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

COVID

https://data.cdc.gov/NCHS/NCHS-VSRR-Quarterly-provisional-estimates-for-sele/489q-934x/data?pane=feed

normed to COVID

note: obesity is not listed, likely because related deaths are usually attributed to some other complication

COVID
Pre-COVID

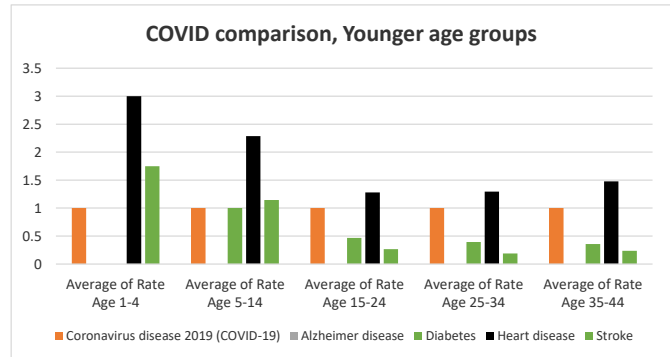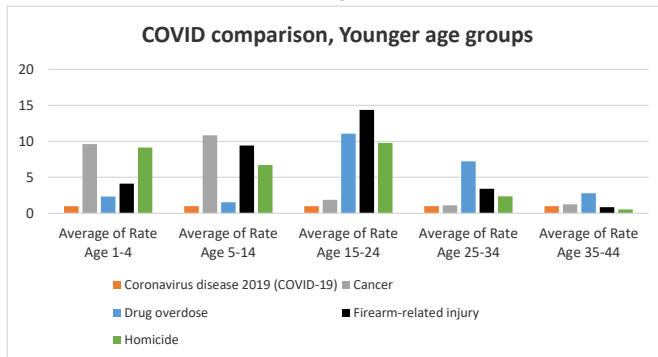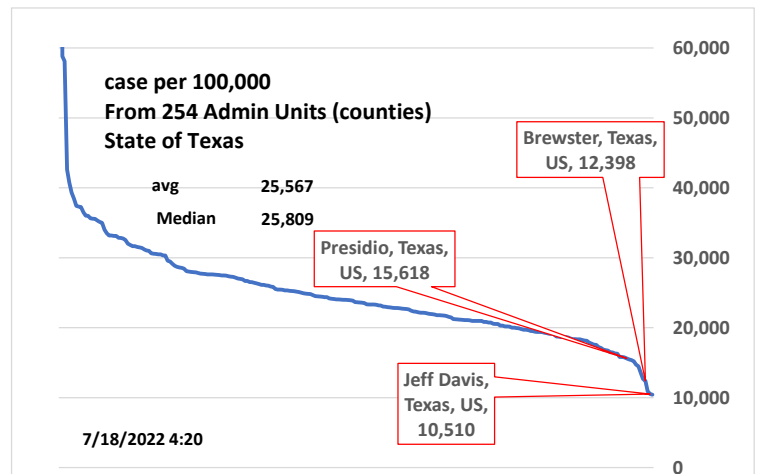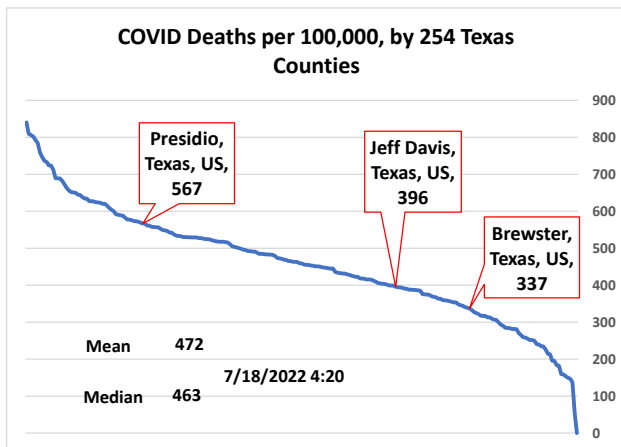X-axis labels: Alzheimer disease, Cancer, Chronic liver disease and cirrhosis, Chronic lower respiratory diseases, Coronavirus disease 2019 (COVID-19), Diabetes, Drug overdose, Falls, ages 65 and over, Firearm-related injury, Heart disease, HIV disease, Homicide, Hypertension, Influenza and pneumonia, Kidney disease, Parkinson disease, Pneumonitis due to solids and liquids, Septicemia, Stroke, Suicide, Unintentional injuries, Vehicle fatalities, remainder
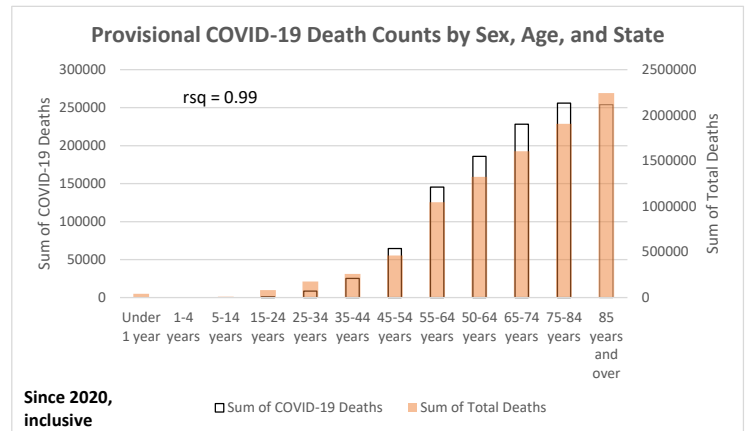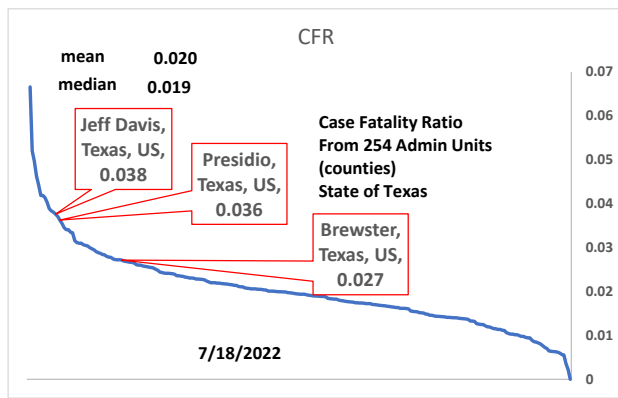
Relative effect of COVID on various age groups, and compared to cause of death. These are all relative to COVID, which is 1.0 on each of four charts, USA
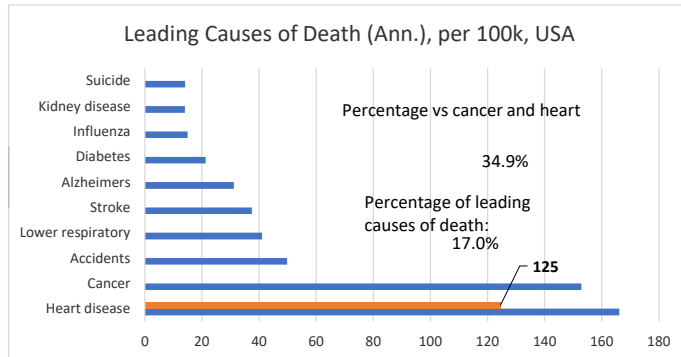
COVID comparison, Younger age groups

X-axis: Average of Rate Age 1-4, Average of Rate Age 5-14, Average of Rate Age 15-24, Average of Rate Age 25-34, Average of Rate Age 35-44

Legend: Coronavirus disease 2019 (COVID-19), Cancer, Drug overdose, Firearm-related injury, Homicide

COVID comparison, Younger age groups

X-axis: Average of Rate Age 1-4, Average of Rate Age 5-14, Average of Rate Age 15-24, Average of Rate Age 25-34, Average of Rate Age 35-44

Legend: Coronavirus disease 2019 (COVID-19), Alzheimer disease, Diabetes, Heart disease, Stroke

Older age groups

X-axis: Average of Rate Age 45-54, Average of Rate Age 55-64, Average of Rate Age 65-74, Average of Rate Age 75-84, Average of Rate Age 85 plus

Legend: Coronavirus disease 2019 (COVID-19), Cancer, Drug overdose, Firearm-related injury, Homicide

Older age groups

X-axis: Average of Rate Age 45-54, Average of Rate Age 55-64, Average of Rate Age 65-74, Average of Rate Age 75-84, Average of Rate Age 85 plus

Legend: Coronavirus disease 2019 (COVID-19), Alzheimer disease, Diabetes, Heart disease, Stroke

Texas and Tri-county comparisons

COVID Deaths per 100,000, by 254 Texas Counties

Presidio, Texas, US, 567

Jeff Davis, Texas, US, 396

Brewster, Texas, US, 337

Mean   472

Median   463

7/18/2022 4:20

case per 100,000 From 254 Admin Units (counties) State of Texas

avg   25,567

Median   25,809

Brewster, Texas, US, 12,398

Presidio, Texas, US, 15,618

Jeff Davis, Texas, US, 10,510

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CFR

mean 0.020
median 0.019

Jeff Davis, Texas, US, 0.038
Presidio, Texas, US, 0.036
Brewster, Texas, US, 0.027

Case Fatality Ratio From 254 Admin Units (counties) State of Texas

7/18/2022

Provisional COVID-19 Death Counts by Sex, Age, and State

rsq = 0.99

Since 2020, inclusive

☐ Sum of COVID-19 Deaths ☐ Sum of Total Deaths

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

Leading Causes of Death (Ann.), per 100k, USA

Percentage vs cancer and heart
34.9%

Percentage of leading causes of death:
17.0%

125

Suicide, Kidney disease, Influenza, Diabetes, Alzheimers, Stroke, Lower respiratory, Accidents, Cancer, Heart disease

	Under 65	Over 65
All	26.0%	74.0%
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 coronavirus disease 2019 (COVID-19) by age group and jurisdiction of occurrence.
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

95% accuracy of test   0.19% X 14 = 2.660%

	Positive	Negative	
test pos	2.527%	4.867%	7.39%
test neg	0.133%	92.473%	92.61%
	2.660%	97.340%	100.00%

Sensitivity
Probability of detection where condition exists
True + / (True + & False -)
95%

False pos. is more than half of total positives.

TRUE +	2.527%/7.39%	34.2%
FALSE +	4.867%/7.39%	65.8%
Total	------------------	100.00%

Specificity
Probability of not detecting where condition doesn't exist
True - / (True - & False +)
95%

Example only; sensitivity and specifity not necessarily equal.

Average and Excess Deaths: 2-Jul-22

Avg 2022 vs. expected (no COVID)

Deaths in US, weekly

— 2017 — 2018 — 2019 — 2020 — 2021 — 2022 --- 2022 + covid

Average and Excess Deaths (cont'd):

All causes, excluding COVID-19

week

--- Avg — 2020 — 2021 — 2022

All causes, excluding COVID-19

week

--- Avg — 2020 — 2021 — 2022
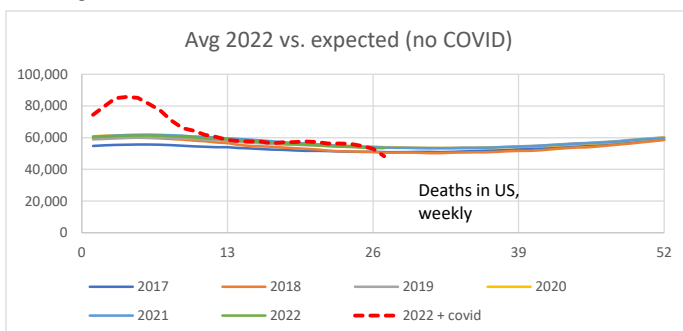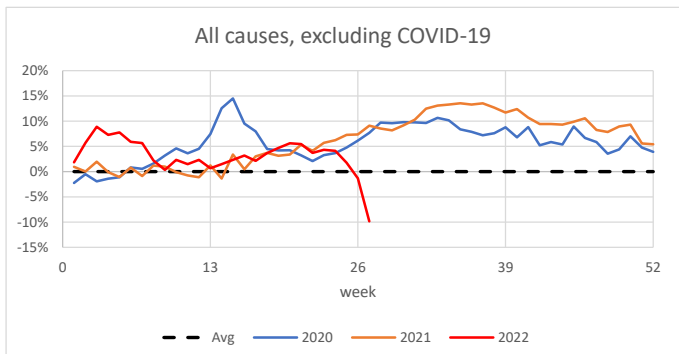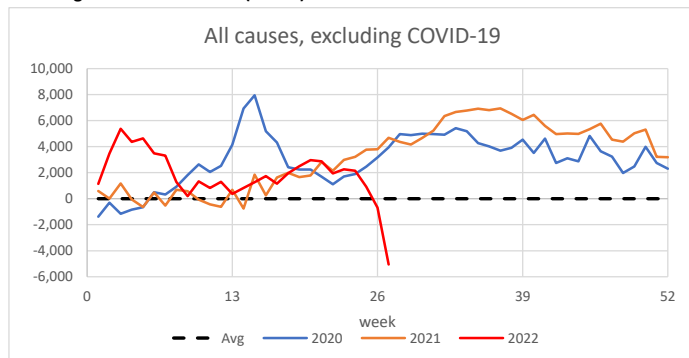
USA Excess Deaths, 2020 (from CDC data):

Annualized on 52 weeks			
	All Cause	All Cause, excl. CV19	CV19
3 yr average before 2020	859:100,000	859:100,000	-
2020	1016:100,000	905:100,000	-
Diff.	157:100,000	46:100,000	111:100,000

29% of All-Cause excess deaths are non-CV19

USA Excess Deaths, 2021 (from CDC data):

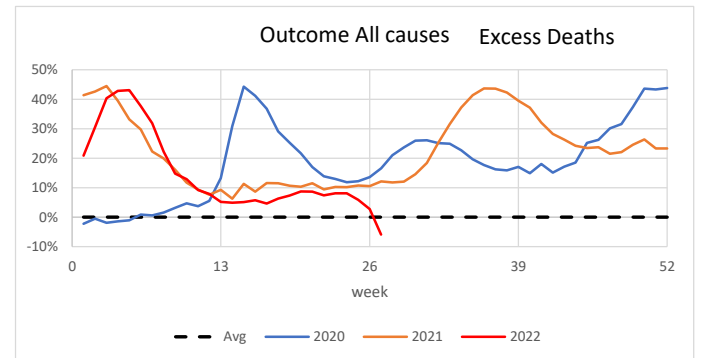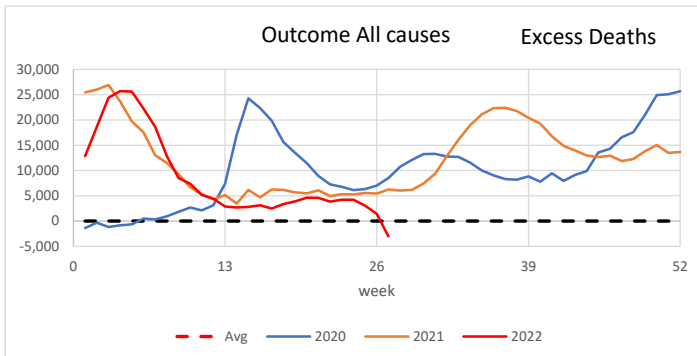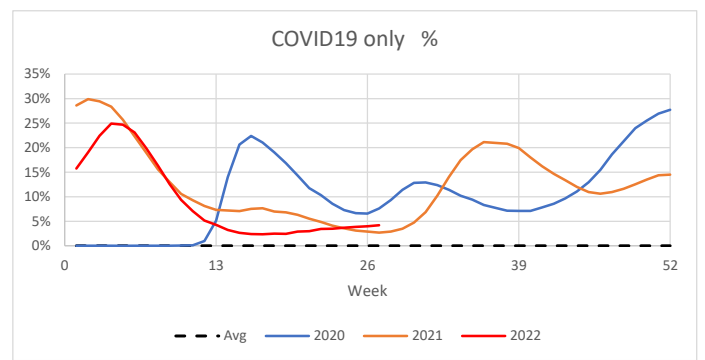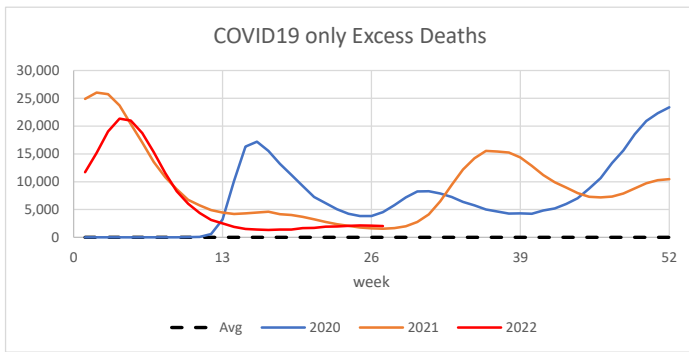| Annualized on 52 weeks			
	All Cause	All Cause, excl. CV19	CV19
3 yr average before 2020	859:100,000	859:100,000	-
2021	1052:100,000	909:100,000	-
Diff.	193:100,000	50:100,000	143:100,000

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

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

Week 27	All Cause	All Cause, excl. CV19	CV19
3 yr average before 2020	456:100,000	456:100,000	-
2022	525:100,000	470:100,000	-
Diff.	69:100,000	14:100,000	55:100,000

3 yr average		Linear Year Projection
859:100,000	20% of All-Cause excess deaths not CV19	107:100,000

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

COVID19 only Excess Deaths

Legend: Avg — 2020 — 2021 — 2022

x-axis: week (0, 13, 26, 39, 52)
y-axis: 0 – 30,000

COVID19 only   %

Legend: Avg — 2020 — 2021 — 2022

x-axis: Week (0, 13, 26, 39, 52)
y-axis: 0% – 35%

Outcome All causes   Excess Deaths

Legend: Avg — 2020 — 2021 — 2022

x-axis: week (0, 13, 26, 39, 52)
y-axis: -5,000 – 30,000

Outcome All causes   Excess Deaths

Legend: Avg — 2020 — 2021 — 2022

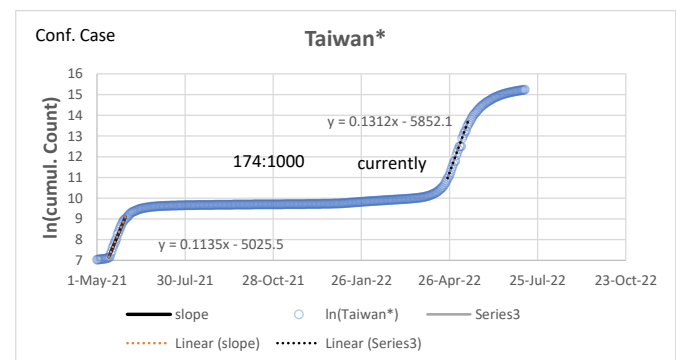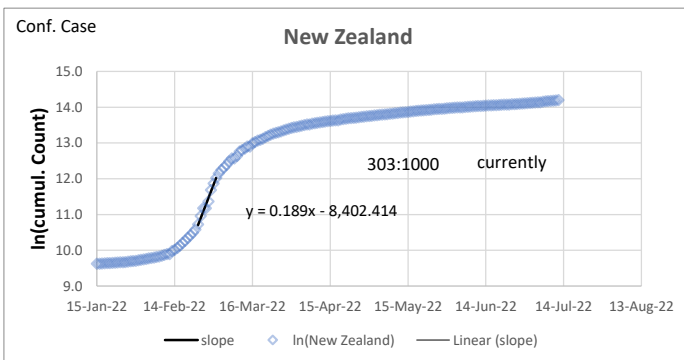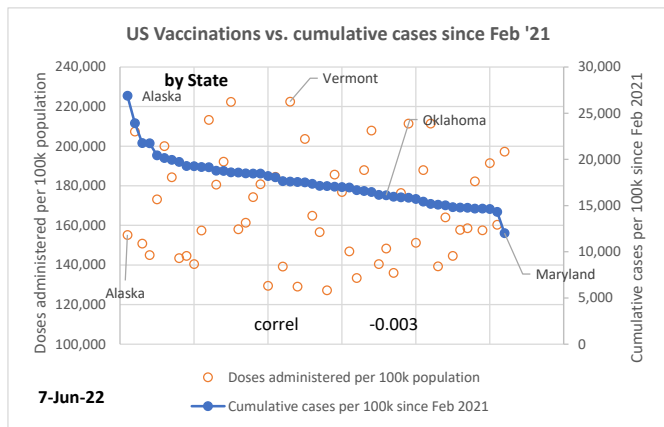x-axis: week (0, 13, 26, 39, 52)
y-axis: -10% – 50%

(CDC started updating this again 02 July 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.

Recent exponential growth examples:

New Zealand

Conf. Case

y-axis: ln(cumul. Count) 9.0 – 15.0

303:1000   currently

y = 0.189x - 8,402.414

x-axis: 15-Jan-22, 14-Feb-22, 16-Mar-22, 15-Apr-22, 15-May-22, 14-Jun-22, 14-Jul-22, 13-Aug-22

Legend: slope   ln(New Zealand)   Linear (slope)

Taiwan*

Conf. Case

y-axis: ln(cumul. Count) 7 – 16

174:1000   currently

y = 0.1312x - 5852.1

y = 0.1135x - 5025.5

x-axis: 1-May-21, 30-Jul-21, 28-Oct-21, 26-Jan-22, 26-Apr-22, 25-Jul-22, 23-Oct-22

Legend: slope   ln(Taiwan*)   Series3   Linear (slope)   Linear (Series3)

Korea, South

Conf. Case

y-axis: ln(cumul. Count) 13 – 17

363:1000   currently

y = 0.0567x - 2513.5

x-axis: 22-Jan-22, 21-Feb-22, 23-Mar-22, 22-Apr-22, 22-May-22, 21-Jun-22, 21-Jul-22

Legend: slope   ln(Korea, South)   Linear (slope)

Vaccinations and cumulative outcomes:

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

US Vaccinations vs. cumulative cases since Feb '21

by State

correl   -0.003

7-Jun-22

- ○ Doses administered per 100k population
- ─●─ Cumulative cases per 100k since Feb 2021

Cumulative deaths per 100k since Feb 2021

by State

correl   -0.719

07 Jun '22

- ○ Doses administered per 100k population
- ─●─ Cumulative deaths per 100k since Feb 2021