +167 +123 +103 +61 +52 +50 +31 +31	NY NJ CA IL PA MI FL	257,216 95,865 42,944 35,396 35,108 35,045 33,966 28,309	NY NJ MA PA IL CT	15,302 5,063 2,813 2,182 1,622 1,565 1,544	NY FL GA OH CO VA	57,103 4,469 3,959 3,325 2,882 2,003 1,581	
CA +2, CT +2, IL +2, MA +1, MI +9; TX +8; GA +8; RL +8; +20; VI states +27; Topten 76;	2,135 M. 2,109 C 2,049 M 1,745 H -999 C -873 L -859 P -814 F 20,587 -	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	MD CO OH SC MS WI AL	+ 167 + 123 + 103 + 61 + 52 + 50 + 31	Ma Ca Il Pa MI R	42,944 35,396 35,108 35,045 33,966 28,309	MI MA PA IL CT	2,813 2,182 1,622 1,565 1,544	GA MD OH CO	3,959 3,325 2,882 2,003	
CT +2, IL +2, MA +1, MI +9 TX +8 GA +8 FL +8 +2C All states +27 Topten 76	2,109 C 2,049 M 1,745 I -999 C -873 L -859 P -814 F 20,587 Z 27,219 All state	T + 121 II + 113 L + 97 A + 86 A + 68 A + 68 A + 58 <u>L + 54</u> + 1,602	CO OH SC MS WI AL	+123 +103 +61 +52 +50 +31	CA IL PA MI FL	35,396 35,108 35,045 33,966 28,309	MA PA IL CT	2,182 1,622 1,565 1,544	MD OH CO	3,325 2,882 2,003	
IL +2, MA +1, MI +9 TX +8 GA +8 FL +8 +20 All states +27 Topten 76	2,049 M 1,745 H -999 C -873 L -859 P -814 F 20,587	II +113 L +97 A +86 A +68 A +68 A +58 <u>L +54</u> +1,602	OH SC MS WI AL	+103 +61 +52 +50 +31	IL PA MI FL	35,108 35,045 33,966 28,309	PA IL CT	1,622 1,565 1,544	OH CO	2,882 2,003	
MA +1, MI +9 TX +8 GA +8 FL +8 +20 All states +27 Topten 76	1,745 -999 CC -873 L -859 P -814 F 20,587 -	L +97 A +86 A +68 A +58 L +54 +1,602	SC MS WI AL	+61 +52 +50 +31	PA MI FL	35,045 33,966 28,309	IL CT	1,565 1,544	CO	2,003	
MI + 9 TX + 8 GA + 8 <u>FL + 8</u> +20 All states +27 Top ten 76	-999 C -873 L -859 P -814 F 20,587 -	A + 86 A + 68 A + 58 <u>A + 54</u> + 1,602	MS WI AL	+52 +50 +31	MI FL	33,966 28,309	СТ	1,544			
TX + 8 GA + 8 FL + 8 + 20 All states + 27 Topten 76	-873 L -859 P -814 F 20,587 -	A +68 A +58 <u>A +54</u> +1,602	WI AL	+50 +31	Æ	28,309			VA	1 591	
GA + { <u>FL + {</u> +2C All states +27 Top ten 76	-859 P. -814 F 20,587 Z7,219 All state	A +58 <u>L +54</u> +1,602	AL	+31			IΔ				
FL + { + 20 All states + 27 Top ten 76	-814 F 20,587 All state	L +54 +1,602			LA			1,473	WI	1,302	
+20 All states +27 Topten 76	20,587 27,219 All state	+1,602	MN	+31		25,258	CA	1,354	KY	1,076	
All states +27 Top ten 76	27,219 All state				CT	22,469	R_	910	MS	910	
Topten 76		c ⊥2108		+1,032		611,576		33,828		78,610	
	76% Topte	5 +2,100	All states	+1,173	All states	826,936	All states	42,103	All states	85,465	
Fewer daily ca		n 76%	Top ten	88%	Topten	74%	Top ten	80%	Top ten	92%	
Fewer daily ca			F	ive most impro	wed US state	s					
	zases	Fewer new deaths			Fewer new hospitalizations				Most recoveries		
MA -1,3	,377		PA -3	302		RI -24	5		SC	+1,254	
PA -7	779		MI - 1	119		VA -8'			TX	+855	
VA -4	461		NJ -	66		GA -49)		TN	+ 184	
PR -4	429		MA -	34		AL -27	7		IA	+ 135	
IA -3	375		IN -	30		CH -23	3		SD	+113	
40.000										0.0%	
40,000]	United States									^{9.0%}	
	United States			As of	f Apr 23					- 8.0%	
	25.870 bp of popula				- A			٨	Λ	- 0.070	
	38.1 median populat	tion age						Λ		- 7.0%	
30,000 -						F	atality rate 5.5	5%		1.0%	
. .						'		/		- 6.0%	
25,000 - 20,000 -								/ /	V	0.070	
j 3	4,470,	750 tests cume				842,62	9 cases cumu	ative	1	- 5.0%	
3 20 000						+17,	588 cases to d	ay	1 de la	- 3.0%	
20,000							\mathbb{N}		\sim	4.0%	
15,000 -	311,	616 tests today	\sim	\sim						4.070	
15,000 -										- 3.0%	
·		, MA				L		Contraction of the		0.070	
10,000 -	8.7% positive today						N	·		- 2.0%	
						1	46.	784 deaths	cumulative	- 2.0%	
5,000 -						l l		1,721 deat		1.00/	
						/				- 1.0%	
							_/	~~~	$\sim \sim \sim$	0.0%	

Source: States and test data Covid Tracking Project, US data ECDC, TrendMacro calculations

Recommended reading

Lululemon Fires Employee Over 'Bat Fried Rice' Shirt

Iliana Magra and Christine Hauser *New York Times* April 22, 2020

<u>Chinese Agents Helped Spread Messages That Sowed</u> <u>Virus Panic in U.S., Officials Say</u>

Edward Wong, Matthew Rosenberg and Julian E. Barnes *New York Times* April 22, 2020

Michigan cancels contract with two Democratic-linked firms that had been tapped to track coronavirus

Matt Viser and Josh Dawsey *Washington Post* April 22, 2020

<u>Could an old vaccine be a godsend for new coronavirus?</u>

Dr. Konstantin Chumakov and Dr. Robert Gallo USA Today April 21, 2020

Chinese Ambassador to U.S. Urges 'Serious Rethinking' of Ties Bloomberg News Bloomberg

April 22, 2020

<u>China's Coronavirus Diplomacy Has Finally Pushed</u> Europe Too Far

Alan Crawford and Peter Martin *Bloomberg* April 22, 2020

U.K. Starts Human Trials of Coronavirus Vaccine on Thursday

Robert Hutton and Joe Mayes *Bloomberg* April 22, 2020

Coronavirus and the Laboratories in Wuhan

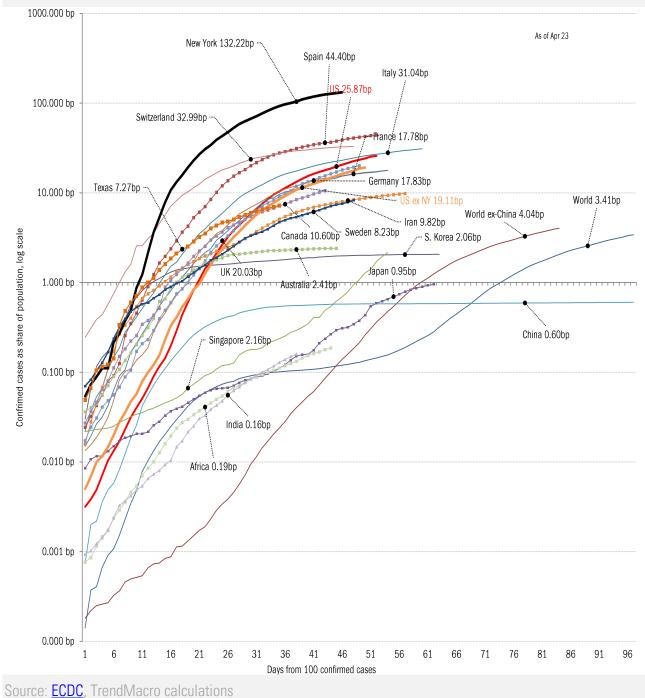
Tom Cotton *Wall Street Journal* April 21, 2020

Meme of the day

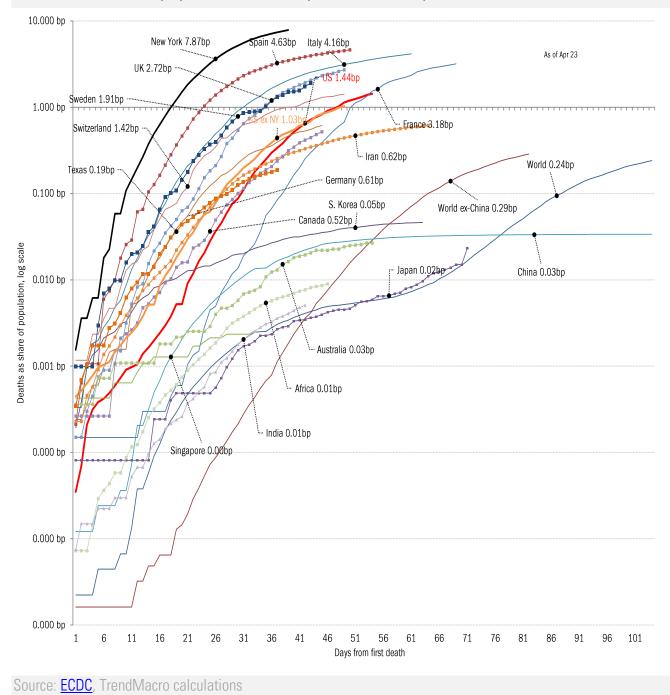


Source: Our beloved clients, and Power Line blog "The Week in Cartoons"

The coronavirus <u>case</u> accelerometer... tracking the world's infection curves *Share of infected population from first day with 100 confirmed cases, log scale*

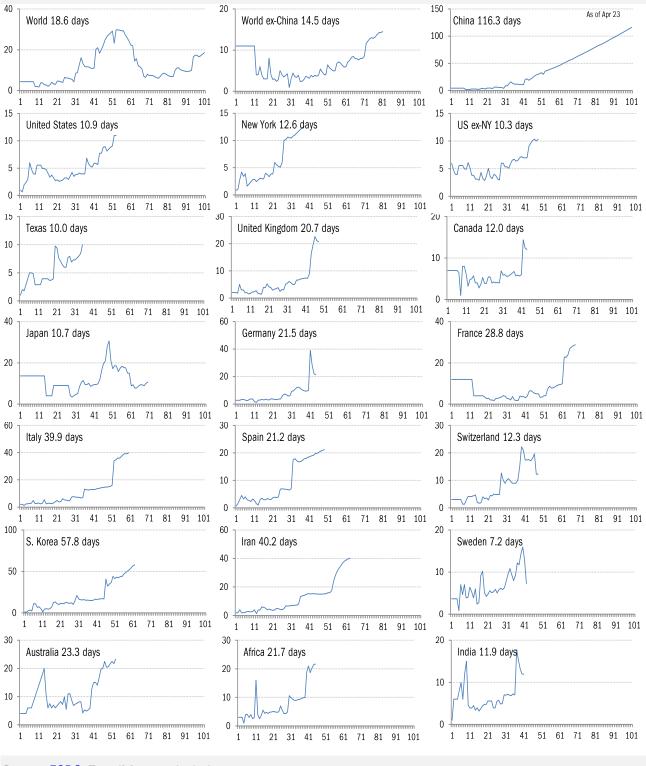


The coronavirus <u>mortality</u> accelerometer ... tracking the world's fatality curves *Share of deceased population from day of first fatality*



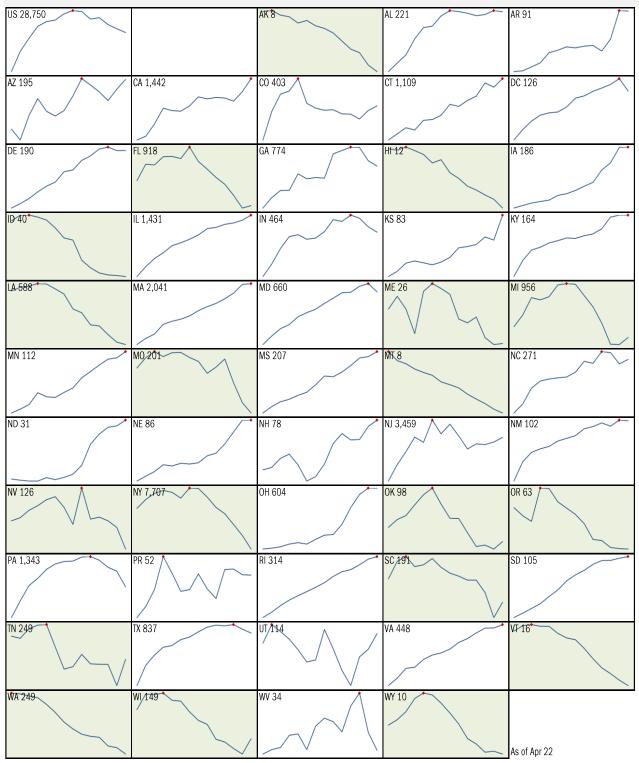
Our most reliable evidence of slowing the Moore's law of Covid-2019 *Vertical: number of days it takes to double deaths Horizontal: days from first death* Progress means seeing the line move up and to the right...

Extrapolated between actual doubling points. The most anomalous extrapolations are smoothed.



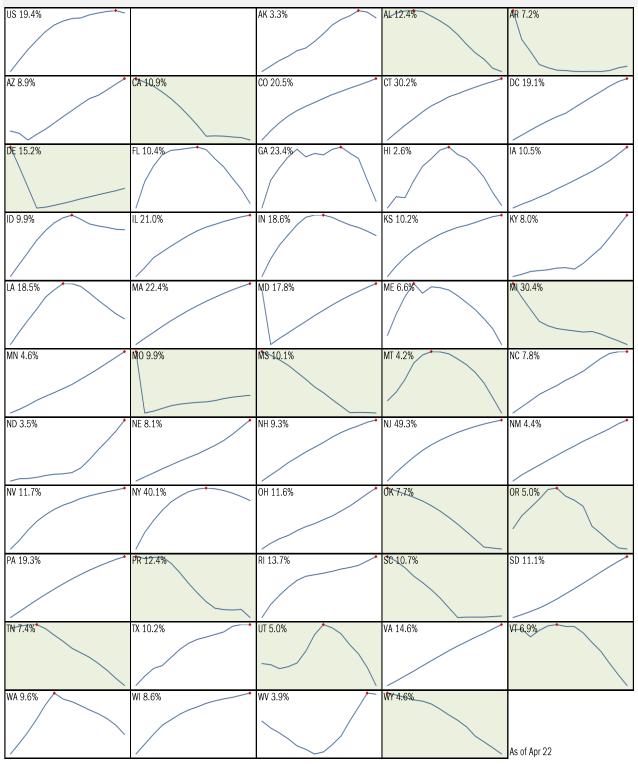
Source: ECDC, TrendMacro calculations

Requirement to Open Up America Again: 14-day "downward trajectory" in new cases 14-day moving average, last 14 days Most recent value displayed



Source: Covid Tracking Project, TrendMacro calculations

Alt requirement to <u>Open Up America Again</u>: 14-day "downward trajectory" in pos tests *14-day moving average, last 14 days Most recent value displayed*

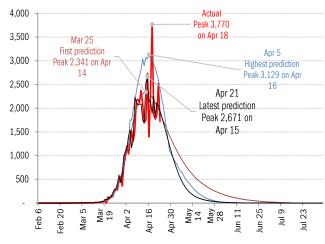


Source: Covid Tracking Project, TrendMacro calculations

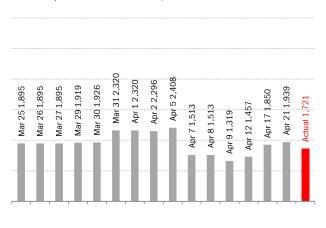
Reality-checking the models: actuals versus IHME predictions

New daily fatalities

Actual versus first, highest and latest model mean predictions



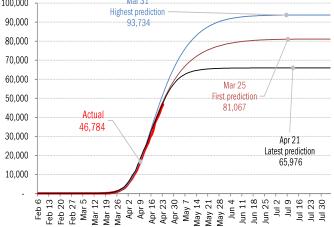
For this day, versus all model mean predictions



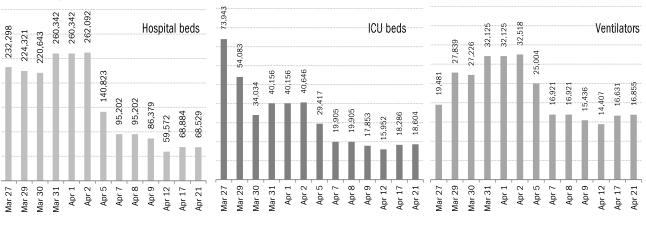
As of Apr 23

Cumulative fatalities

Actual versus first, highest and latest model mean predictions

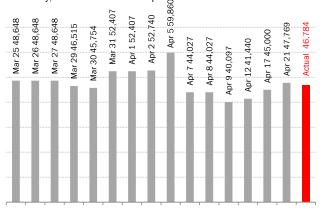


Healthcare system stress, peak estimated at each model revision

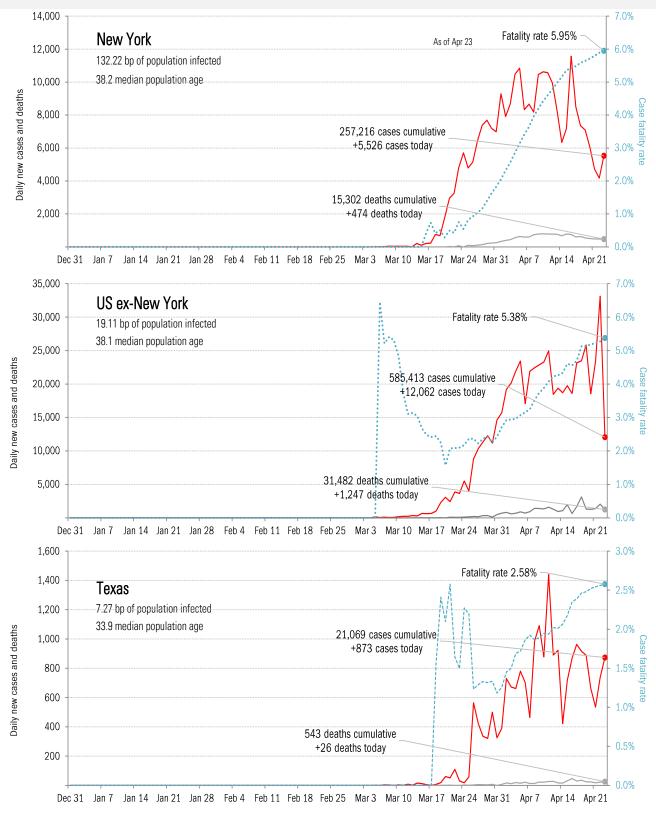


Source: ECDC, TrendMacro calculations

For this day, versus all model mean predictions

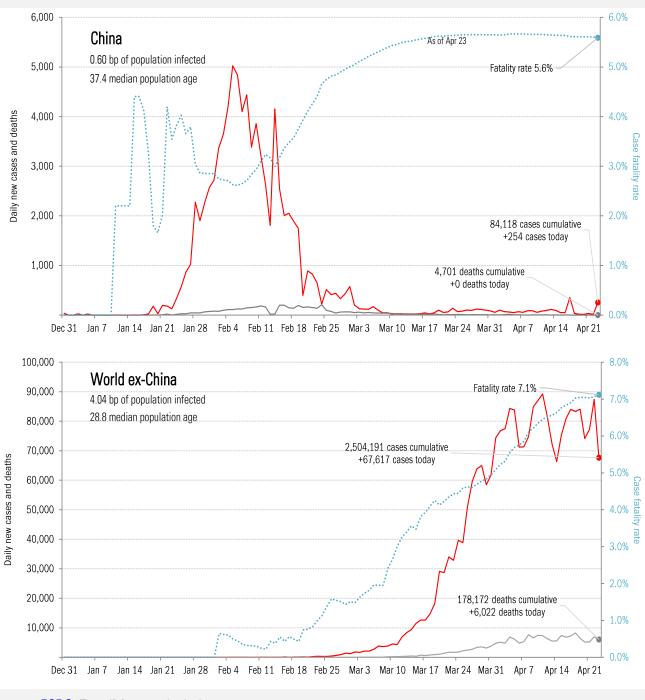


From Ground Zero to the Rio Grande



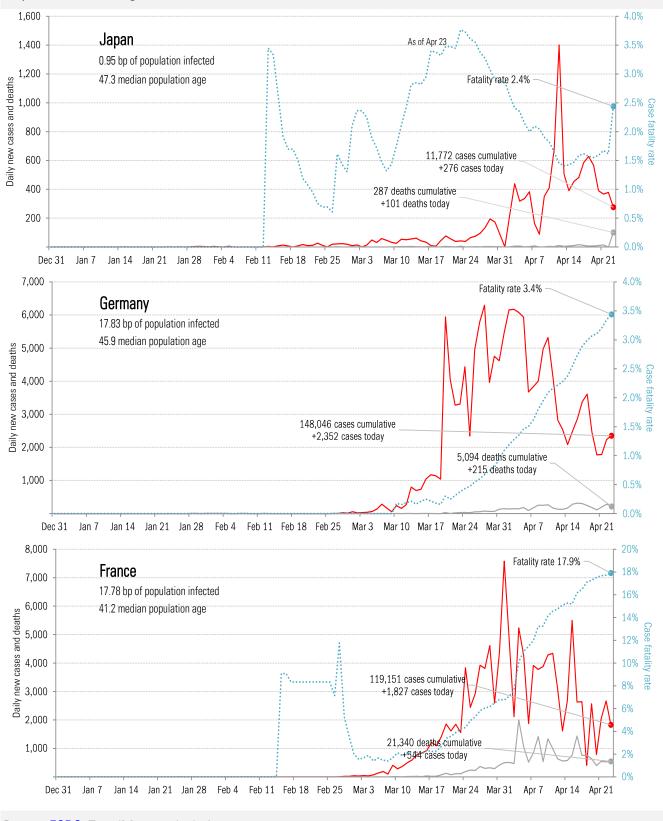
Source: <u>ECDC</u>, TrendMacro calculations

Patient zero... and then everyone else



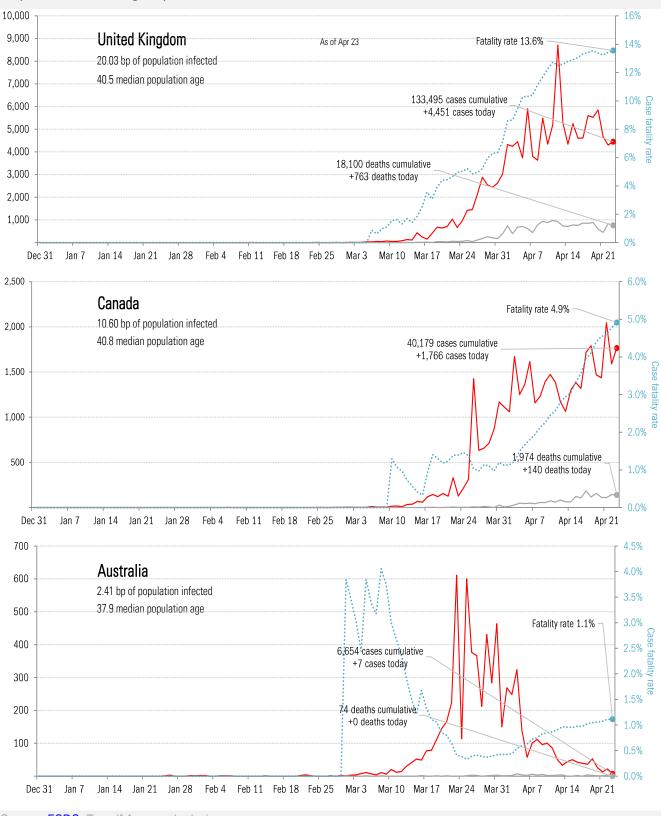
Source: ECDC, TrendMacro calculations

Impact in the largest economies



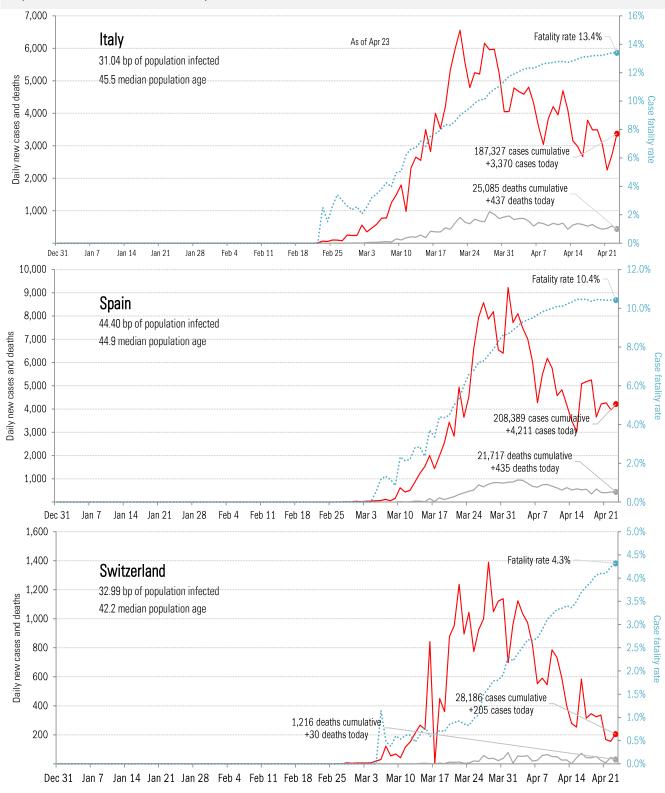
Source: ECDC, TrendMacro calculations

Impact in The Anglosphere



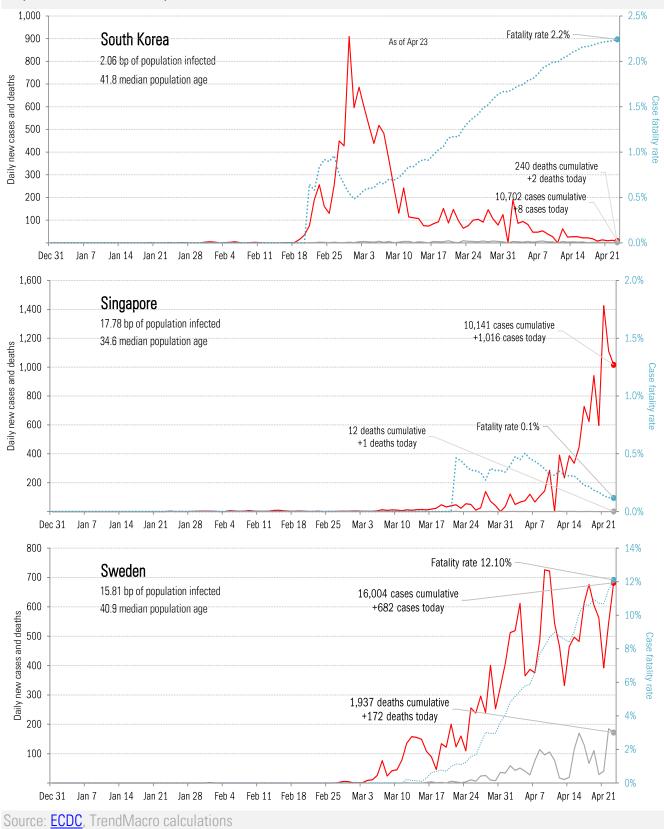
Source: ECDC, TrendMacro calculations

Impact in continental Europe

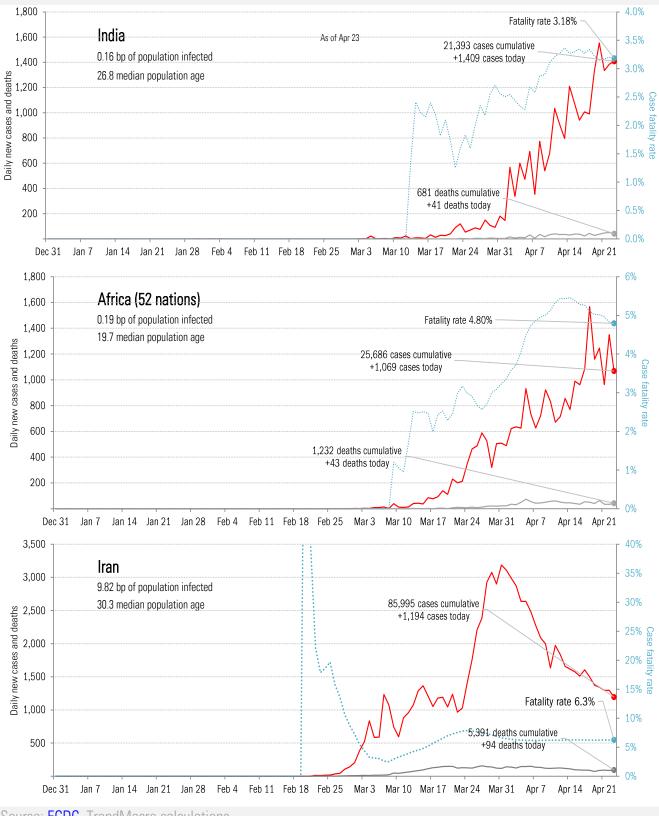


Source: ECDC, TrendMacro calculations

Impact in other hot-spots



Impact in the fragile emerging world



Source: ECDC, TrendMacro calculations