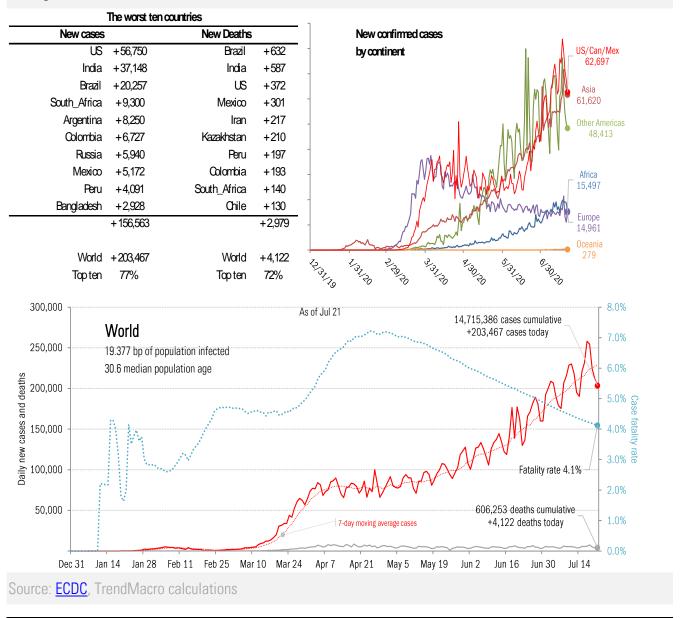


Trend Macrolytics, LLC Donald Luskin, Chief Investment Officer Thomas Demas, Managing Director Michael Warren, Energy Strategist

Data Insights: Covid-2019 Monitor

Tuesday, July 21, 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

New cases		New Deaths		New	in hospital	Qume o	ases	Curne d	eaths	Curre in hospital		
R.	+ 10,347	Æ	+92	А	L +586	NY	407,326	NY	25,056	NY	89,995	
ТХ	+7,404	TX	+62	F	L +296	CA	391,538	NJ	15,715	FL.	21,605	
CA	+6,846	LA	+29	А	Z +66	R.	360,394	MA	8,433	NJ	21,058	
LA	+3,186	AZ	+23	V	A +62	TX	332,434	CA	7,694	GA	15,047	
GA	+2,452	ан	+ 15	0		NJ	176,963	L	7,494	MD	11,897	
AL	+1,880	СТ	+10	М		IL	163,923	PA	7,018	MA	11,722	
TN	+1,639	CA	+9	a		GA	145,575	MI	6,373	VA	11,265	
AZ	+1,559	NJ	+9	M		AZ	145,183	Æ	5,183	СТ	10,654	
SC	+1,459	SC	+9	1		MA	113,789	CT	4,406	CH	9,610	
AR	+1,394	KS	+8	K	-	PA	101,738	TX	4,020	AL	8,368	
	+38,166		+266		+1,322		2,338,863		91,392		211,221	
All states	+57,948	All states	+365	All state	s +1,652	All states	3,813,916	All states	133,283	All states	279,030	
Topten	66%	Topten	73%	Topte		Topten	61%	Topten	69%	Topten	76%	
lop ton	0070	iopiai	10/0	iop to	0070	iop to i	0170	lopion	6070	iop ton	10/0	
5	L-11				Five most impro			· (Martana		
	aily cases		rewer	new deaths	01	rewer	new hospitaliza			Most recoverie		
CA	-2,483				-81		FL -4			NC	+11,583	
FL CO	-2,131				-31		WA -19			TX	+4,935	
SC	-915				-27		AR -17			MS	+4,383	
AZ	-800				-11		00 -12			TN	+ 1,655	
GA	-799			MA	-10		GA -12	2		AR	+1,105	
90,000 _T											г 9.0%	
	Unite	d States			Asic	f Jul 21						
80,000 -		bp of population inf	ferted		100	50121					- 8.0%	
		dian population age					3	,830,010 case	es cumulative	• \		
70,000 -	JU. 1 110	alan population age						+56,750 ca		$\overline{}$	- 7.0%	
60,000 -					/			·····			- 6.0%	
60,000 - 50,000 -		46,472,527 tes	ts cume						ΛV	- 5.0%		
50,000						N I	/ 7-	day moving average	cases	-X		
10.000				A.	1 mm				Λ	1 marsha	- 4.0%	
40,000 - 30,000 -		735,148 test	ts today	hand	mm					la de la companya	- 4.0%	
20.000				minit	A A				∧[∕_		1	
30,000 -			•		- <i>IX</i> V	/HAN			/¥		- 3.0%	
		7.9% positiv	/e today 📊	\sim	- //	' 'NV'	VMAA	A A	ΛP			
20,000 -			Am	huhman	-A	l I	V. M	\sqrt{m}	V		- 2.0%	
				1	1/				Fatality	y rate 3.58% 🚽		
10,000 -				/	N/			leaths cumula	itive _		- 1.0%	
10,000					6		+370	deaths today		_	1	
10,000				- 1/		1 A	1312	ucatils totay			0.0%	

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

Recommended reading

How COVID-19 fatality reports are distorting the data on daily death rates

Daniel Payne *Just the News* July 20, 2020

<u>Chinese companies are using a contentious labor</u> program for Uighurs to satisfy demand for P.P.E.

New York Times July 21, 2020

<u>China is using a visit by the World Health Organization</u> to extol its response to the pandemic.

New York Times July 21, 2020

This Hospital Cost \$52 Million. It Treated 79 Virus Patients.

Brian M. Rosenthal *New York Times* July 21, 2020

Treatment Protocol

Frontline COVID-19 Critical Care Alliance July 14, 2020

<u>Canales clarifies reports about local infant COVID</u> <u>numbers</u>

Tim Griffin *KRIS News* July 18, 2020

Biden has fought a pandemic before. It did not go smoothly.

Natasha Korecki *Politico* May 4, 2020

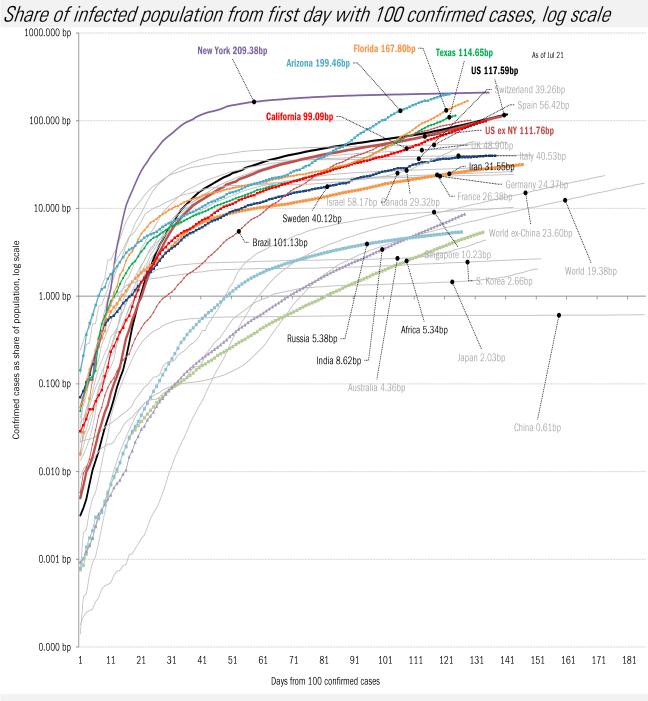
Obama admin shut down H1N1 testing, complicating

Biden's attacks on Trump's coronavirus screening Gregg Re *Fox News* July 9, 2020 The people with hidden immunity against Covid-19 Zaria Gorvett *BBC* July 19, 2020

COVID TESTING HODTERS

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

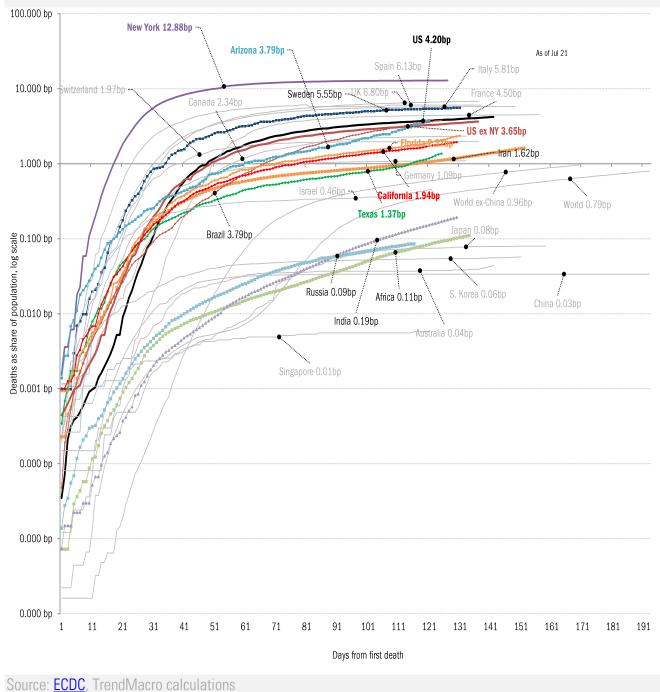
Meme of the day



The coronavirus <u>case</u> accelerometer... tracking the world's infection curves

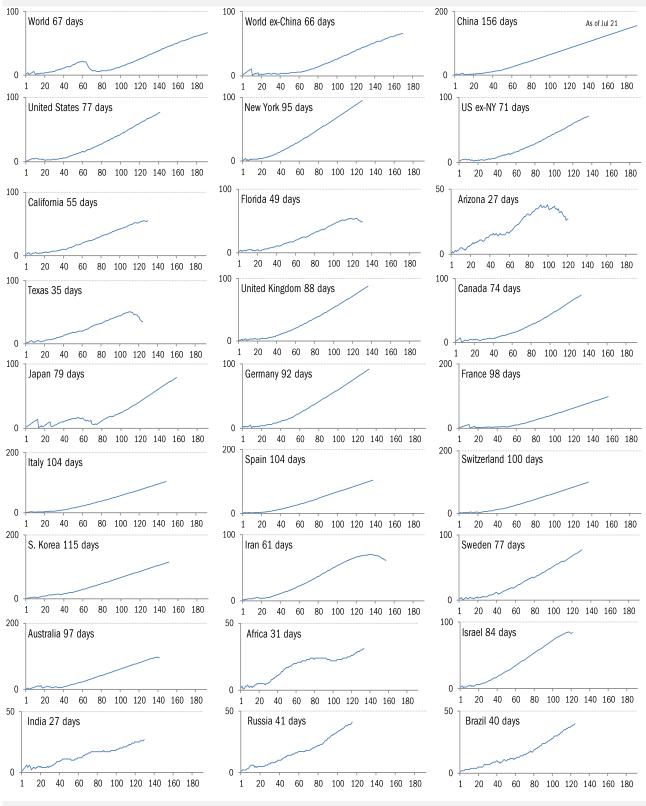
Source: ECDC, TrendMacro calculations

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



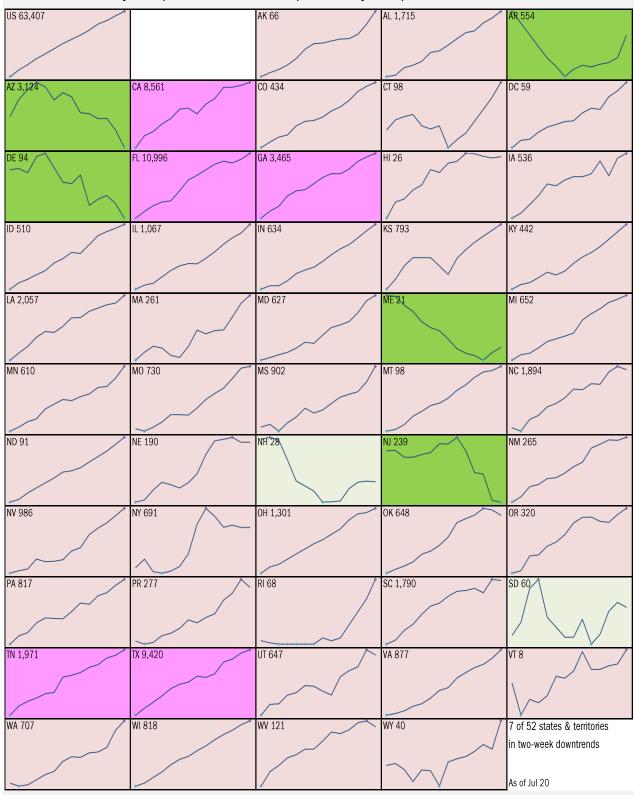
Our most reliable evidence of slowing exponential growth of Covid-2019

Vertical: number of days it takes to double deaths Horizontal: days from first death



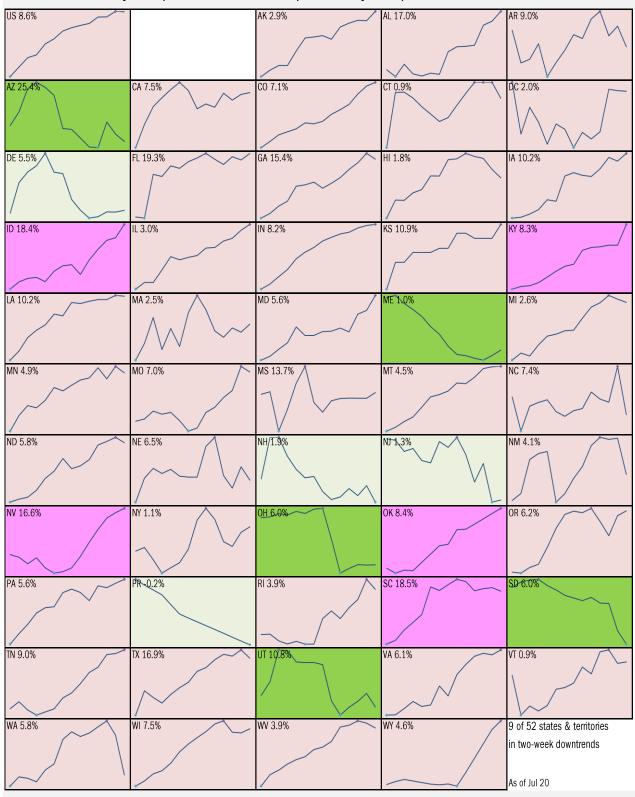
Source: **ECDC**, TrendMacro calculations

Requirement to <u>Open Up America Again</u>: 14-day "downward trajectory" in new cases *14-day moving average, last 14 days Most recent value displayed* • High • Low Downward trajectory Five best Upward trajectory Five worst



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* • High • Low Downward trajectory Five best Upward trajectory Five worst

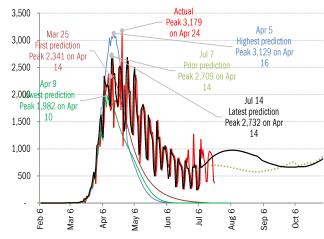


Source: Covid Tracking Project, TrendMacro calculations

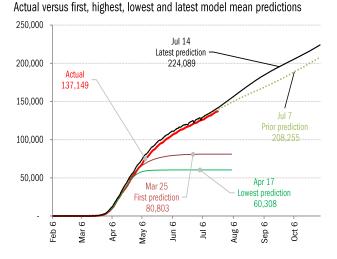
Reality-checking the models: actuals versus IHME predictions

New daily fatalities

Actual versus first, highest, lowest and latest model mean predictions



Cumulative fatalities

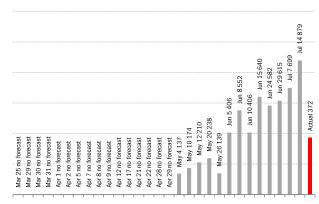


Healthcare system stress, peak estimated at each model revision

27,839 27,226 32,125 32,518 32,518 73,943 232,298 224,321 220,643 260,342 260,342 262,092 Hospital beds ICU beds Ventilators 54,083 34,034 40,156 40,156 40,646 19,481 40 823 Jun 8 Jun 15] Mar 27 Mar 30 Apr 1 Apr 12 Apr 28 May 12 May 26 Jun 15] Jun 29 _ Mar 27 Mar 30 Apr 5 Apr 12 Apr 28 May 12 May 26 Jun 15 . Jun 29] Jul 14 Mar 27 Apr 12 Apr 28 _ May 12] May 26 Jun 29] Jul 14 Apr 5 Apr 8 Apr 21 May 4 Jun 8 Apr 1 Apr 8 Apr 21 May 4 Jun 8 Mar 30 Apr 5 Apr 21 May 4 Apr 8 Apr 1

Source: ECDC, IHME, TrendMacro calculations

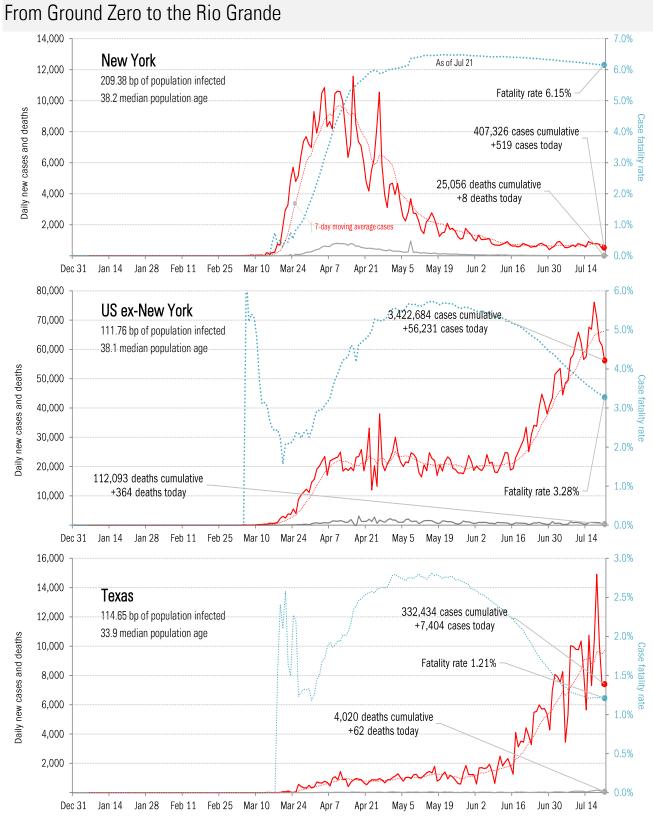
For this day, versus all model mean predictions



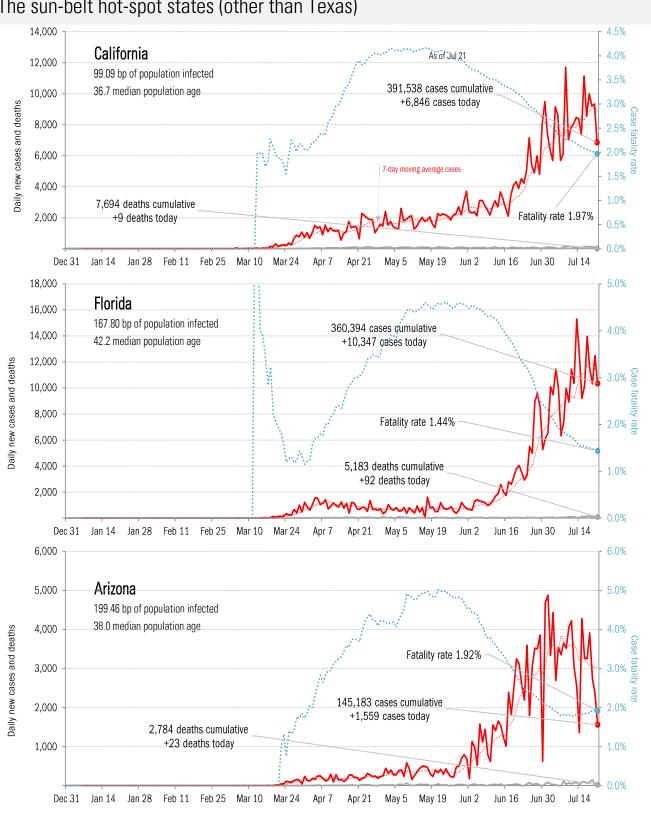
For this day, versus all model mean predictions

	<u></u>											May 4 133,064	May 10 135,697	May 12 144,927	May 20 140,769	May 26 130,486	447'001 0 IIII	Juli 8 138,052	Juri 10 133,890	060,041 C1 IIUU	JUII 24 13/,043	000 001 27 Inf	JUI / 133,369	C00,141 41 IUU	Actual 13/,149
Mar 25 81,114 Mar 29 82,141 Mar 30 83,967	Mar 31 93,765 Arr 1 03 765	Apr 2 93,531	Apr 5 81,766	Apr 7 60,415	Apr 8 60,415 Anr 9 61 545	Apr 12 68,841	Apr 17 60,308	Apr 21 65,976	Apr 22 67,641	Apr 28 72,860	Apr 29 72,433														
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As of Jul 21

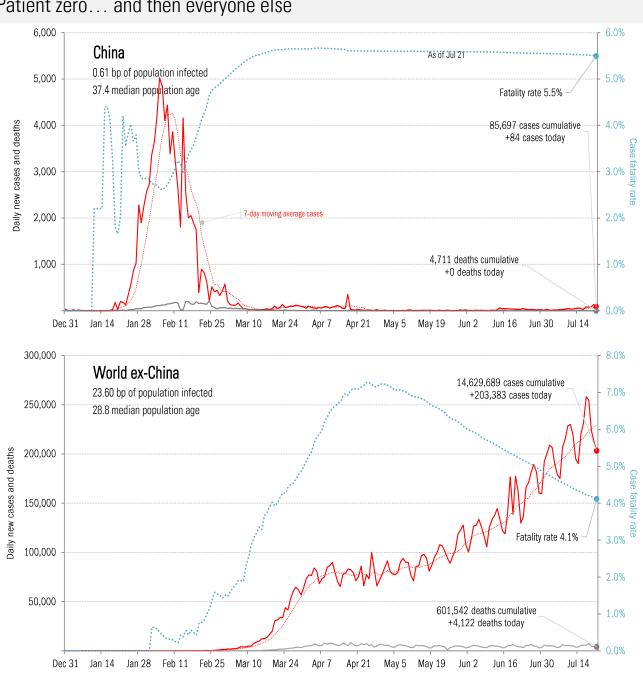


Source: ECDC, TrendMacro calculations



The sun-belt hot-spot states (other than Texas)

Source: ECDC, TrendMacro calculations



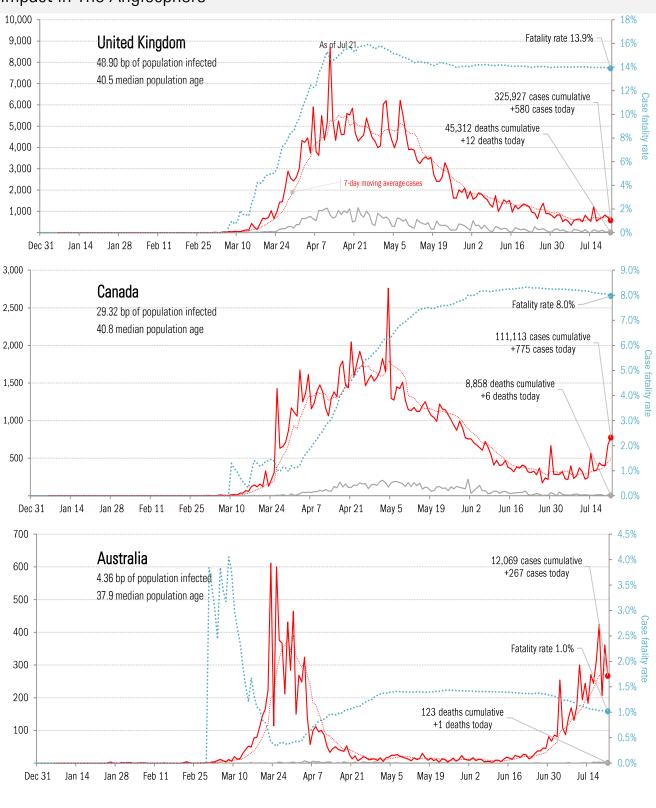
Patient zero... and then everyone else

Source: ECDC, TrendMacro calculations

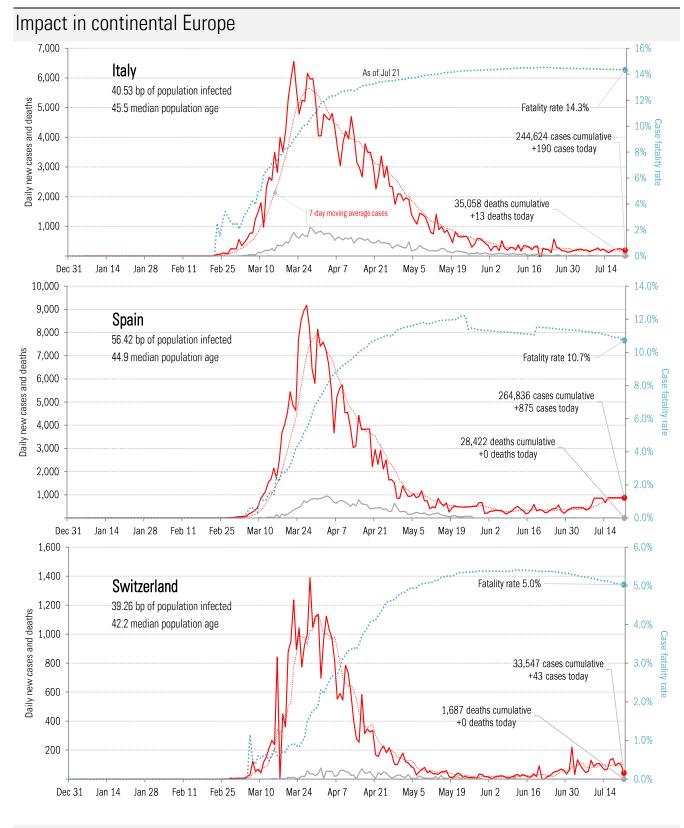
Impact in the largest economies 800 6.0% Japan As of Jul 21 700 5.0% 2.03 bp of population infected Fatality rate 3.9% 47.3 median population age 25,096 cases cumulative +454 cases today 3.0% 7-day moving average cases rate 2.0% 985 deaths cumulative +0 deaths today 1.0% 100 0.0% Jan 14 Jan 28 Dec 31 Feb 11 Feb 25 Mar 10 Mar 24 Apr 7 Apr 21 May 5 May 19 Jun 2 Jun 16 Jun 30 Jul 14 7,000 5.0% Germany 4.5% 6,000 24.37 bp of population infected 4.0% Fatality rate 4.5% Daily new cases and deaths 3,000 2,000 2,000 45.9 median population age 3.5% 3.0% 202,345 cases cumulative +522 cases today 2.5% 2.0% គ្ន 1.5% 9,090 deaths cumulative +4 deaths today 1.0% 1,000 0.5% 0.0% Feb 25 Mar 10 Mar 24 Apr 21 Dec 31 Jan 14 Jan 28 Feb 11 Apr 7 May 5 May 19 Jun 2 Jun 16 Jun 30 Jul 14 8,000 20% France 18% 7,000 26.38 bp of population infected Fatality rate 17.1% 16% 6,000 41.2 median population age Daily new cases and deaths 14% 5,000 12% 4,000 176,754 cases cumulative 10% +836 cases today 8% 3,000 6% 2,000 30,177 deaths cumulative 4% +25 cases today 1,000 2% 0% Apr 21 Dec 31 Jan 28 Feb 11 Feb 25 Mar 10 Mar 24 Jul 14 Jan 14 Apr 7 May 5 May 19 Jun 2 Jun 16 Jun 30

Source: ECDC, TrendMacro calculations

Impact in The Anglosphere

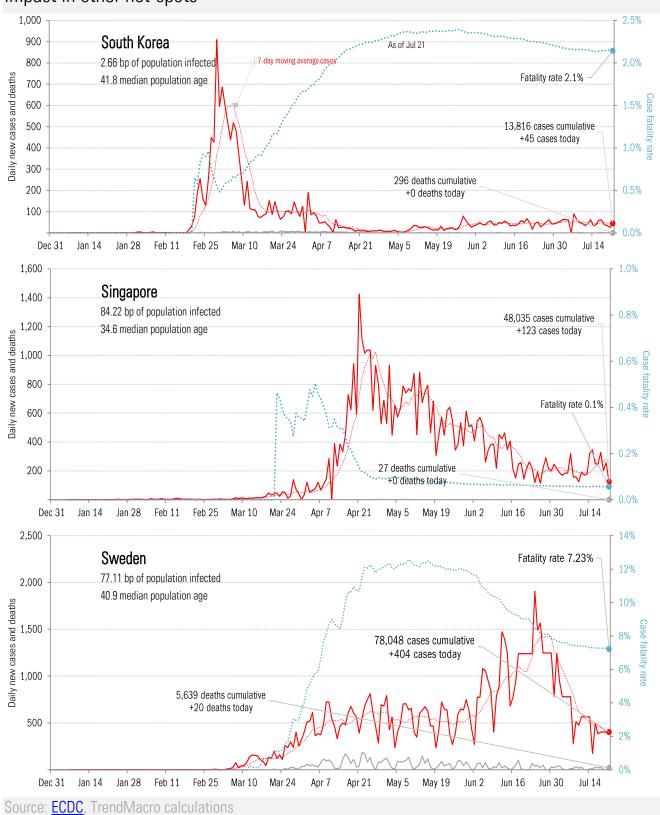


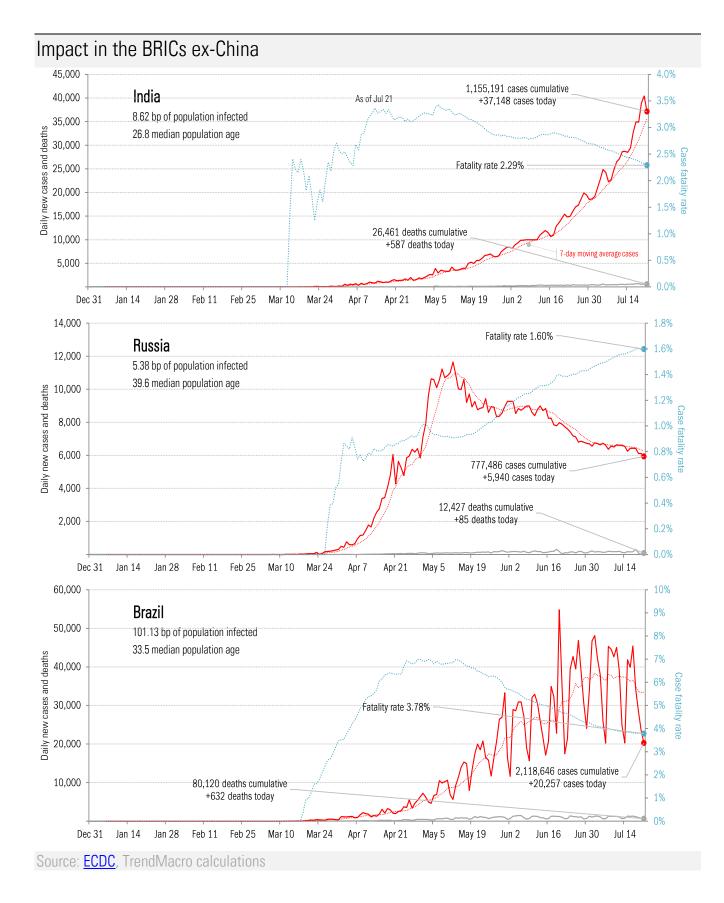
Source: <u>ECDC</u>, TrendMacro calculations

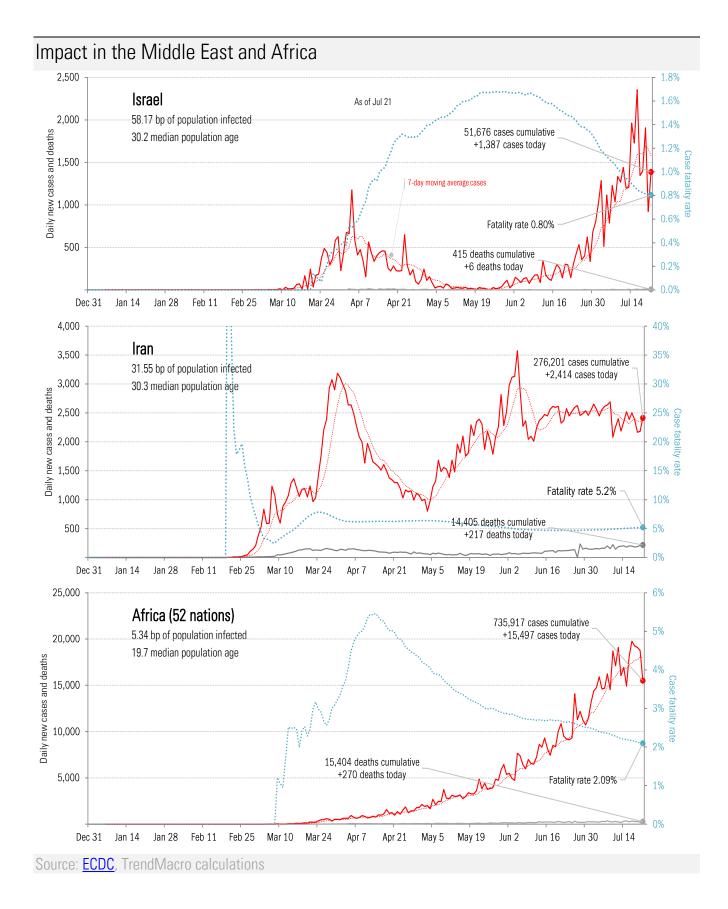


Source: ECDC, TrendMacro calculations

Impact in other hot-spots







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