



A thread by Tom Inglesby

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For the battle against COVID, the US needs a wartime mobilization to make mass numbers of ventilators, and to ensure oxygen supply will be sufficient around the country for numbers of patients that will need it. We are not yet on war time footing with ventilators. 1/x

The principal reason people die from COVID is that they get ARDS and can't be oxygenated. While a ventilator can't save all people with ARDS, it could be the critical difference between life and death for many pts with ARDS. 2/x

This NYT article shows potential COVID scenarios being considered by the USG. We do not have enough ventilators to address the more serious scenarios.

<https://nytimes.com/2020/03/13/us/coronavirus-deaths-estimate.html>... 3/x

This paper shows that in Wuhan, at its peak, there were >2000 COVID pts requiring critical care in one day. That is one Chinese city, which was brought under control by draconian measures.

<https://medrxiv.org/content/10.1101/2020.03.09.20033241v2>... 4/x

For countries experiencing many Wuhan like outbreaks at once across many cities, ventilator demand could be very high across a country and outstrip supply so that some people needing ventilators couldn't get them. 5/x

We have seen in Northern Italy that there are more pts requiring ventilation than there are ventilators. It is clear to see that this scenario could occur in other countries, including the US. 6/x

The guidelines issued by the White House today for what individuals should do were clear, appropriate in effort to do all possible for next 15 days to change the rate of spread in US. But the policy expressed re: ventilators at the White House was not nearly sufficient. 7/x

The President said today that governors should try to get things like respirators and masks on their own. The problem with that approach is that suppliers will have to emergently engage w 50 different state purchasers who would in effect be competing for supply. 8/x

Instead, the US fed gov should be central buyer and partner to this industry. It brings substantial immediate resources, and clarity. And when manufacturers make new ventilators in a mass effort, the fed gov would help organize their distribution around the country. 9/x

What we need is a massive fed gov program to buy ventilators on unprecedented scale and with unprecedented speed. They don't need to be the fanciest ventilators on the market. They need to be able to keep ARDS pts alive through course of COVID infection. 10/x

This [@forbes](#) article gives snapshot of vent industry and a sense of what might be possible. It quotes one US manufacturer from 2 days ago saying he could ramp up production 5 fold but he hasn't been asked to do it yet. <https://forbes.com/sites/baldwin/2020/03/14/ventilator-maker-we-can-ramp-up-production-five-fold/#1ee5472c5e9a...> 11/x

It reports that Germany that has ordered 10,000 ventilators. On a ventilator per capita level, the US would need to buy 40,000 ventilators in the US to match that kind of investment (we have 4x the population). 12/x

The USG should approach, if it has not already, all existing ventilator manufacturers in the US and enter into very clear and binding contracts that commits the USG to pay for companies to move to maximum all out production for indefinite future. 13/x

Beyond existing manufacturers, why hasn't fed gov asked other US industrial giants (outside of vent industry) to turn their prodxn lines to making vents, as the UK did this week? If the USG were willing to pay for the effort, perhaps some would find a way to contribute. 14/x

UK is asking Ford, Rolls Royce and Honda to make ventilators <https://reuters.com/article/us-health-coronavirus-britain/make-us-ventilators-to-fight-coronavirus-uk-asks-ford-and-rolls-royce-idUSKBN21317A...> 15/x

Some will say that they cannot be made in time to be useful. But this pandemic and the need for more vents will be with us for a long time. If we turn massive industrial attention/resources to the problem of making ventilators, who knows what might be possible. 16/x

Beyond the US, all countries will need ventilators to deal with this pandemic. If US can create a process for massive industrial capacity and output, we should aim to produce ventilators for other countries in the world who will also desperately need them. 17/x

The US has an awesome industrial base. It is not yet using it to its full capacity to make new ventilators. 18/x