

The many disasters of the COVID-19 pandemic

Last updated: 2021/09/17, 17:32:54 EDT

Principles of Complex Systems, Vols. 1 & 2 |
@pocsvox
CSYS/MATH 300 and 303, Fall, 2021

Prof. Peter Sheridan Dodds | @peterdodds

Computational Story Lab | Vermont Complex Systems Center
Vermont Advanced Computing Core | University of Vermont

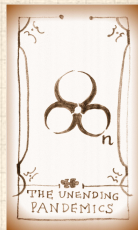


PoCS
@pocsvox
COVID-19
disasters

The dashboards
are all wrong

Excess Deaths

References



These slides are brought to you by:

PoCS
@pocsvox
COVID-19
disasters

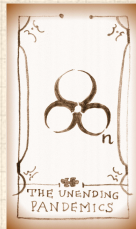
Sealie & Lambie
Productions



The dashboards
are all wrong

Excess Deaths

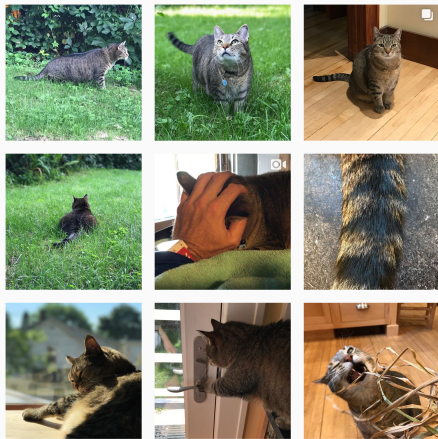
References



These slides are also brought to you by:

PoCS
@pocsvox
COVID-19
disasters

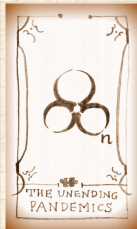
Special Guest Executive Producer





The dashboards
are all wrong

Excess Deaths

References



 On Instagram at [pratchett_the_cat](https://www.instagram.com/pratchett_the_cat) 



Outline

PoCS
@pocsvox
COVID-19
disasters

The dashboards are all wrong

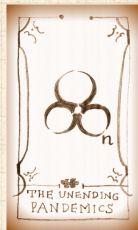
The dashboards
are all wrong

Excess Deaths

References

Excess Deaths

References



First: The Truth

PoCS
@pocsvox
COVID-19
disasters

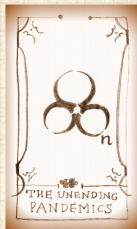
The dashboards
are all wrong

Excess Deaths

References

COVID-19 is a conspiracy

- It's not a real contagion.
- Contagion: *con* = 'with' + *tangere* 'to touch.'
- Conspiracy: *con* = 'with' + *tangere* 'to breathe.'
- WHO declares COVID-19 transmission may be via airborne particles in ... May, 2021 [↗](#) after long resisting doing so [↗](#)



The dashboards
are all wrong

Excess Deaths

References

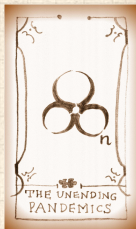


2020-01-14: WHO tweeted:

"Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel #coronavirus."



2020-03-30: WHO Official Defends Guidance: 'We're Not Seeing' Airborne Transmission



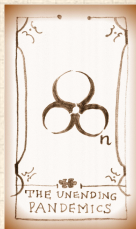
The whole concept of 'disaster' is a disaster:

- Dis + Aster = Bad Star = Astrological Ill Fate.
- If the heavens are a clockwork, then all was foretold.
- The stars and planets are the shadowy cabal.
- But we know there are different timelines available.
- Fate is a sometimes food, and there is only the story of fate. (more later in PoCS, Vol. 1).

The dashboards
are all wrong

Excess Deaths

References



The dashboards
are all wrong

Excess Deaths

References

Journal entry, 2020/02/11:

- 📦 Coronavirus
- 📦 The idiocy about R_0 continues.
- 📦 Unbelievably believably bad science.



Journal entry, 2020/02/21:

Twitter DMs to Sam Scarpino:

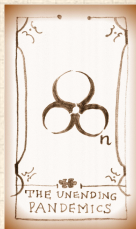
- Okay: The scientists studying pandemics need to be able to present some kind set of numbers that show how bad things are. The whole R_0 disaster has been waiting to happen because people have been ... lazily having fun with math models? Unconcerned about how to communicate vital scientific information? Stupid? I don't know. Maybe a radar plot visualization. I don't know.
- "When these three boundaries are crossed, we are in trouble"
- Measles has an R_0 of 20. We should all have it. Of course, there's no f**king time scale for R_0 so we don't know when that happens.

PoCS
@pocsvox
COVID-19
disasters

The dashboards
are all wrong

Excess Deaths

References



Journal entry, 2020/02/21, cont.:

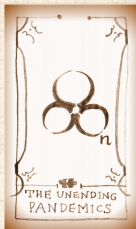
Twitter DMs to Sam Scarpino:

- One of the core pieces we had in our old paper: "What is N?"
- And rare events matter so, so much. I keep seeing new countries report their first case.
- South Korea with the church. WaPo says cases are "soaring" there. I haven't seen the numbers.

The dashboards
are all wrong

Excess Deaths

References



What is haPpeNing?

PoCS
@pocsvox
COVID-19
disasters

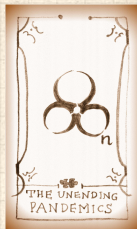
On March 11, within about 15 minutes after 9 pm US EST:

1. Tom Hanks and Rita Wilson announced that they had tested positive for COVID-19.
2. The National Basketball Association put its season on hold indefinitely due to the COVID-19 pandemic.
3. Trump gave an Oval Office Address during which the Dow Jones Industrial Average futures dropped.
4. Also: former US vice presidential candidate Sarah Palin was appearing on the popular Fox TV show "The Masked Singer" performing Sir Mix-A-Lot's "Baby Got Back" in a bear costume.

The dashboards
are all wrong





Excess Deaths

References



2020/03/15, journal entry:

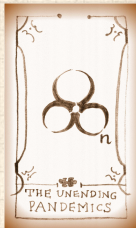
They look like us now

-  What must be done, and must have been done from the start:
-  Test everyone.
-  We need sunlight, we need knowledge.
-  And we needed to be prepared.


















The dashboards
are all wrong

Excess Deaths

References



"Narrative Epidemiology" through TV Tropes:

-  The virus as this season's Big Bad  and a Complete Monster 
-  Ignore the Scientists 
-  Asymptomatic spreaders: The Virus  looks like us now 
-  Failure to act as one against a remorseless unified foe: Let's Split Up, Gang 
-  Vaccine as a silver bullet 
-  Bill Gates created the virus and wants to put chips in your head: Poison-and-Cure Gambit 
-  Tyrant Takes the Helm 
-  Fundamental problem: We much prefer stories of individuals, not systems.

The dashboards
are all wrong

Excess Deaths

References




Story versus the Virus

PoCS
@pocsvox
COVID-19
disasters

Journal entry, 2020/03/21:

The complete incompetence of Trump, our doom

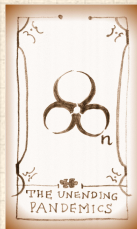
Washington Post article, March 20 

The dashboards
are all wrong

Excess Deaths

References

Azar couldn't get through to Trump to speak with him about the virus until Jan. 18, according to two senior administration officials. When he reached Trump by phone, the president interjected to ask about vaping and when flavored vaping products would be back on the market, the senior administration officials said.



Story versus the Virus

PoCS
@pocsvox
COVID-19
disasters

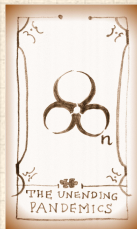
Journal entry, 2020/03/21, cont.:

On Feb. 25, Nancy Messonnier, a senior CDC official, sounded perhaps the most significant public alarm to that point, when she told reporters that the coronavirus was likely to spread within communities in the United States and that disruptions to daily life could be "severe." Trump called Azar on his way back from a trip to India and complained that Messonnier was scaring the stock markets, according to two senior administration officials.

The dashboards
are all wrong

Excess Deaths

References



Like life, death finds a way.



System failure—things fall apart

PoCS
@pocsvox
COVID-19
disasters

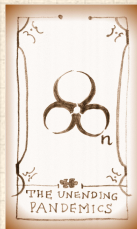
Mismeasurement of Death

- 🧱 We couldn't and still can't count cases and deaths properly.
- 🧱 All up-to-date pandemic dashboards are wrong.
- 🧱 No error bars.
- 🧱 Like flying a plane with instruments showing readings from 3 hours ago.
- 🧱 We need a Grim Scorekeeper.
- 🧱 Excess deaths in the US have run at about 35% more than reported COVID deaths.
- 🧱 Estimate: Over 500,000 excess deaths in the US from March 15 to December 31, 2020.

The dashboards
are all wrong

Excess Deaths

References



Eight significant digits, no errors:

January 11, 2020, Johns Hopkins:

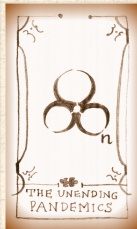
PoCS
@pocsvox
COVID-19
disasters



The dashboards
are all wrong

Excess Deaths

References



<https://www.ft.com>



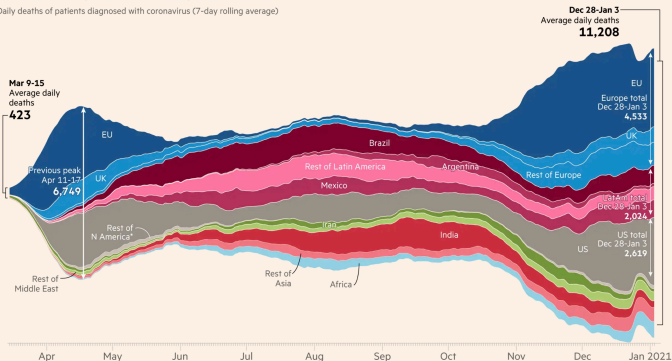
January 7, 2020, Financial Times, beautiful, misleading:

PoCS
@pocsvox
COVID-19
disasters

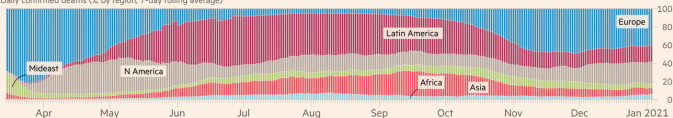
The dashboards
are all wrong
Excess Deaths
References

Covid-19's soaring death toll dwarfs figures from first wave

Daily deaths of patients diagnosed with coronavirus (7-day rolling average)

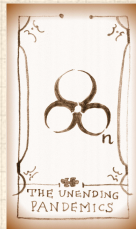


Daily confirmed deaths (% by region, 7-day rolling average)



FT graphic: Steven Bernard / @sdbernard

Source: FT analysis of data from WHO, Covid Tracking Project, Johns Hopkins University, and the U.S. Centers for Disease Control and Prevention, Public Health Agency.



Eventually: time series with excess deaths:

September 20, New York Times:

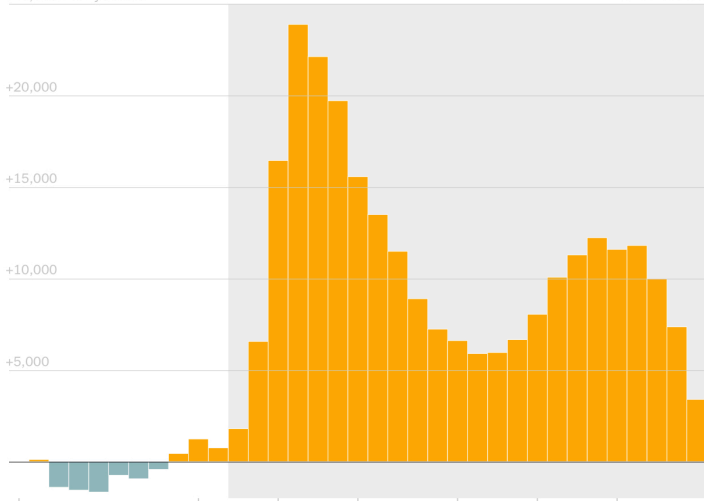
PoCS
@pocsvox
COVID-19
disasters

U.S. Deaths Above or Below Normal

257,900 excess deaths from March 15 to Aug. 29

+25,000 weekly deaths

Recent weeks are likely undercounts.



The dashboards
are all wrong

Excess Deaths

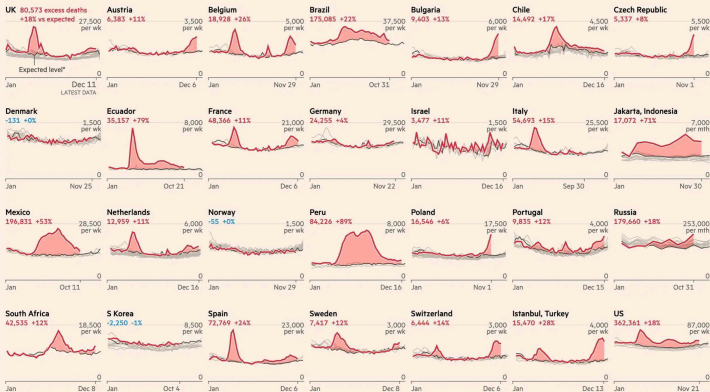
References



January 7, 2020, Financial Times:

Death rates have climbed far above historical averages in many countries that have faced Covid-19 outbreaks

Number of deaths per week from all causes, 2020 vs recent years: Shading indicates total excess deaths since 100 confirmed cases in the country

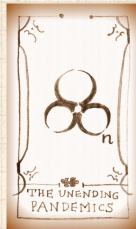


*Adjusted for trend over recent years
Sources: FT analysis of mortality data from individual countries and the Human Mortality Database. Data updated December 22
FT graphic: John Burn-Murdoch / @burnmurdoch
© FT

The dashboards
are all wrong

Excess Deaths

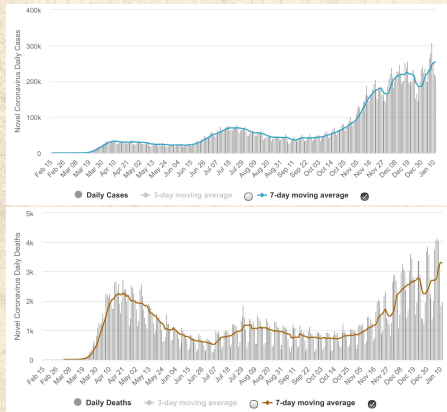
References



The humans:

PoCS
@pocsvox
COVID-19
disasters

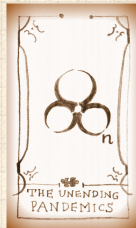
Timely delivery of Stimulus Packages for the Virus and SIR models:



The dashboards
are all wrong

Excess Deaths

References



Vacations + fatigue + stories.



The Mismeasurement of Death:

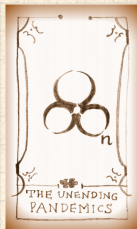
PoCS
@pocsvox

COVID-19
disasters

The dashboards
are all wrong

Excess Deaths

References



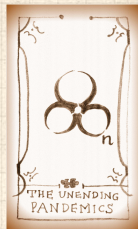
We need a Grim Scorekeeper

PoCS
@pocsvox
COVID-19
disasters

The dashboards
are all wrong

Excess Deaths

References



Prominent COVID-19 dashboards:

PoCS
@pocsvox
COVID-19
disasters


The dashboards
are all wrong

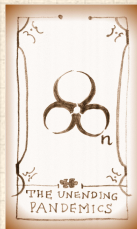
Excess Deaths

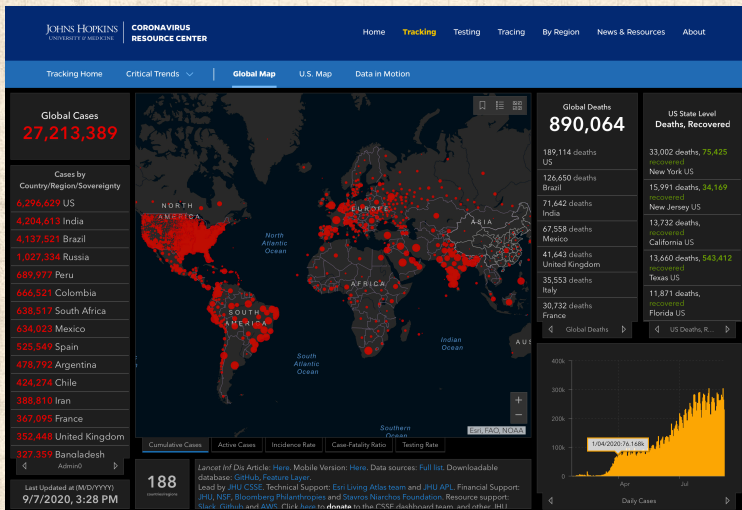
References

 [Johns Hopkins Coronavirus Resource Center](#) 

 [Worldometer](#) 

 Financial Times (moved to tracking excess deaths):
[https://www.ft.com/content/
a2901ce8-5eb7-4633-b89c-cbdf5b386938](https://www.ft.com/content/a2901ce8-5eb7-4633-b89c-cbdf5b386938)

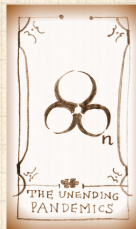





The dashboards
 are all wrong

Excess Deaths

References





"An interactive web-based dashboard to track COVID-19 in real time" 

Dong, Du, and Gardner,
The Lancet Infectious Diseases, , , 2020. [1]

PoCS
@pocsvox
COVID-19
disasters







The dashboards
are all wrong

Excess Deaths

References

1

Issues:





-  Leads with cases, sometimes noted as being confirmed.
-  Illusion of accuracy: 27,213,389 global cases and 890,064 deaths on 2020/09/07, 3:28 pm EST
-  Amazing: 8 and 6 significant digits.
-  No errors or uncertainty indicated.
-  General dashboard issue: Reporting varies wildly across the world and within countries.
-  General dashboard issue: Case numbers have been an undercount the whole time.



The Mismeasurement of Death:

PoCS
@pocsvox
COVID-19
disasters

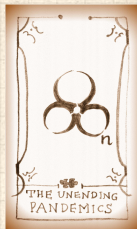
Tracking excess deaths:

-  CDC:
https://www.cdc.gov/nchs/nvss/vsrr/covid19/excess_deaths.htm
-  The New York Times:
<https://www.nytimes.com/interactive/2020/05/05/us/coronavirus-death-toll-us.html>
-  The Economist:
<https://www.economist.com/graphic-detail/2020/07/15/tracking-covid-19-excess-deaths-across-countries>
Data:
<https://github.com/TheEconomist/covid-19-excess-deaths-tracker>
-  Financial Times:
<https://www.ft.com/content/a2901ce8-5eb7-4633-b89c-cbdf5b386938>

The dashboards
are all wrong

Excess Deaths

References



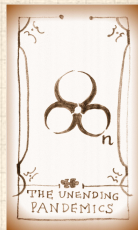
PoCS
@pocsvox

COVID-19
disasters

The dashboards
are all wrong

Excess Deaths

References



References I

PoCS
@pocsvox
COVID-19
disasters

The dashboards
are all wrong

Excess Deaths

References

- [1] E. Dong, H. Du, and L. Gardner.
An interactive web-based dashboard to track
COVID-19 in real time.
[The Lancet Infectious Diseases, 2020. pdf](#) 