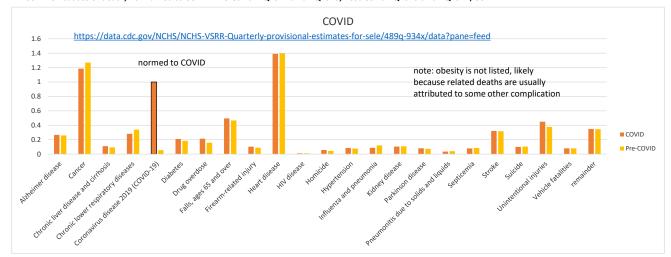
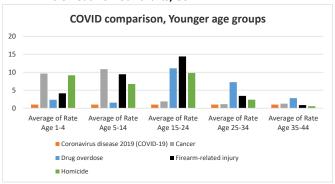
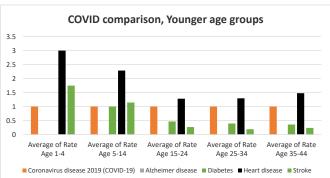
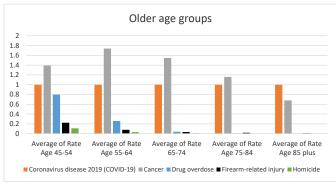
Common causes of death, normalized to COVID. Pre-Covid: 1Q2017 thru 1Q2020, Post-Covid 2Q2020 thru 1Q2021, USA

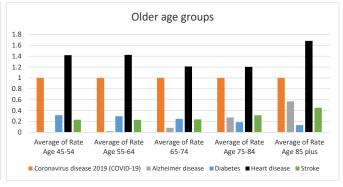


Relative effect of COVID on various age groups, and compared to cause of death. These are all relative to COVID, which is 1.0 on each of four charts, USA

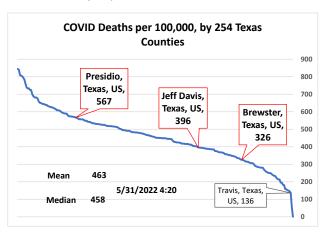


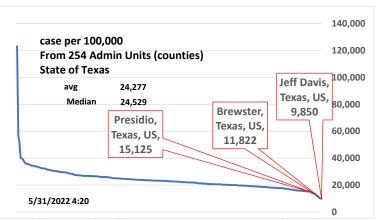




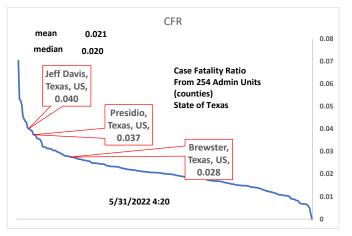


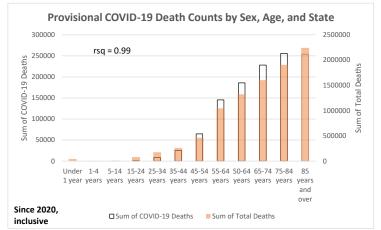
Texas and Tri-county comparisons



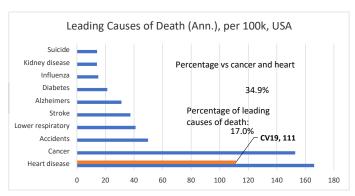


 $\underline{https://data.cdc.gov/NCHS/Excess-Deaths-Associated-with-COVID-19/xkkf-xrst/data}$





https://data.cdc.gov/NCHS/Conditions-contributing-to-deaths-involving-corona/hk9y-quqm/data



Avg 2022 vs. expected (no COVID)

26

Deaths in US,

39

52

weekly

2019

--- 2022 + covid

COVID-19 25.5% 74.5%

Conditions Contributing to COVID-19 Deaths, by State and Age, Provisional 2020-2022

This dataset shows health conditions and contributing causes mentioned in conjunction with deaths involving

74.0%

Under 65 Over 65

26.0%

2020-2022 data are provisional. False Positives Demonstration

Use 0.19% as estimated daily incidence

Prevalence estimated as avg. infected period of 2 weeks X incidence

coronavirus disease 2019 (COVID-19) by age group and jurisdiction of occurrence.

95% accuracy of test 0.19% X 14 = 2.660% Positive Negative Sensitivity test pos 2.527% 4.8679 7.39% Probability of detection test neg 0.133% 92.473% 92.61% where condition exists 2.660% 97.340% 100.00% True + / (True + & False -) 95% False pos. is more than half of total positives. Specificity TRUE + 2.527%/7.39% Probability of not detecting where 34.2% FALSE + 4.867%/7.39% 65.8% condition doesn't exist Total 100.00% True - / (True - & False +) 95%

2021

13

2018

_ 2022

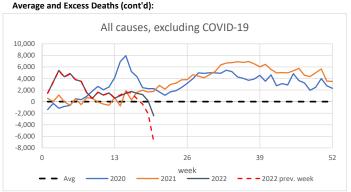
Average and Excess Deaths:

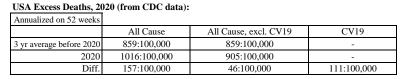
100,000

80.000

40.000

20,000





Example only; sensitivity and specifity not necessarily equal.

 $29\%\,$ of All-Cause excess deaths are non-CV19

USA Excess Deaths, 2021 (from CDC data):

Annualized on 52 weeks			
	All Cause	All Cause, excl. CV19	CV19
3 yr average before 2020	859:100,000	859:100,000	-
2021	1052:100,000	909:100,000	-
Diff.	193:100,000	50:100,000	143:100,000

26% of All-Cause excess deaths are non-CV19

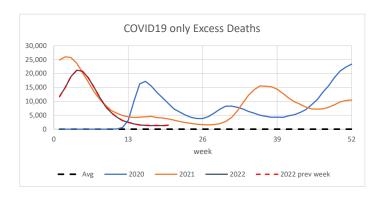
USA Excess Deaths to date (2022, from CDC data):

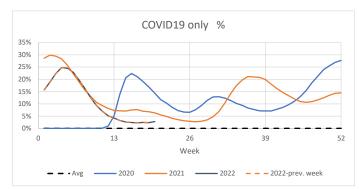
	Week 20	All Cause	All Cause, excl. CV19	CV19
3	yr average before 2020	346:100,000	346:100,000	-
	2022	408:100,000	357:100,000	-
	Diff.	61:100,000	10.6:100,000	51:100,000

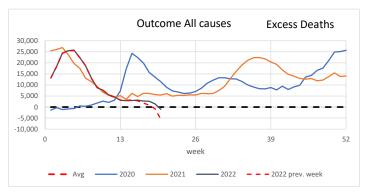
Diii.	01.100,000	10.0.100,000	31.100,000	
	•			
3 vr average		Linea	r Year Projection	
859:100.000	170/ 6 4 11 6	se excess deaths not CV19	122 100 000	

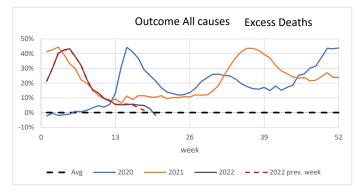
https://data.cdc.gov/NCHS/Excess-Deaths-Associated-with-COVID-19/xkkf-xrst/data

% %				\sim
5%		~		
)% 5%	~ ~ ~ ~ ~ ~	\		
)%		1		
0	13	26	39	5
		week		





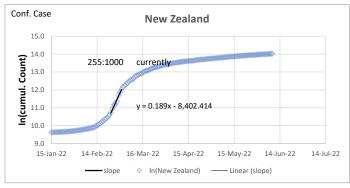




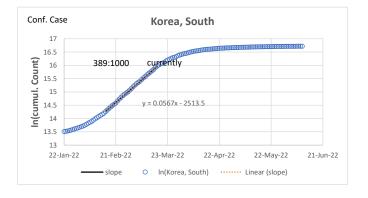
(CDC quit updating this 14 May 2022)

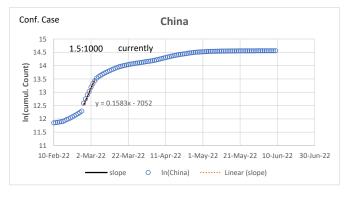
Data in recent weeks are incomplete. Only 60% of death records are submitted to NCHS within 10 days of the date of death, and completeness varies by jurisdiction. Data are not weighted and counts are likely underreported. The previous week's data is shown as dashed, to give an idea of the effect of the gradual update.

$\label{lem:continuous} \textbf{Recent exponential growth examples:}$

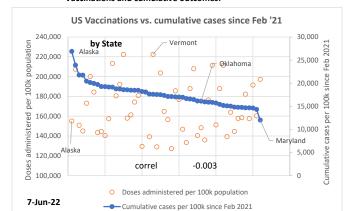




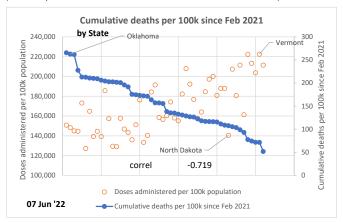




Vaccinations and cumulative outcomes:



(Feb 2021 picked because that's about when vaccines became available)



 $\underline{https://healthdata.gov/Health/COVID-19-Community-Profile-Report/gqxm-d9w9}$

https://github.com/CSSEGISandData/COVID-19/blob/master/csse covid 19 data/csse covid 19 daily reports us/03-29-2022.csv