

# U.S. Mortality Trends Through the Pandemic

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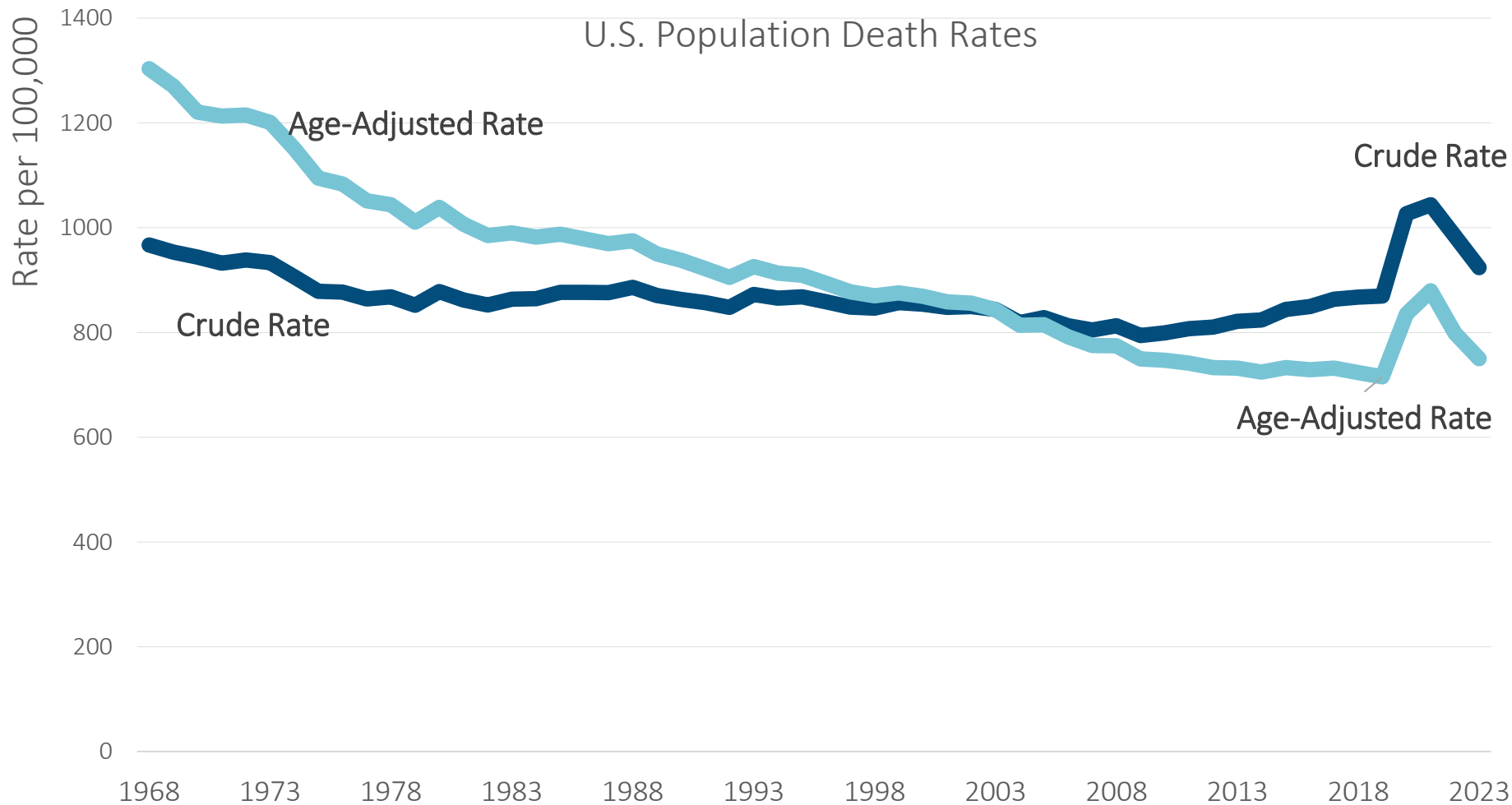
6 March 2024



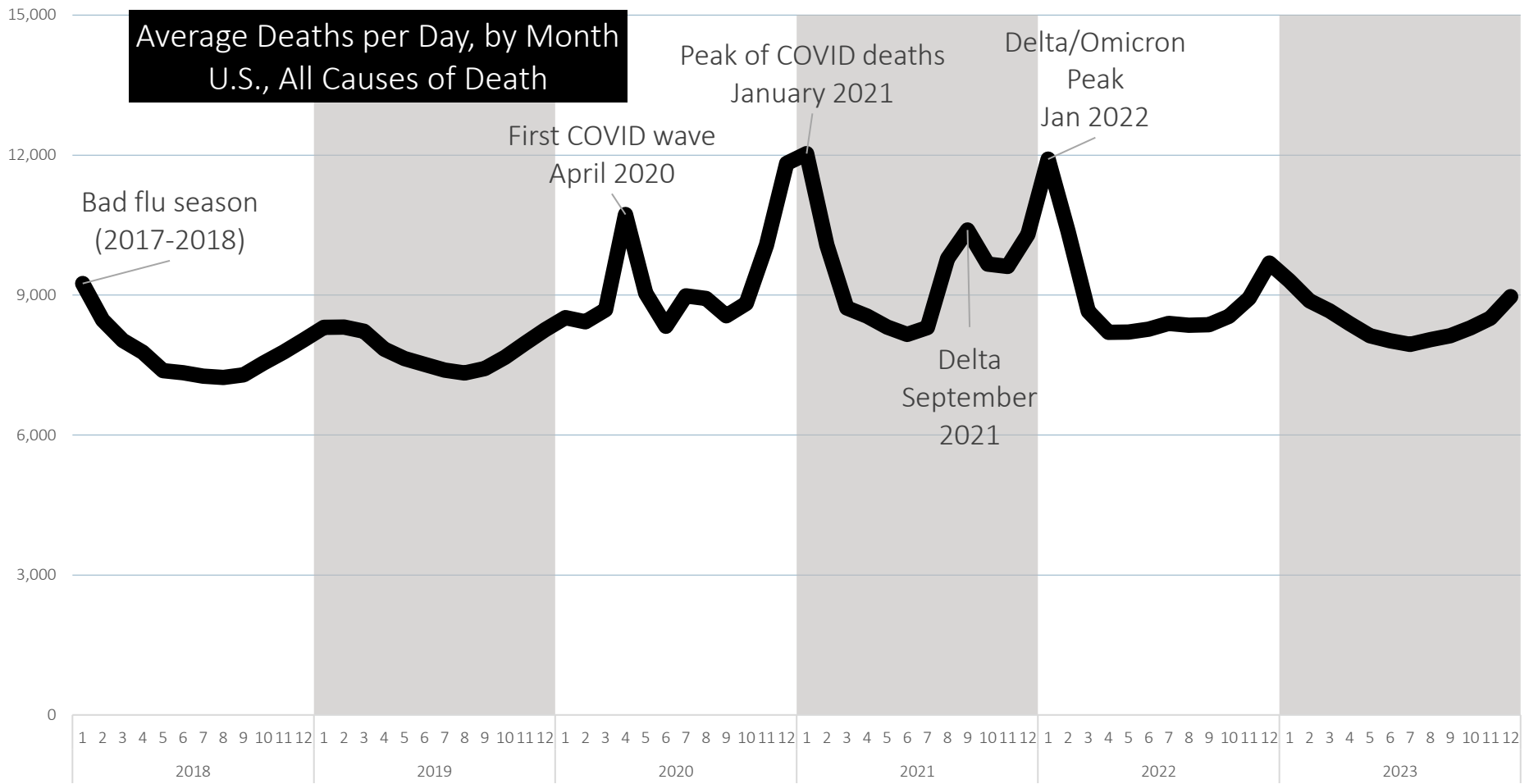
# All-cause mortality trends



# U.S. Population Death Rates

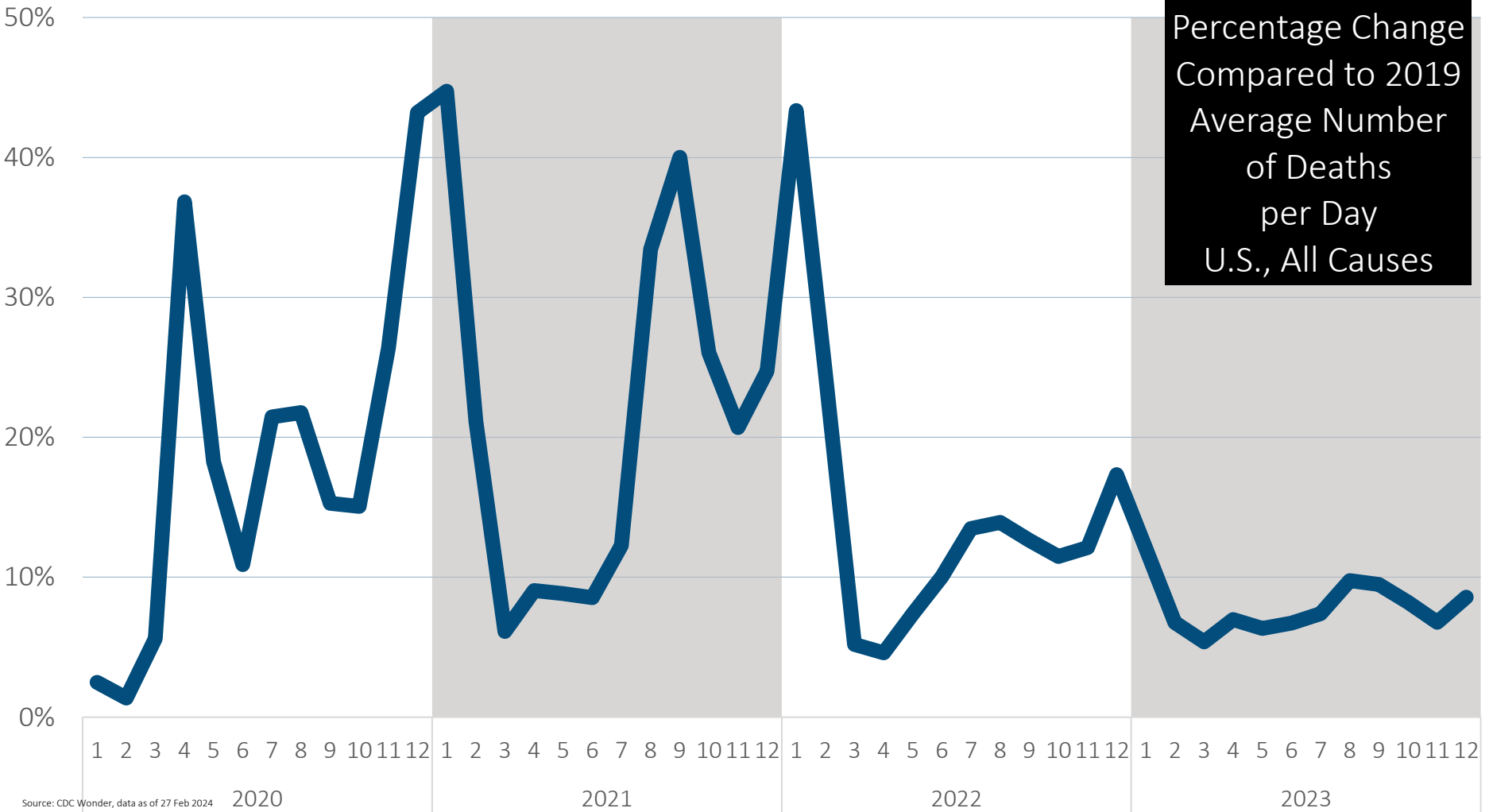


# Average Deaths per Day, by Month U.S., All Causes of Death



Source: CDC Wonder, data as of 27 Feb 2024

Percentage Change  
Compared to 2019  
Average Number  
of Deaths  
per Day  
U.S., All Causes



Source: CDC Wonder, data as of 27 Feb 2024

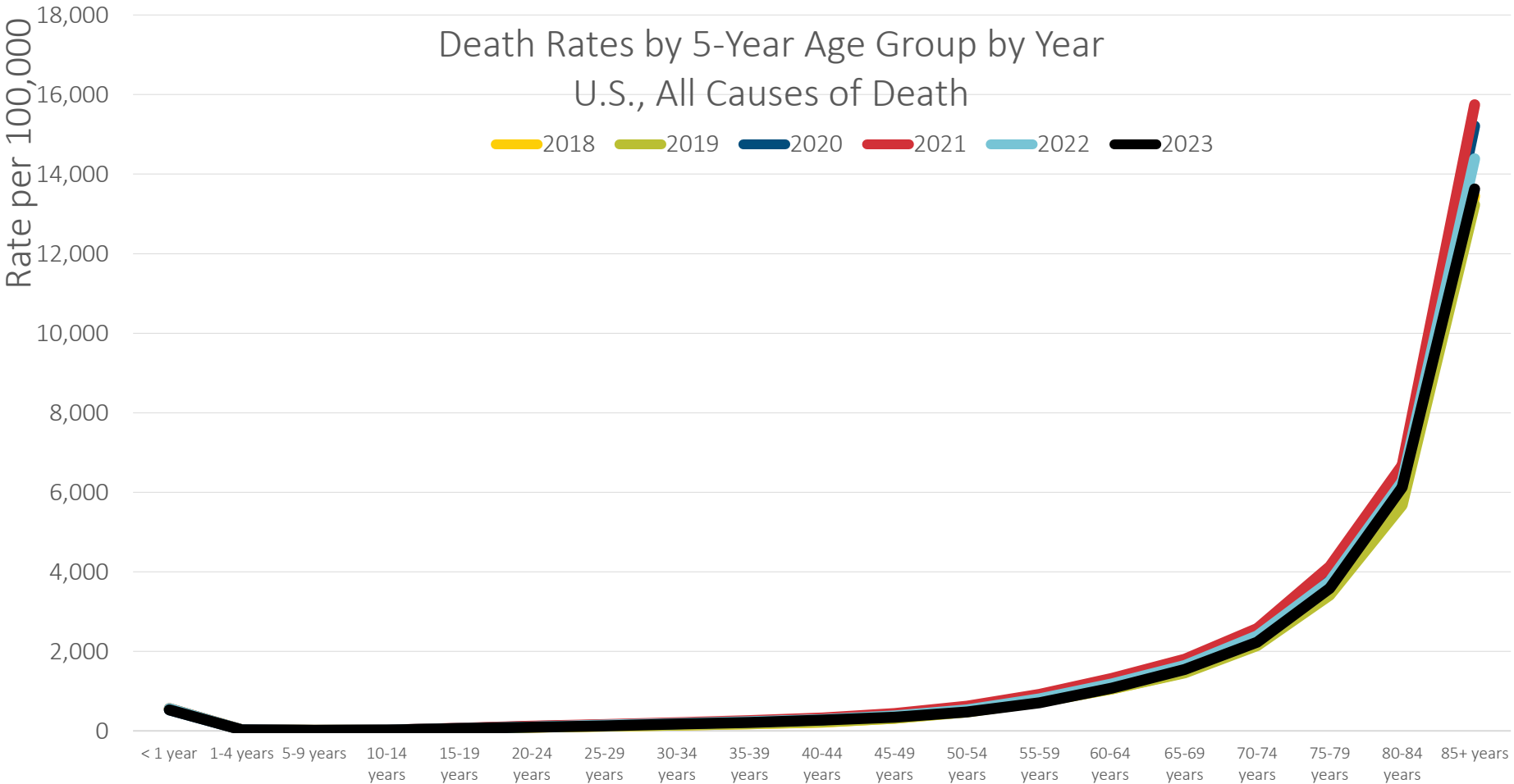
# All-cause mortality by age group



# Death Rates by 5-Year Age Group by Year

## U.S., All Causes of Death

2018 2019 2020 2021 2022 2023

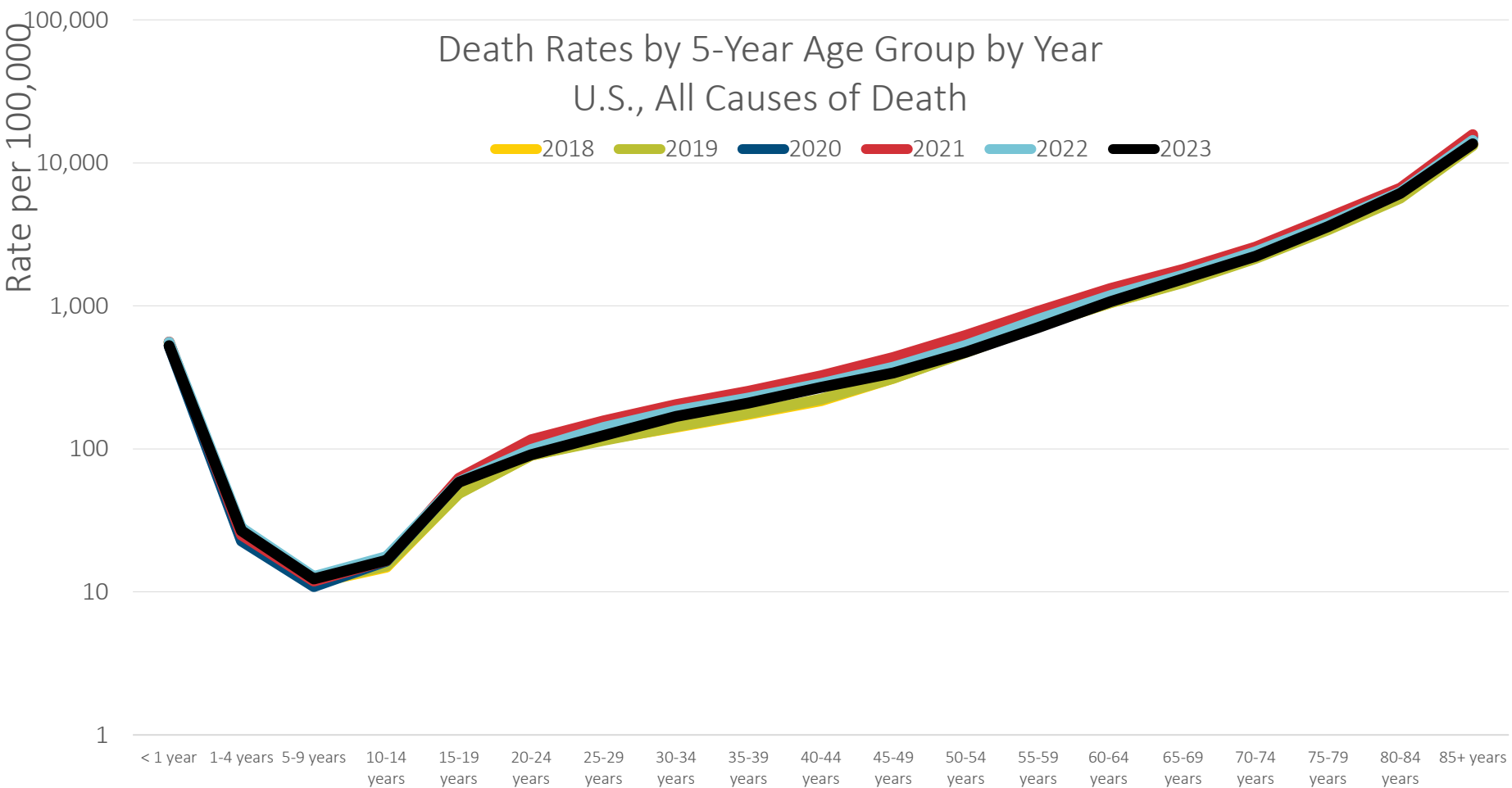


Source: CDC Wonder, data as of 27 Feb 2024

# Death Rates by 5-Year Age Group by Year

## U.S., All Causes of Death

2018 2019 2020 2021 2022 2023

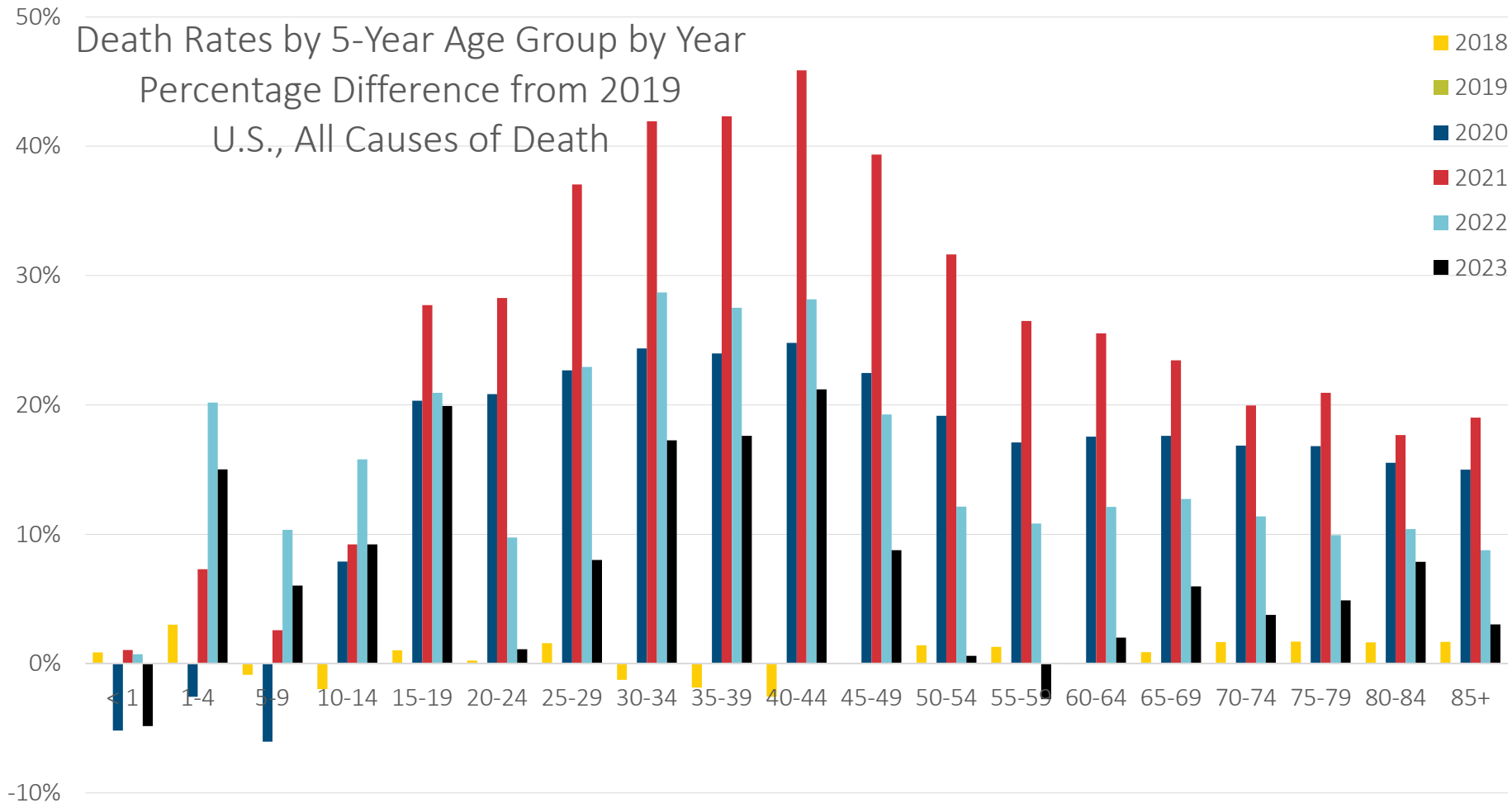


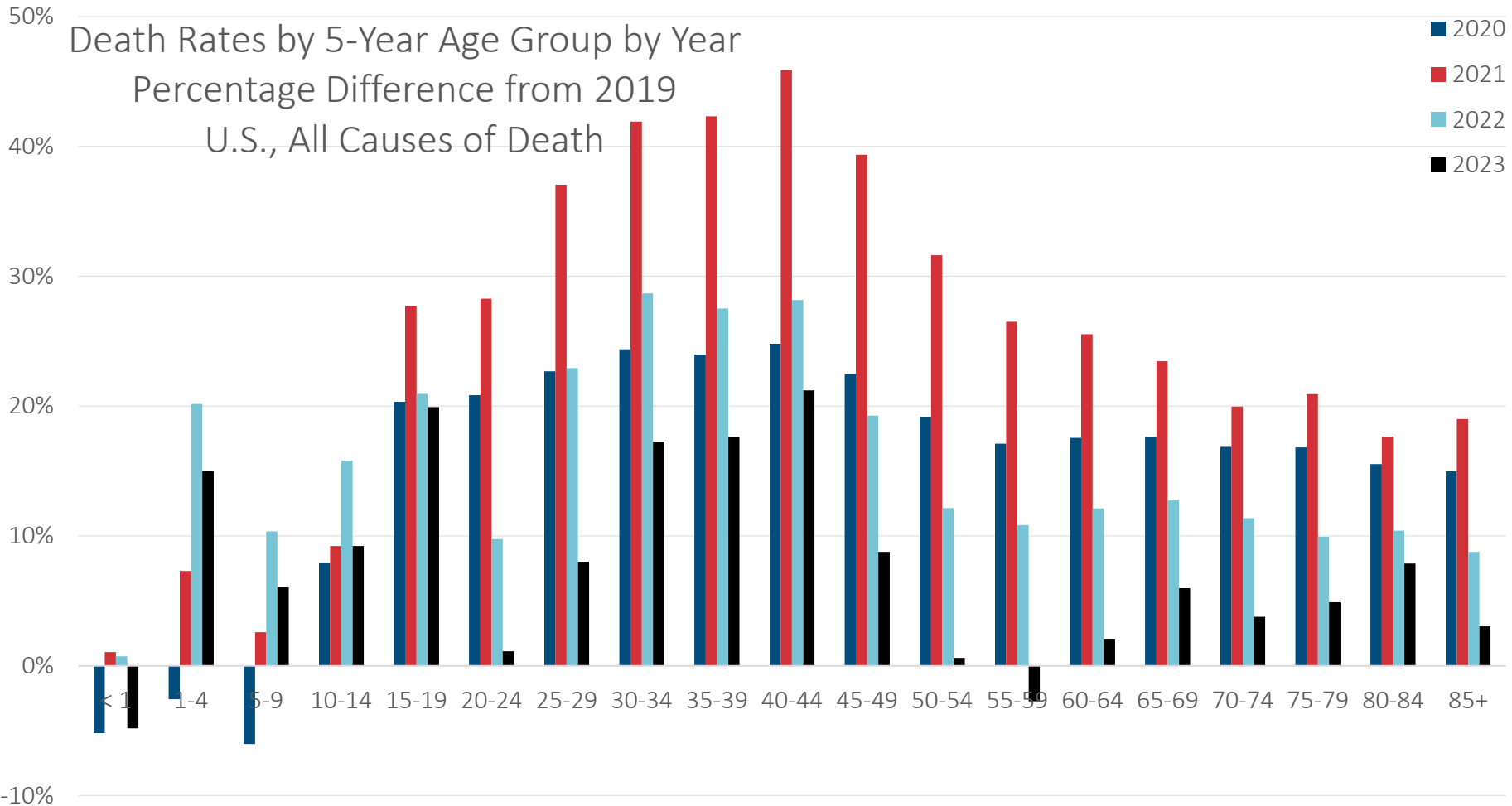


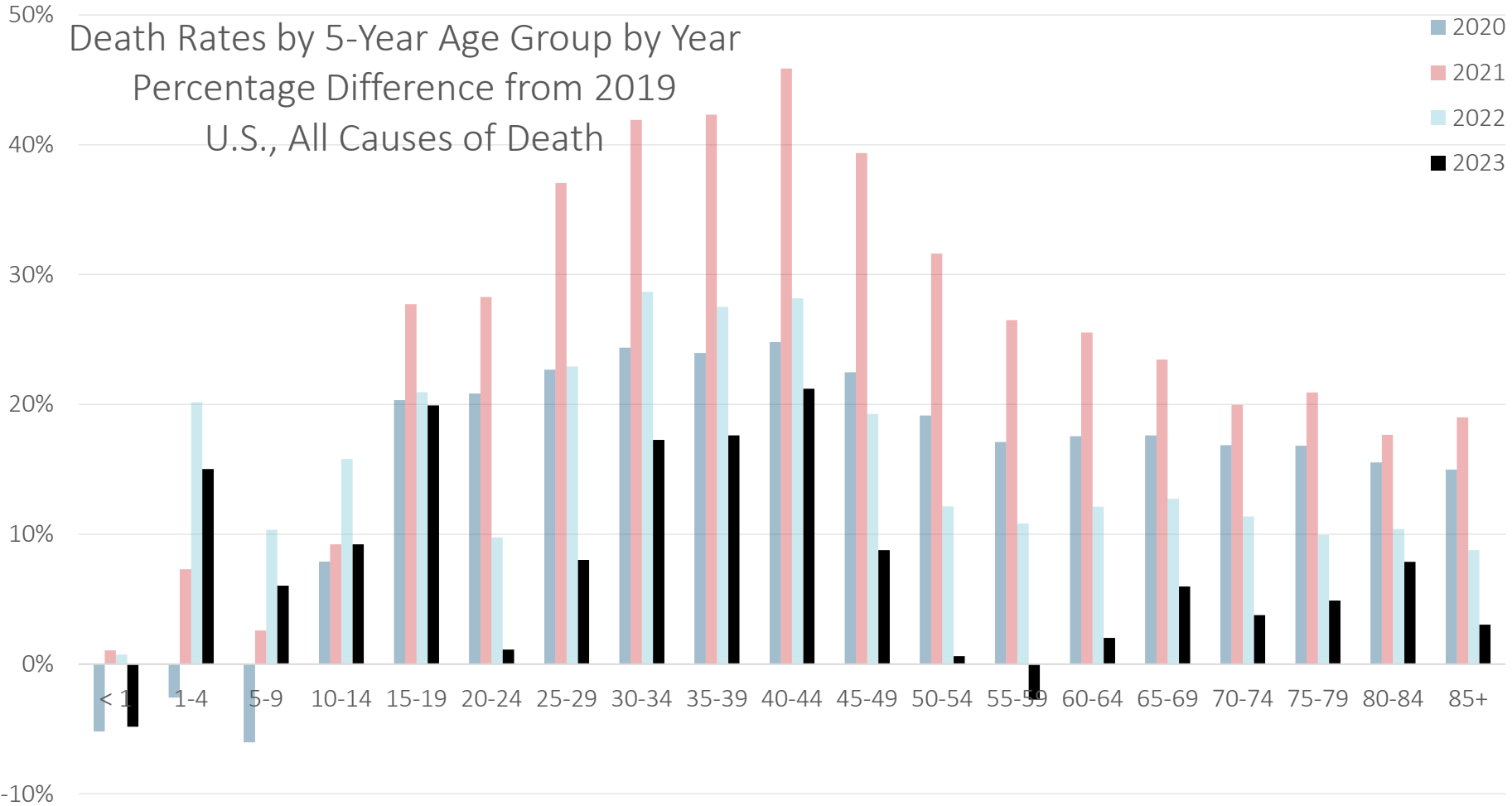
# Death Rates by 5-Year Age Group by Year

## Percentage Difference from 2019

### U.S., All Causes of Death







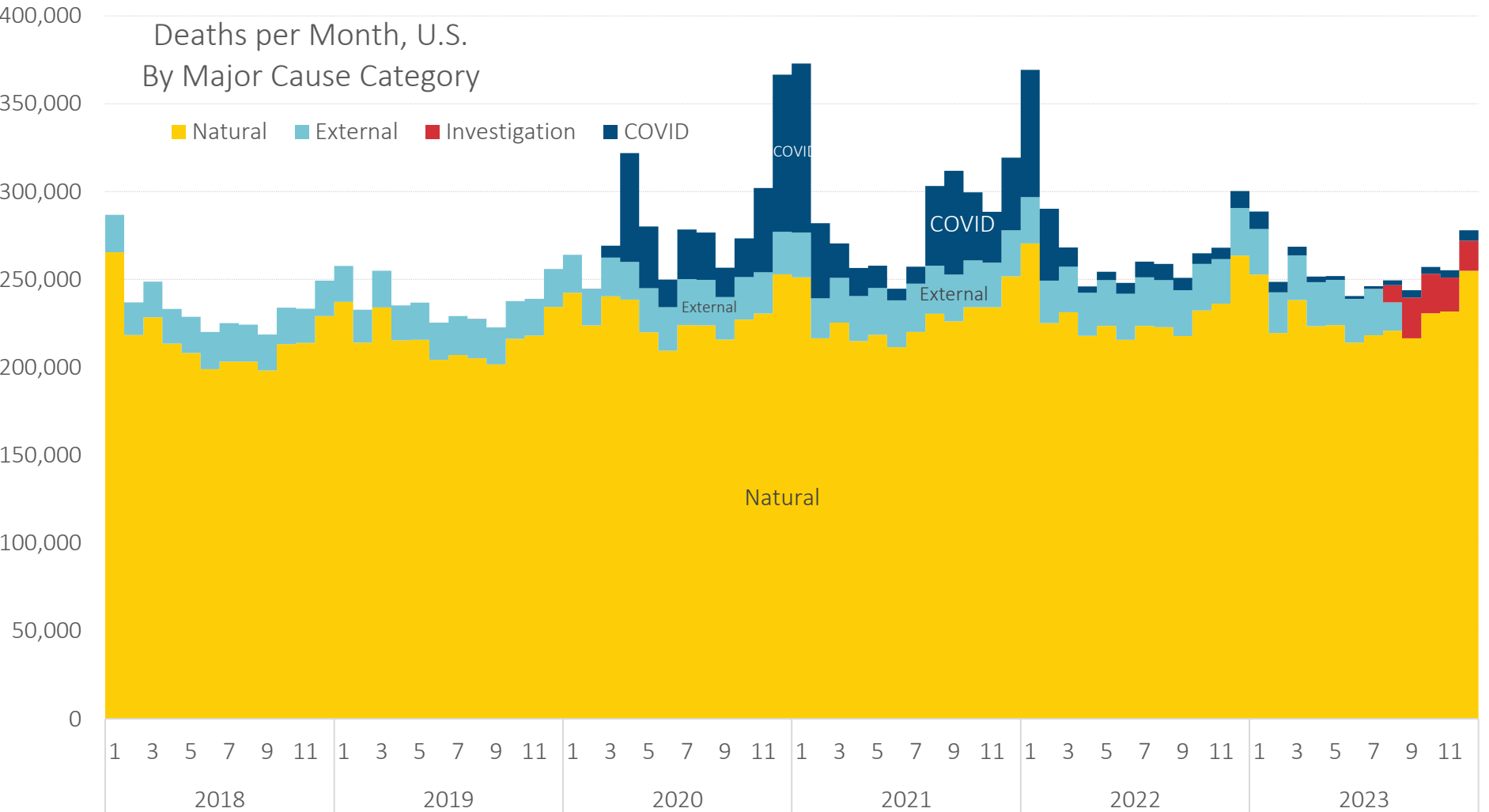
Source: CDC Wonder, data as of 27 Feb 2024

# Cause of Death: Major Categories



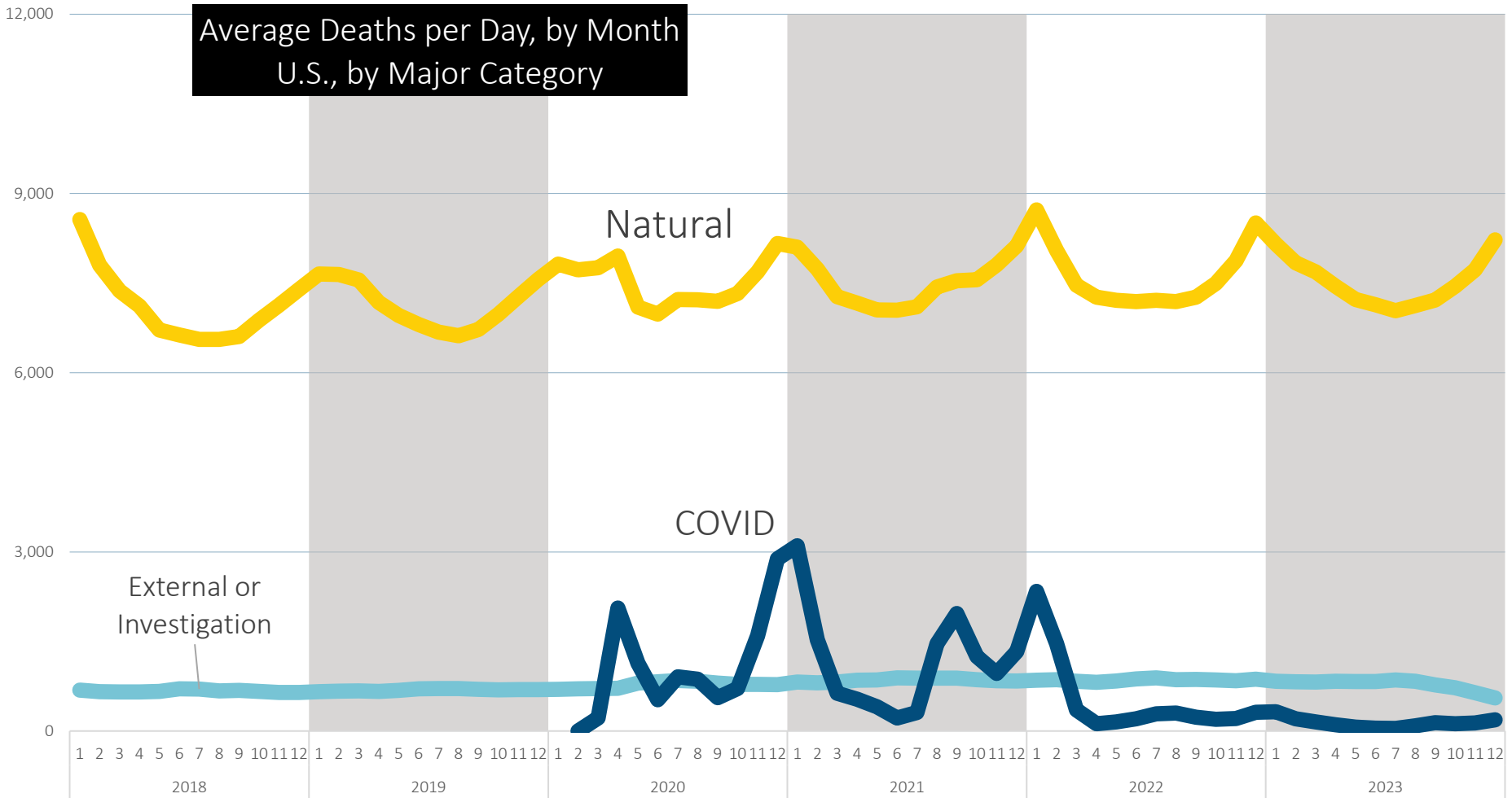
# Deaths per Month, U.S. By Major Cause Category

■ Natural 
 ■ External 
 ■ Investigation 
 ■ COVID



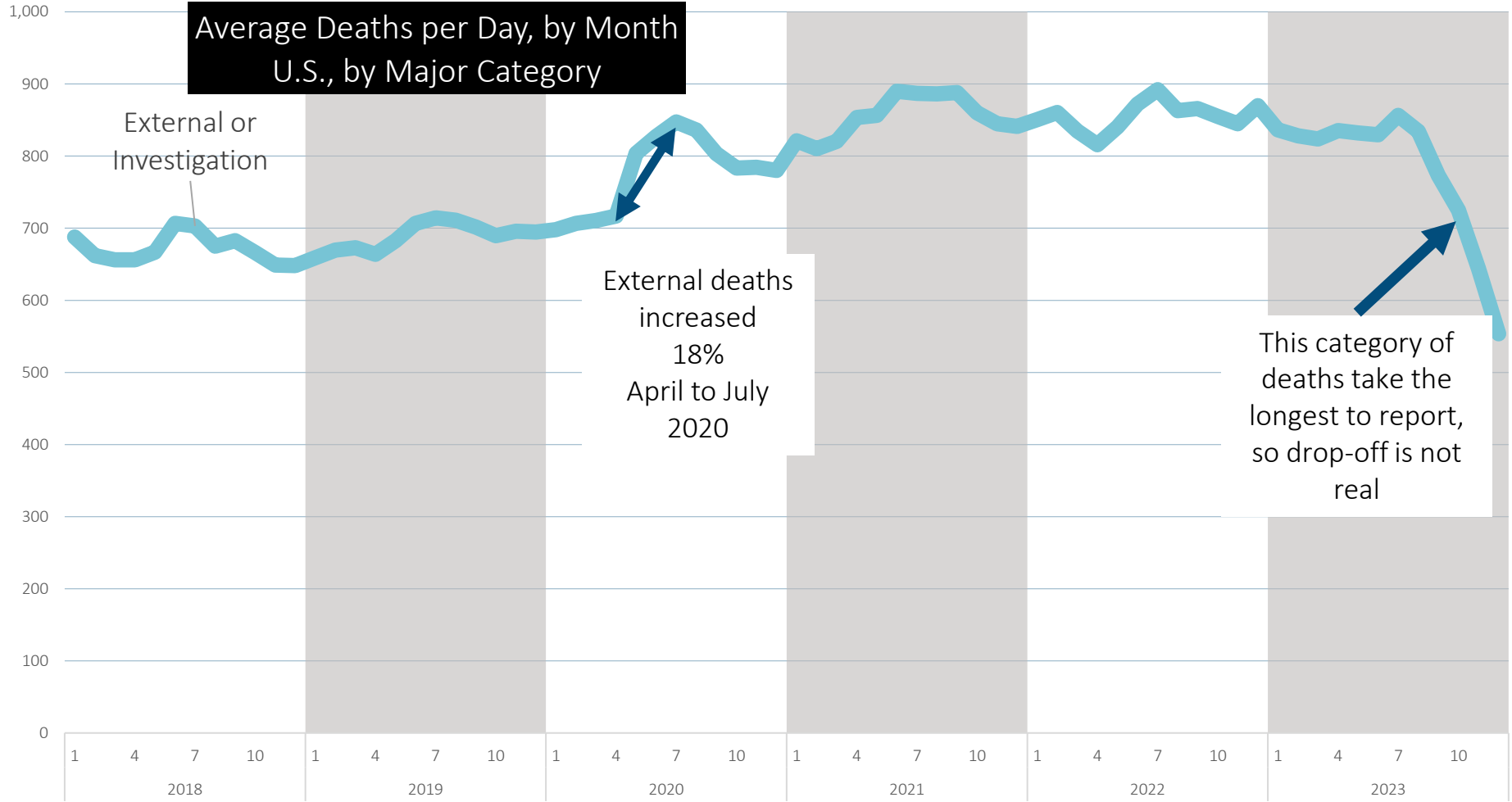
Source: CDC Wonder, data as of 28 Feb 2024

# Average Deaths per Day, by Month U.S., by Major Category



Source: CDC Wonder, data as of 28 Feb 2024

# Average Deaths per Day, by Month U.S., by Major Category



External or Investigation

External deaths increased 18% April to July 2020

This category of deaths take the longest to report, so drop-off is not real

# Ranking Causes





Total Death Rate	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
	0.55%	0.02%	0.01%	0.07%	0.13%	0.20%	0.39%	0.88%	1.76%	4.31%	13.23%

## Death Rate by Leading Causes of Death by Age Group, 2019, U.S.

Rank	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Perinatal period 0.272%	Accidents 0.007%	Accidents 0.004%	Accidents 0.028%	Accidents 0.053%	Accidents 0.058%	Cancer 0.087%	Cancer 0.263%	Cancer 0.543%	Cancer 1.006%	Heart disease 3.798%
2	Congenital anomalies 0.114%	Congenital anomalies 0.003%	Cancer 0.002%	Suicide 0.014%	Suicide 0.018%	Cancer 0.026%	Heart disease 0.076%	Heart disease 0.190%	Heart disease 0.389%	Heart disease 0.991%	Cancer 1.571%
3	Accidents 0.033%	Cancer 0.002%	Suicide 0.001%	Homicide 0.011%	Homicide 0.012%	Heart disease 0.025%	Accidents 0.057%	Accidents 0.059%	Chronic lower respiratory diseases 0.125%	Chronic lower respiratory diseases 0.318%	Alzheimers 1.191%
4	Heart disease 0.007%	Homicide 0.002%	Congenital anomalies 0.001%	Cancer 0.003%	Cancer 0.008%	Suicide 0.018%	Liver disease 0.020%	Chronic lower respiratory diseases 0.044%	Stroke 0.076%	Stroke 0.254%	Stroke 0.977%
5	Homicide 0.007%	Heart disease 0.001%	Homicide 0.001%	Heart disease 0.002%	Heart disease 0.008%	Homicide 0.008%	Suicide 0.020%	Diabetes 0.037%	Diabetes 0.073%	Alzheimers 0.210%	Chronic lower respiratory diseases 0.654%
6	Flu/pneumonia 0.004%	Flu/pneumonia 0.001%	Heart disease 0.0004%	Congenital anomalies 0.001%	Liver disease 0.002%	Liver disease 0.008%	Diabetes 0.016%	Liver disease 0.034%	Accidents 0.055%	Diabetes 0.139%	Accidents 0.377%
7	Septicemia 0.004%	Perinatal period 0.0004%	Chronic lower respiratory diseases 0.0004%	Diabetes 0.001%	Diabetes 0.002%	Diabetes 0.005%	Stroke 0.013%	Stroke 0.030%	Kidney disease 0.035%	Accidents 0.115%	Flu/pneumonia 0.295%
8	Stroke 0.003%	Septicemia 0.0003%	Flu/pneumonia 0.0003%	Flu/pneumonia 0.0004%	Stroke 0.001%	Stroke 0.004%	Chronic lower respiratory diseases 0.009%	Suicide 0.019%	Liver disease 0.033%	Parkinsons 0.093%	Diabetes 0.260%
9	Cancer 0.001%	Stroke 0.0003%	Stroke 0.0002%	Chronic lower respiratory diseases 0.0004%	Pregnancy-related 0.001%	Flu/pneumonia 0.002%	Kidney disease 0.006%	Kidney disease 0.014%	Septicemia 0.028%	Kidney disease 0.092%	Kidney disease 0.251%
10	Meningitis 0.001%	Benign neoplasms 0.0003%	Diabetes 0.0001%	Stroke 0.0004%	HIV/AIDS 0.001%	Septicemia 0.002%	Septicemia 0.005%	Septicemia 0.013%	Flu/pneumonia 0.027%	Flu/pneumonia 0.077%	Hypertension 0.227%

Source:  
CDC  
Wonder  
finalized  
data

Total Death Rate	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
	0.52%	0.02%	0.01%	0.08%	0.16%	0.25%	0.47%	1.04%	2.07%	5.00%	15.21%

## Death Rate by Leading Causes of Death by Age Group, 2020, U.S.

Rank	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Perinatal period 0.256%	Accidents 0.007%	Accidents 0.004%	Accidents 0.036%	Accidents 0.068%	Accidents 0.074%	Cancer 0.086%	Cancer 0.260%	Cancer 0.539%	Heart disease 1.017%	Heart disease 3.822%
2	Congenital anomalies 0.108%	Congenital anomalies 0.002%	Cancer 0.002%	Homicide 0.015%	Suicide 0.018%	Heart disease 0.029%	Heart disease 0.085%	Heart disease 0.209%	Heart disease 0.414%	Cancer 0.990%	COVID 1.645%
3	Accidents 0.032%	Homicide 0.002%	Suicide 0.001%	Suicide 0.014%	Homicide 0.015%	Cancer 0.025%	Accidents 0.069%	COVID 0.099%	COVID 0.234%	COVID 0.590%	Cancer 1.538%
4	Homicide 0.007%	Cancer 0.002%	Homicide 0.001%	Cancer 0.003%	Heart disease 0.009%	Suicide 0.017%	COVID 0.042%	Accidents 0.068%	Chronic lower respiratory diseases 0.118%	Chronic lower respiratory diseases 0.300%	Alzheimers 1.287%
5	Heart disease 0.006%	Heart disease 0.001%	Congenital anomalies 0.001%	Heart disease 0.002%	Cancer 0.008%	COVID 0.014%	Liver disease 0.024%	Chronic lower respiratory diseases 0.044%	Diabetes 0.084%	Stroke 0.263%	Stroke 1.018%
6	Flu/pneumonia 0.003%	Flu/pneumonia 0.001%	Heart disease 0.0004%	COVID 0.001%	COVID 0.005%	Liver disease 0.012%	Diabetes 0.019%	Diabetes 0.042%	Stroke 0.081%	Alzheimers 0.229%	Chronic lower respiratory diseases 0.613%
7	Septicemia 0.003%	Stroke 0.0004%	Chronic lower respiratory diseases 0.0004%	Congenital anomalies 0.001%	Liver disease 0.004%	Homicide 0.011%	Suicide 0.018%	Liver disease 0.038%	Accidents 0.057%	Diabetes 0.155%	Accidents 0.384%
8	Stroke 0.003%	Perinatal period 0.0003%	Flu/pneumonia 0.0003%	Diabetes 0.001%	Diabetes 0.003%	Diabetes 0.007%	Stroke 0.014%	Stroke 0.033%	Liver disease 0.037%	Accidents 0.113%	Diabetes 0.293%
9	Cancer 0.001%	Septicemia 0.0003%	Stroke 0.0002%	Chronic lower respiratory diseases 0.001%	Stroke 0.001%	Stroke 0.005%	Chronic lower respiratory diseases 0.009%	Suicide 0.017%	Kidney disease 0.035%	Parkinsons 0.105%	Flu/pneumonia 0.274%
10	Meningitis 0.001%	Benign neoplasms 0.0002%	Diabetes 0.0001%	Pregnancy-related 0.000%	Pregnancy-related 0.001%	Flu/pneumonia 0.003%	Homicide 0.006%	Flu/pneumonia 0.015%	Flu/pneumonia 0.032%	Kidney disease 0.089%	Hypertension 0.250%

Source:  
CDC  
Wonder  
finalized  
data

Total Death Rate	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
	0.56%	0.03%	0.01%	0.09%	0.18%	0.29%	0.53%	1.12%	2.15%	5.12%	15.74%

## Death Rate by Leading Causes of Death by Age Group, 2021, U.S.

Rank	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Perinatal period 0.265%	Accidents 0.009%	Accidents 0.004%	Accidents 0.037%	Accidents 0.076%	Accidents 0.084%	COVID 0.091%	Cancer 0.252%	Cancer 0.532%	Heart disease 1.044%	Heart disease 4.079%
2	Congenital anomalies 0.111%	Congenital anomalies 0.003%	Cancer 0.002%	Homicide 0.015%	Suicide 0.019%	COVID 0.037%	Heart disease 0.085%	Heart disease 0.209%	Heart disease 0.417%	Cancer 1.017%	Cancer 1.713%
3	Accidents 0.037%	Homicide 0.002%	Suicide 0.001%	Suicide 0.015%	Homicide 0.017%	Heart disease 0.029%	Cancer 0.082%	COVID 0.172%	COVID 0.305%	COVID 0.610%	COVID 1.354%
4	Homicide 0.007%	Cancer 0.002%	Homicide 0.001%	COVID 0.003%	COVID 0.013%	Cancer 0.026%	Accidents 0.077%	Accidents 0.078%	Chronic lower respiratory disease 0.113%	Chronic lower respiratory disease 0.286%	Alzheimers 1.244%
5	Heart disease 0.007%	Heart disease 0.001%	Congenital anomalies 0.001%	Cancer 0.003%	Heart disease 0.009%	Suicide 0.018%	Liver disease 0.026%	Diabetes 0.043%	Stroke 0.084%	Stroke 0.275%	Stroke 1.111%
6	Flu/pneumonia 0.004%	Perinatal period 0.000%	Heart disease 0.000%	Heart disease 0.002%	Cancer 0.008%	Liver disease 0.013%	Diabetes 0.019%	Liver disease 0.041%	Diabetes 0.083%	Alzheimers 0.214%	Chronic lower respiratory disease 0.601%
7	Septicemia 0.003%	Stroke 0.000%	COVID 0.000%	Congenital anomalies 0.001%	Liver disease 0.004%	Homicide 0.011%	Suicide 0.018%	Chronic lower respiratory disease 0.041%	Accidents 0.065%	Diabetes 0.160%	Accidents 0.446%
8	Stroke 0.003%	COVID 0.000%	Chronic lower respiratory disease 0.000%	Diabetes 0.001%	Diabetes 0.003%	Diabetes 0.007%	Stroke 0.014%	Stroke 0.034%	Liver disease 0.038%	Accidents 0.127%	Diabetes 0.310%
9	COVID 0.003%	Flu/pneumonia 0.000%	Stroke 0.000%	Pregnancy-related 0.000%	Pregnancy-related 0.002%	Stroke 0.005%	Chronic lower respiratory disease 0.008%	Suicide 0.017%	Kidney disease 0.036%	Parkinsons 0.103%	Kidney disease 0.271%
10	Meningitis 0.002%	Benign neoplasms 0.000%	Benign neoplasms 0.000%	Stroke 0.000%	Stroke 0.001%	Septicemia 0.003%	Homicide 0.007%	Septicemia 0.015%	Septicemia 0.031%	Kidney disease 0.096%	Hypertension 0.271%

Source: CDC Wonder finalized data

Male-to-Female Ratio	1.16	1.18	1.34	2.57	2.31	1.86	1.70	2.57	1.54	1.37	1.15
Total Death Rate	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
	0.60%	0.03%	0.02%	0.13%	0.25%	0.37%	0.67%	1.40%	2.64%	6.03%	17.19%

## Death Rate by Leading Causes of Death by Age Group, 2021, U.S., Male

Rank	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Perinatal period 0.285%	Accidents 0.010%	Accidents 0.005%	Accidents 0.051%	Accidents 0.111%	Accidents 0.121%	Heart disease 0.120%	Heart disease 0.296%	Cancer 0.623%	Heart disease 1.320%	Heart disease 4.640%
2	Congenital anomalies 0.110%	Congenital anomalies 0.002%	Cancer 0.002%	Homicide 0.026%	Suicide 0.031%	COVID 0.045%	COVID 0.115%	Cancer 0.276%	Heart disease 0.569%	Cancer 1.228%	Cancer 2.296%
3	Accidents 0.041%	Homicide 0.002%	Suicide 0.002%	Suicide 0.024%	Homicide 0.028%	Heart disease 0.040%	Accidents 0.110%	COVID 0.214%	COVID 0.378%	COVID 0.780%	COVID 1.732%
4	Homicide 0.009%	Cancer 0.002%	Homicide 0.001%	COVID 0.004%	COVID 0.017%	Suicide 0.029%	Cancer 0.078%	Accidents 0.114%	Chronic lower respiratory disease 0.125%	Chronic lower respiratory disease 0.309%	Stroke 0.990%
5	Heart disease 0.008%	Heart disease 0.001%	Congenital anomalies 0.001%	Cancer 0.004%	Heart disease 0.012%	Cancer 0.022%	Liver disease 0.034%	Diabetes 0.056%	Diabetes 0.105%	Stroke 0.284%	Alzheimers 0.934%
6	Flu/pneumonia 0.004%	Perinatal period 0.000%	Heart disease 0.001%	Heart disease 0.003%	Cancer 0.008%	Homicide 0.018%	Suicide 0.028%	Liver disease 0.055%	Stroke 0.096%	Diabetes 0.198%	Chronic lower respiratory disease 0.670%
7	Septicemia 0.004%	COVID 0.000%	COVID 0.000%	Congenital anomalies 0.001%	Liver disease 0.005%	Liver disease 0.017%	Diabetes 0.024%	Chronic lower respiratory disease 0.042%	Accidents 0.093%	Alzheimers 0.175%	Accidents 0.516%
8	Stroke 0.003%	Stroke 0.000%	Chronic lower respiratory disease 0.000%	Diabetes 0.001%	Diabetes 0.003%	Diabetes 0.008%	Stroke 0.016%	Stroke 0.041%	Liver disease 0.052%	Accidents 0.161%	Diabetes 0.377%
9	COVID 0.002%	Septicemia 0.000%	Stroke 0.000%	Stroke 0.000%	HIV/AIDS 0.002%	Stroke 0.006%	Homicide 0.011%	Suicide 0.027%	Kidney disease 0.042%	Parkinsons 0.147%	Parkinsons 0.376%
10	Meningitis 0.002%	Benign neoplasms 0.000%	Benign neoplasms 0.000%	Legal intervention 0.000%	Stroke 0.002%	Septicemia 0.003%	Kidney disease 0.007%	Kidney disease 0.018%	Septicemia 0.034%	Kidney disease 0.114%	Kidney disease 0.348%

Data source: CDC WONDER, finalized data, 2023 Mar 6

Male-to-Female Ratio	1.16	1.18	1.34	2.57	2.31	1.86	1.70	1.65	1.54	1.37	1.15
Total Death Rate	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
	0.52%	0.02%	0.01%	0.05%	0.11%	0.20%	0.39%	0.85%	1.72%	4.40%	14.91%

## Death Rate by Leading Causes of Death by Age Group, 2021, U.S., Female

Rank	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Perinatal period 0.243%	Accidents 0.007%	Accidents 0.003%	Accidents 0.021%	Accidents 0.040%	Accidents 0.047%	Cancer 0.087%	Cancer 0.229%	Cancer 0.451%	Cancer 0.850%	Heart disease 3.757%
2	Congenital anomalies 0.112%	Congenital anomalies 0.003%	Cancer 0.002%	Suicide 0.006%	COVID 0.010%	Cancer 0.030%	COVID 0.066%	COVID 0.132%	Heart disease 0.281%	Heart disease 0.825%	Alzheimers 1.421%
3	Accidents 0.032%	Cancer 0.002%	Suicide 0.001%	Homicide 0.004%	Cancer 0.008%	COVID 0.028%	Heart disease 0.050%	Heart disease 0.125%	COVID 0.240%	COVID 0.474%	Cancer 1.379%
4	Heart disease 0.007%	Homicide 0.002%	Homicide 0.001%	COVID 0.003%	Suicide 0.007%	Heart disease 0.018%	Accidents 0.044%	Accidents 0.044%	Chronic lower respiratory disease 0.102%	Stroke 0.268%	Stroke 1.180%
5	Homicide 0.006%	Heart disease 0.001%	Congenital anomalies 0.001%	Cancer 0.002%	Heart disease 0.006%	Liver disease 0.010%	Liver disease 0.018%	Chronic lower respiratory disease 0.041%	Stroke 0.074%	Chronic lower respiratory disease 0.267%	COVID 1.138%
6	Flu/pneumonia 0.003%	Perinatal period 0.000%	Heart disease 0.000%	Heart disease 0.002%	Homicide 0.005%	Suicide 0.008%	Diabetes 0.013%	Diabetes 0.031%	Diabetes 0.063%	Alzheimers 0.246%	Chronic lower respiratory disease 0.561%
7	Septicemia 0.003%	Stroke 0.000%	COVID 0.000%	Pregnancy-related 0.001%	Pregnancy-related 0.004%	Diabetes 0.005%	Stroke 0.012%	Stroke 0.028%	Accidents 0.040%	Diabetes 0.130%	Accidents 0.406%
8	COVID 0.003%	Flu/pneumonia 0.000%	Stroke 0.000%	Congenital anomalies 0.001%	Liver disease 0.003%	Stroke 0.004%	Suicide 0.009%	Liver disease 0.028%	Kidney disease 0.031%	Accidents 0.100%	Hypertension 0.284%
9	Stroke 0.003%	COVID 0.000%	Chronic lower respiratory disease 0.000%	Diabetes 0.001%	Diabetes 0.002%	Homicide 0.004%	Chronic lower respiratory disease 0.008%	Septicemia 0.014%	Alzheimers 0.030%	Kidney disease 0.081%	Diabetes 0.271%
10	Meningitis 0.001%	Benign neoplasms 0.000%	Diabetes 0.000%	Stroke 0.000%	Stroke 0.001%	Pregnancy-related 0.003%	Septicemia 0.006%	Kidney disease 0.012%	Septicemia 0.028%	Parkinsons 0.067%	Kidney disease 0.227%

Data source: CDC WONDER, finalized data, 2023 Mar 6

	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Total Death Rate	0.56%	0.03%	0.02%	0.08%	0.16%	0.26%	0.45%	0.99%	1.98%	4.71%	14.39%

## Death Rate by Leading Causes of Death by Age Group, 2022, U.S.

Rank	< 1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
1	Perinatal period 0.273%	Accidents 0.009%	Accidents 0.004%	Accidents 0.033%	Accidents 0.073%	Accidents 0.085%	Cancer 0.083%	Cancer 0.250%	Cancer 0.529%	Heart disease 1.017%	Heart disease 3.836%
2	Congenital anomalies 0.108%	Congenital anomalies 0.003%	Cancer 0.002%	Homicide 0.014%	Suicide 0.019%	Heart disease 0.028%	Heart disease 0.080%	Heart disease 0.204%	Heart disease 0.416%	Cancer 0.979%	Cancer 1.573%
3	Accidents 0.037%	Homicide 0.002%	Homicide 0.001%	Suicide 0.014%	Homicide 0.015%	Cancer 0.026%	Accidents 0.078%	Accidents 0.081%	COVID 0.124%	COVID 0.292%	Alzheimers 1.131%
4	Homicide 0.007%	Cancer 0.002%	Suicide 0.001%	Cancer 0.003%	Heart disease 0.008%	Suicide 0.019%	COVID 0.024%	COVID 0.058%	Chronic lower respiratory disease 0.115%	Chronic lower respiratory disease 0.284%	Stroke 1.044%
5	Heart disease 0.007%	Flupneumonia 0.001%	Congenital anomalies 0.001%	Heart disease 0.002%	Cancer 0.008%	Liver disease 0.013%	Liver disease 0.023%	Diabetes 0.041%	Stroke 0.084%	Stroke 0.265%	COVID 0.818%
6	Flupneumonia 0.004%	Heart disease 0.001%	Heart disease 0.001%	COVID 0.001%	Liver disease 0.004%	Homicide 0.011%	Suicide 0.019%	Chronic lower respiratory disease 0.041%	Diabetes 0.080%	Alzheimers 0.206%	Chronic lower respiratory disease 0.576%
7	COVID 0.004%	COVID 0.001%	Flupneumonia 0.000%	Congenital anomalies 0.001%	COVID 0.004%	COVID 0.009%	Diabetes 0.018%	Liver disease 0.039%	Accidents 0.069%	Diabetes 0.151%	Accidents 0.418%
8	Septicemia 0.003%	Septicemia 0.000%	COVID 0.000%	Diabetes 0.001%	Diabetes 0.003%	Diabetes 0.007%	Stroke 0.014%	Stroke 0.034%	Liver disease 0.039%	Accidents 0.128%	Diabetes 0.287%
9	Stroke 0.002%	Perinatal period 0.000%	Chronic lower respiratory disease 0.000%	Chronic lower respiratory disease 0.000%	Stroke 0.001%	Stroke 0.005%	Chronic lower respiratory disease 0.007%	Suicide 0.019%	Kidney disease 0.038%	Parkinsons 0.102%	Kidney disease 0.264%
10	Meningitis 0.001%	Stroke 0.000%	Stroke 0.000%	Flupneumonia 0.000%	Pregnancy-related 0.001%	Kidney disease 0.002%	Homicide 0.007%	Kidney disease 0.016%	Septicemia 0.031%	Kidney disease 0.097%	Hypertension 0.254%

Data source: CDC WONDER, provisional data, 2024 March 5

Cause of death: COVID

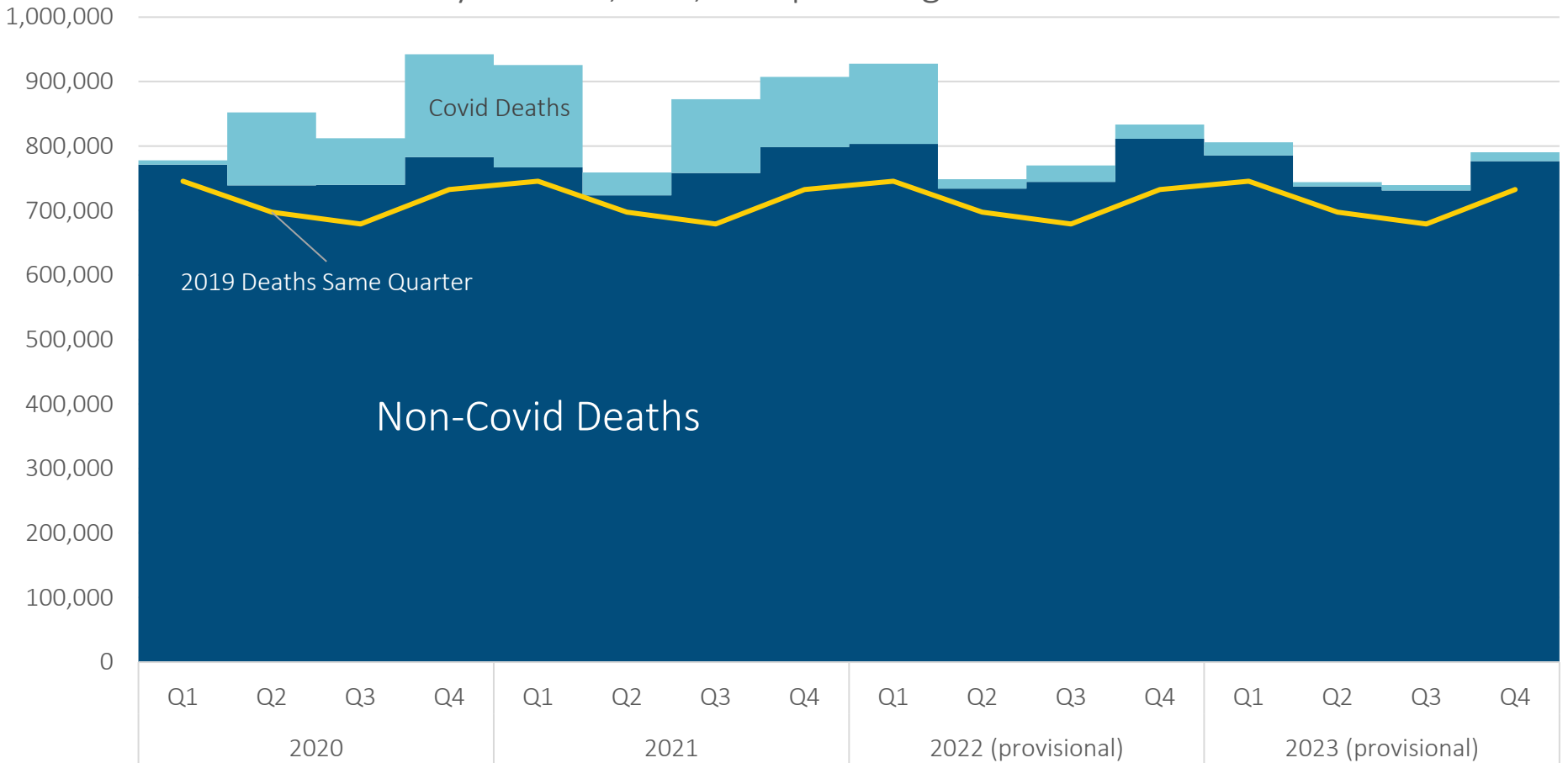


# Counting COVID deaths

- Only counting where COVID is Underlying Cause of Death
- One and only one UCD per death certificate
- Contributing causes of death listed – from 0 up to 20
- Average number of CODs on death certificates has been rising in pre-pandemic years – averages over 3



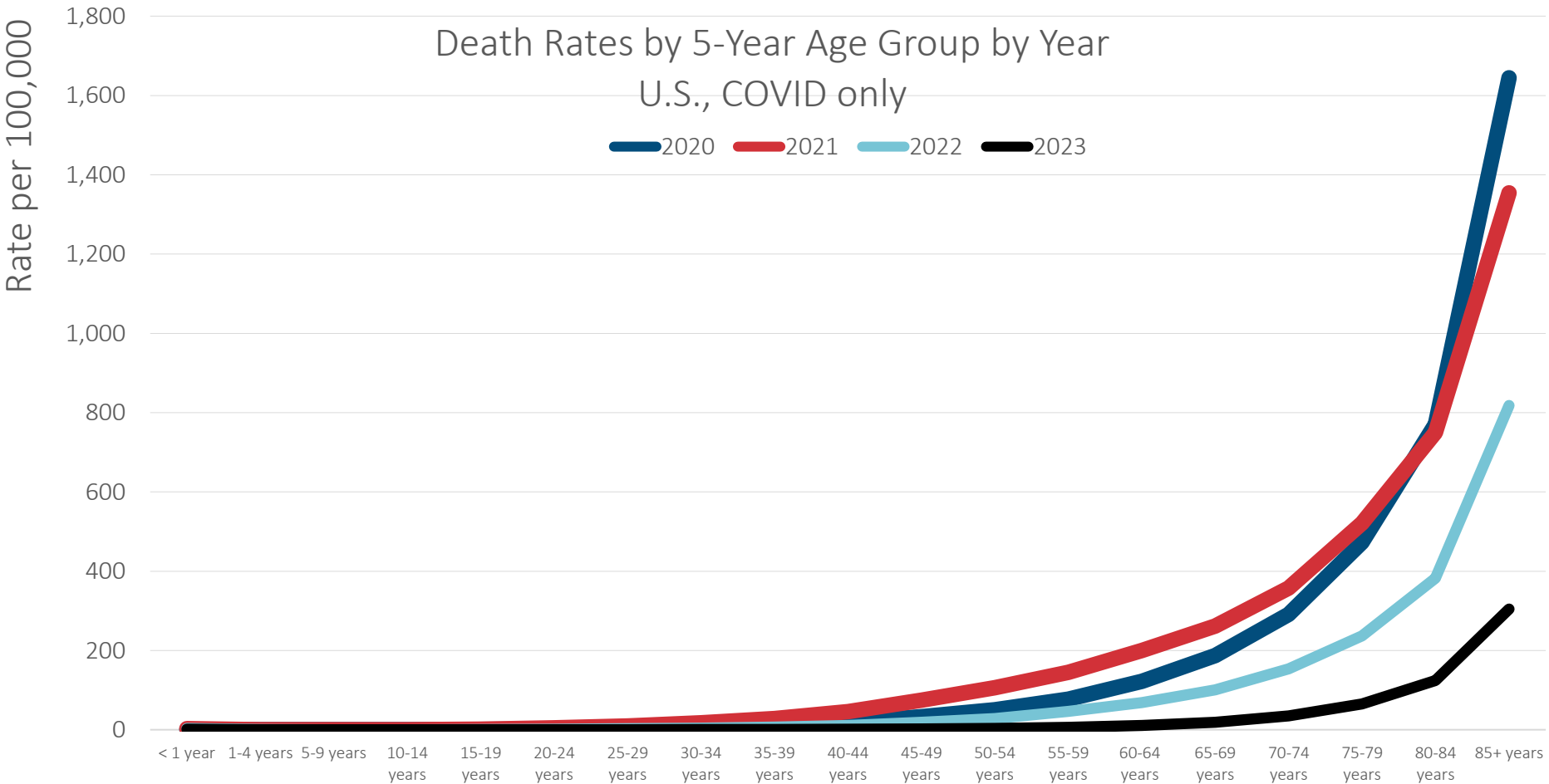
# Deaths by Quarter, U.S., Compared Against Same Quarter 2019



# Death Rates by 5-Year Age Group by Year

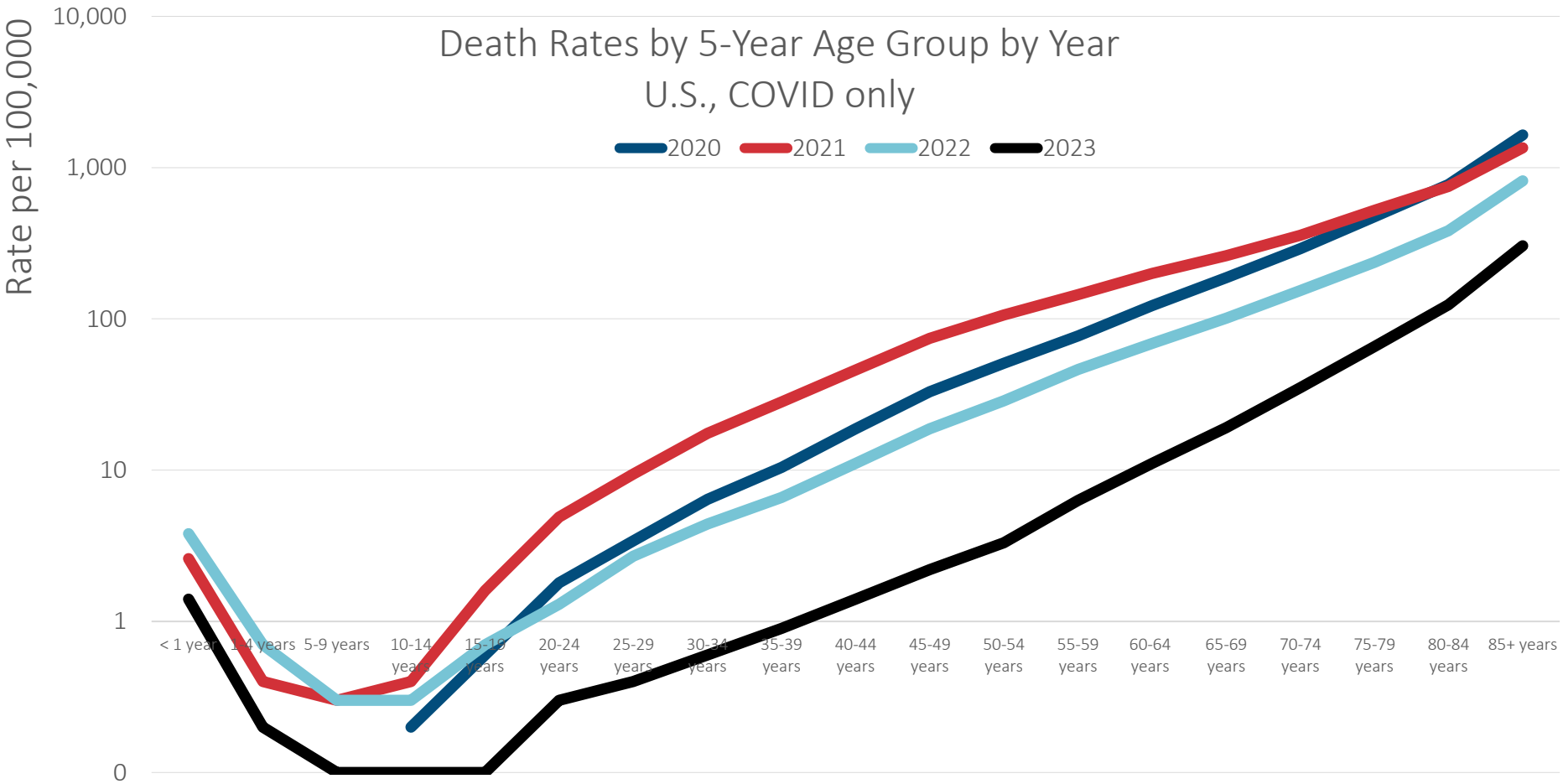
## U.S., COVID only

2020 2021 2022 2023



# Death Rates by 5-Year Age Group by Year U.S., COVID only

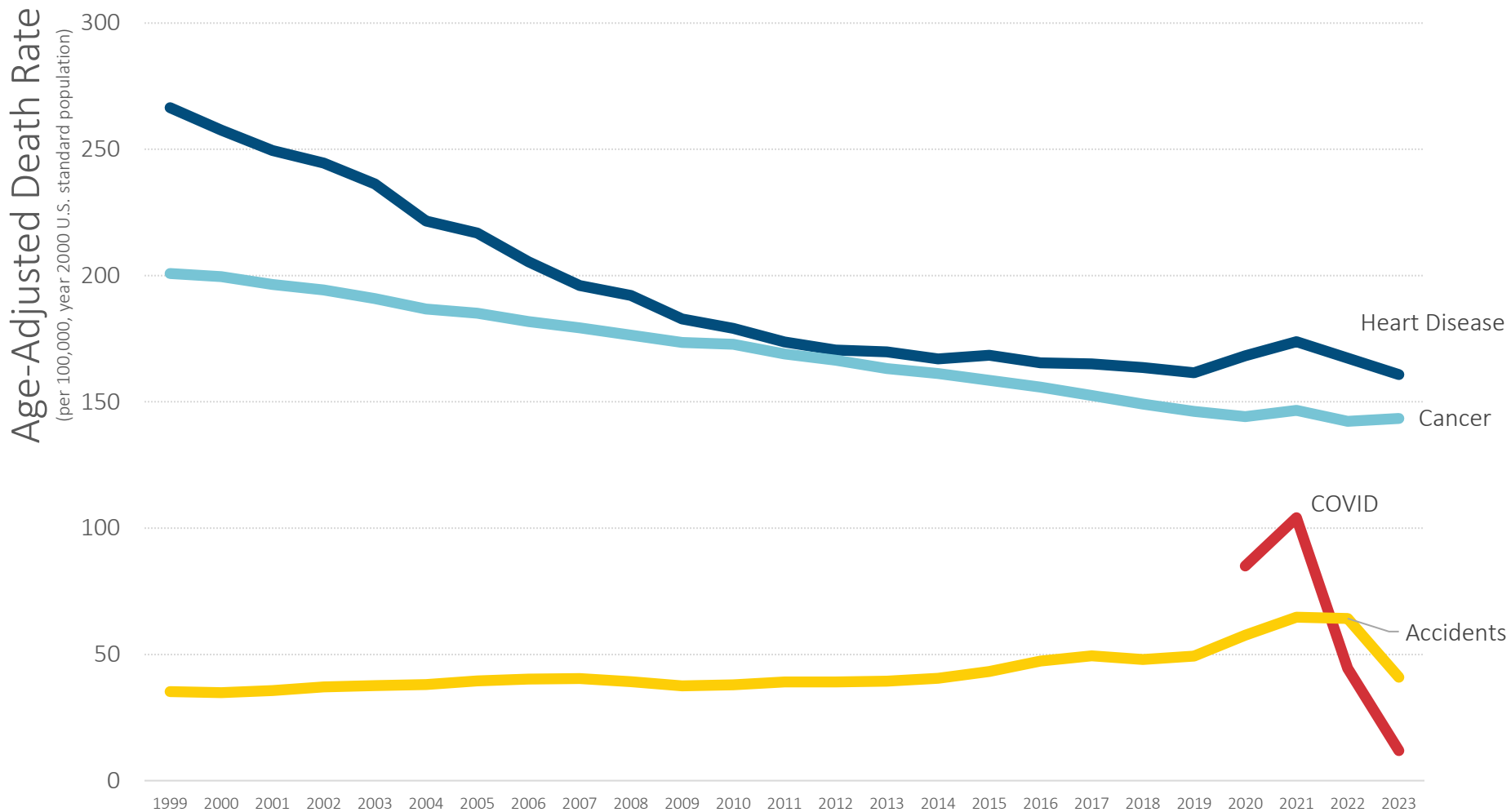
2020 2021 2022 2023



Source: CDC Wonder, data as of 28 Feb 2024

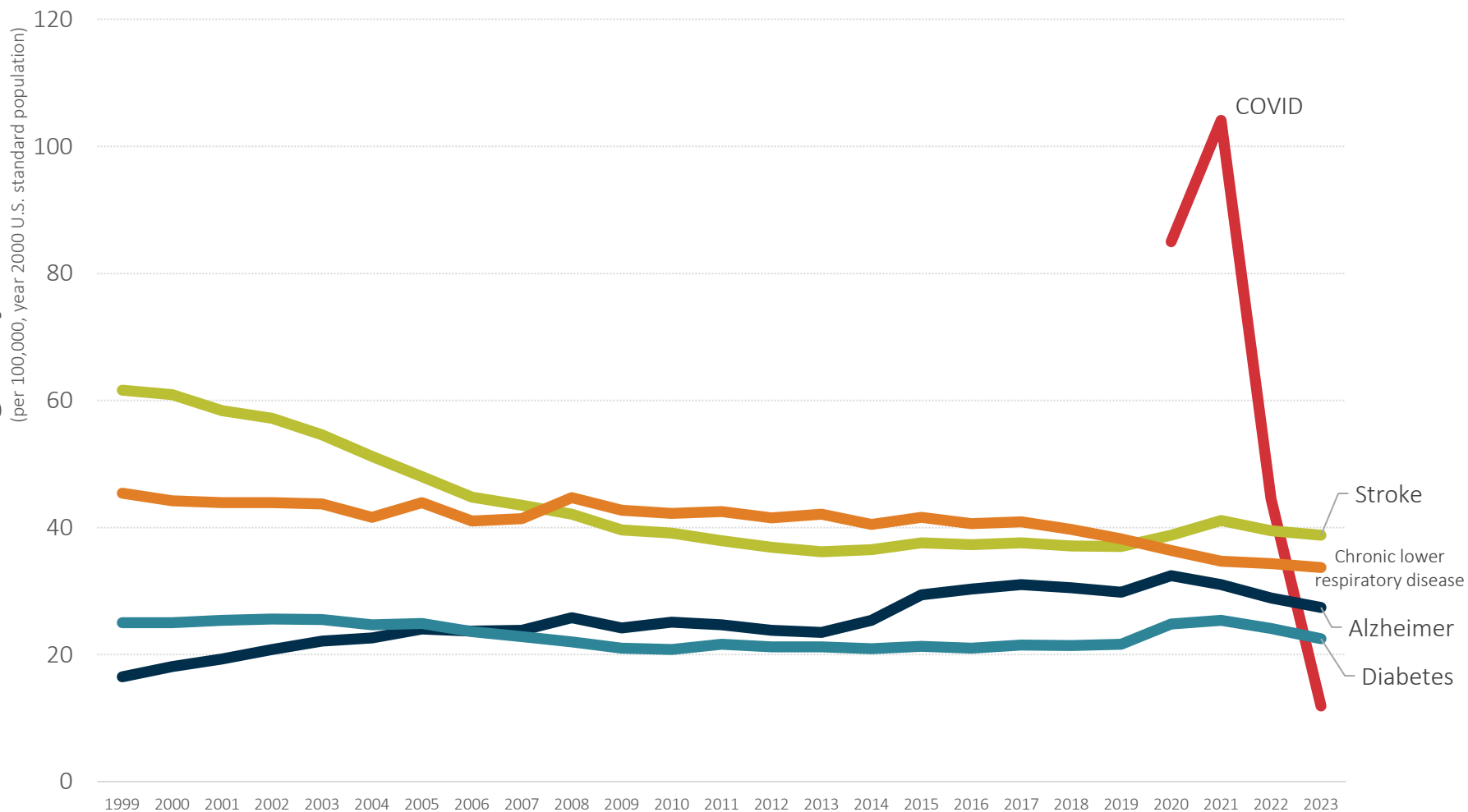
# Cause of death: Historical Trajectories





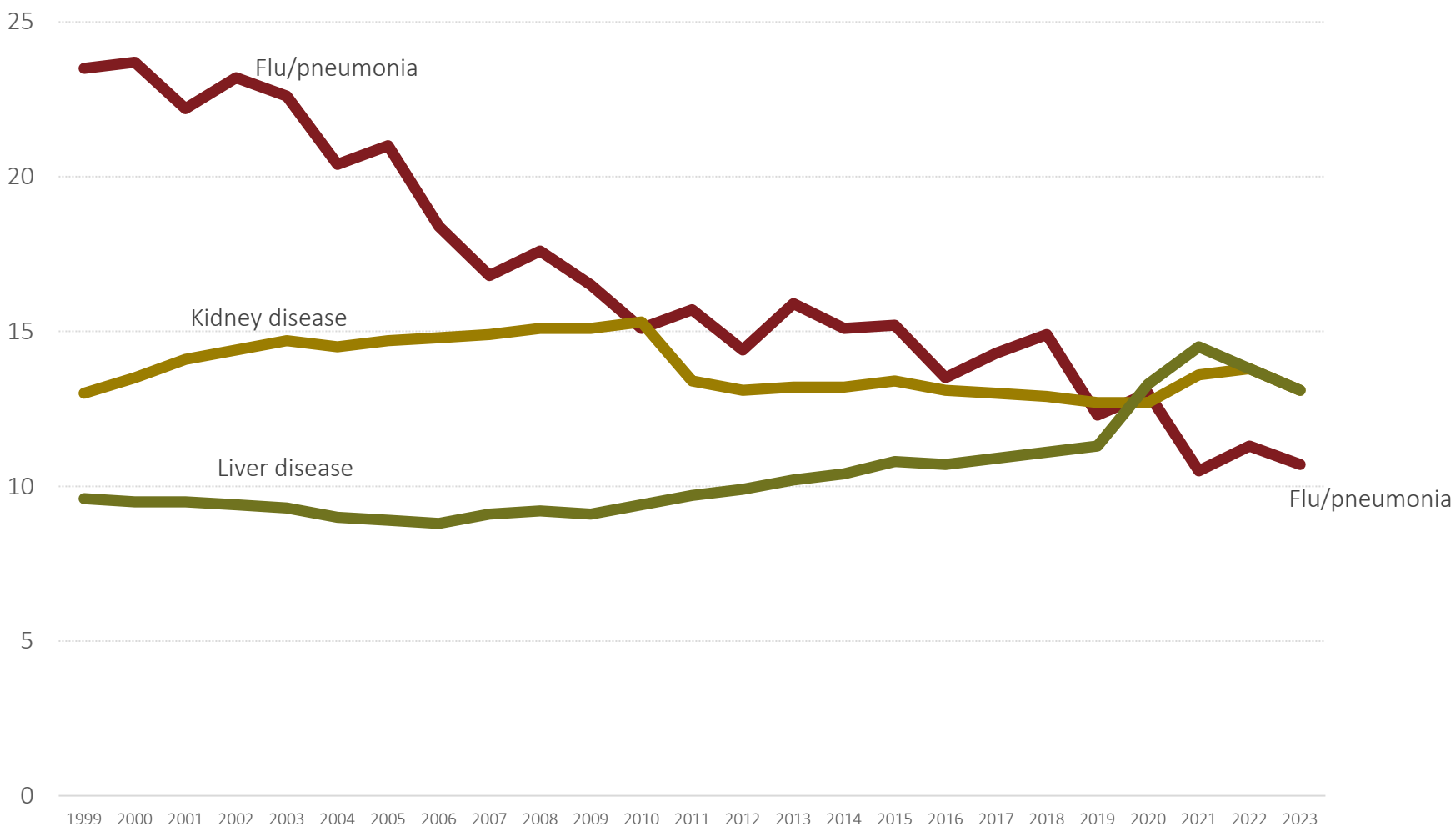
Source: CDC Wonder, data as of 28 Feb 2024, Accidents, Homicides, and Suicides include deaths only through the August 17, 2023, due to 6-month censoring of external causes of death.

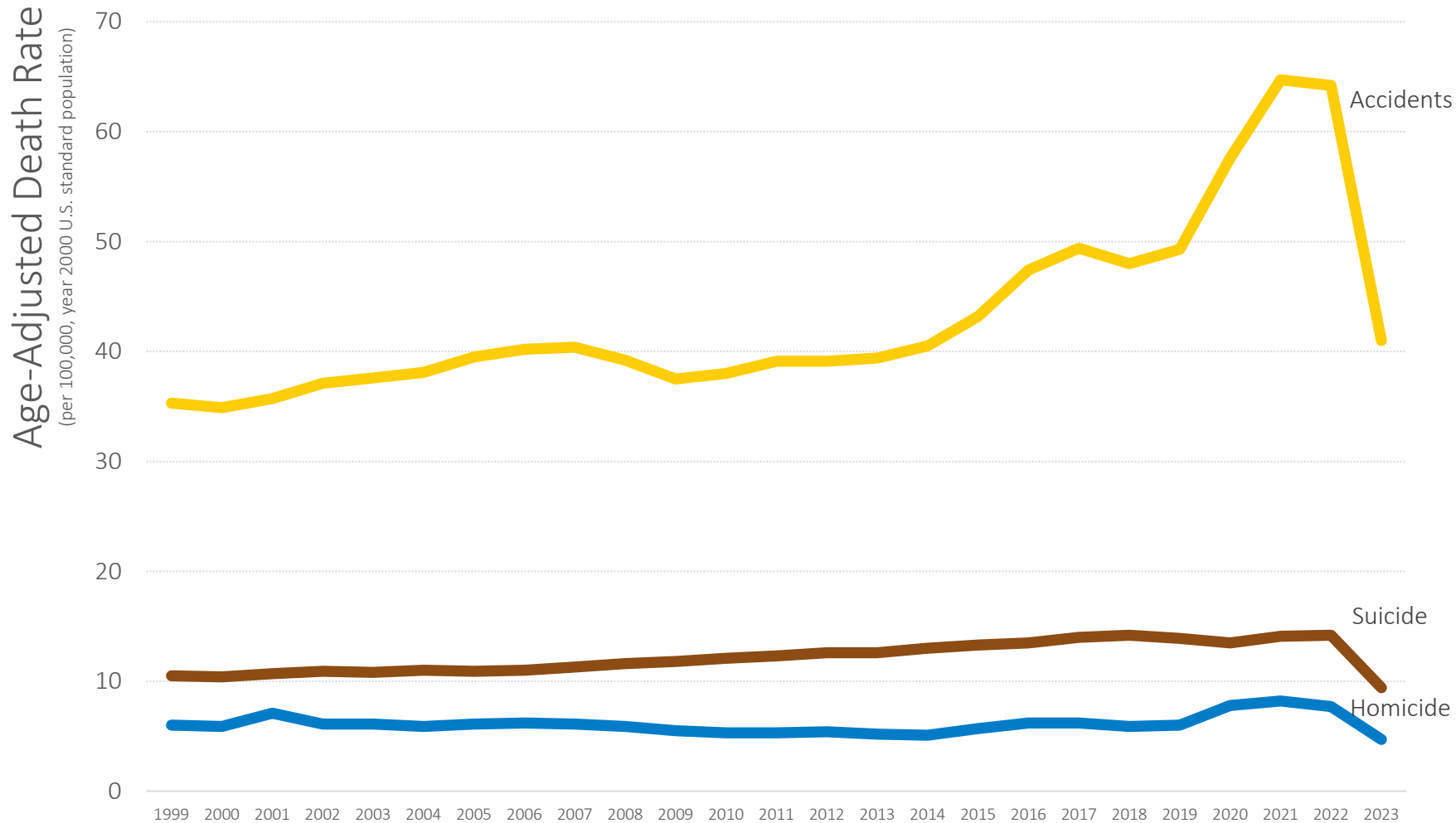
# Age-Adjusted Death Rate



# Age-Adjusted Death Rate

(per 100,000, year 2000 U.S. standard population)





Source: CDC Wonder, data as of 28 Feb 2024, Accidents, Homicides, and Suicides include deaths only through the August 17, 2023, due to 6-month censoring of external causes of death.

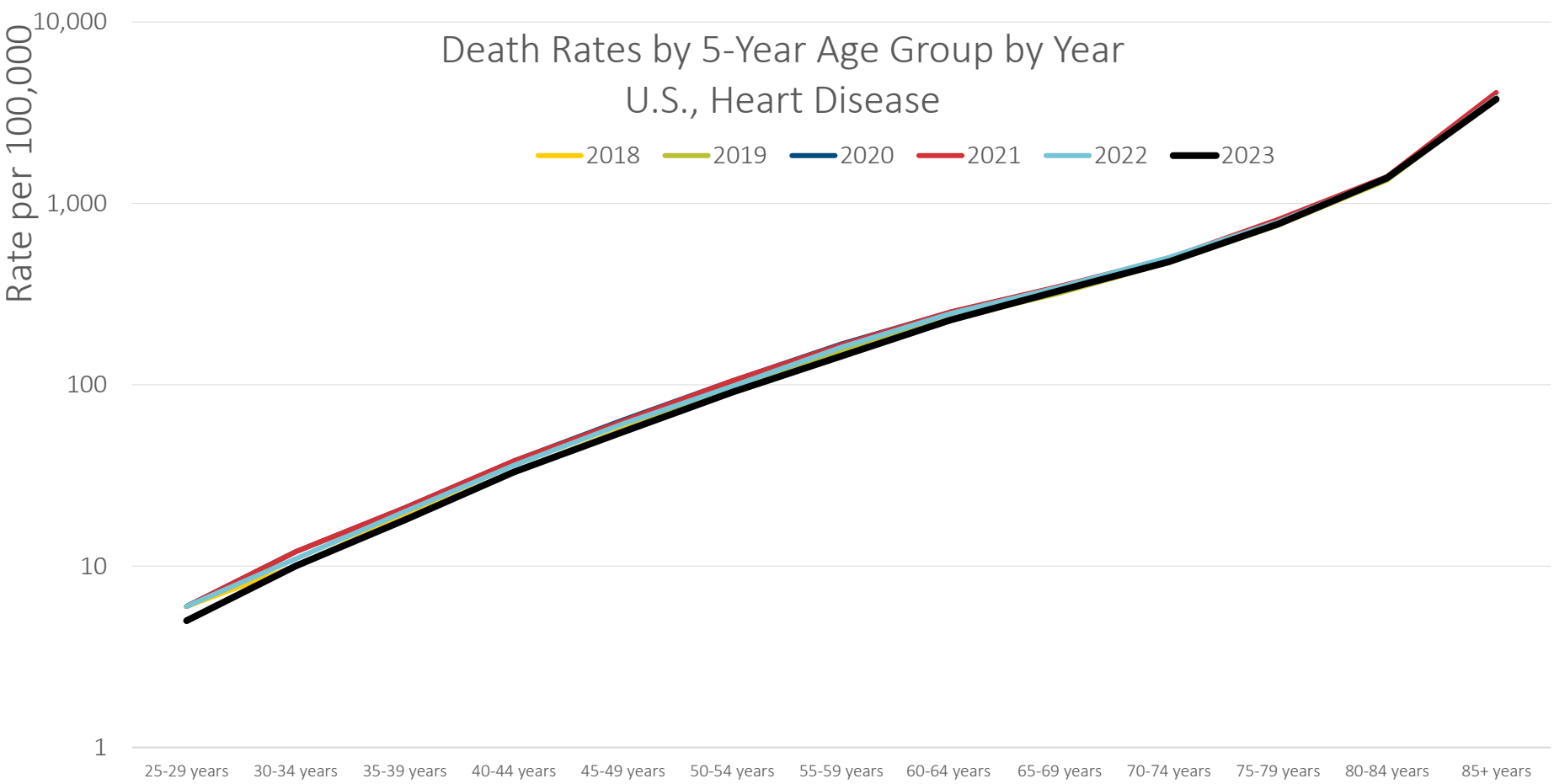


# Physiological causes



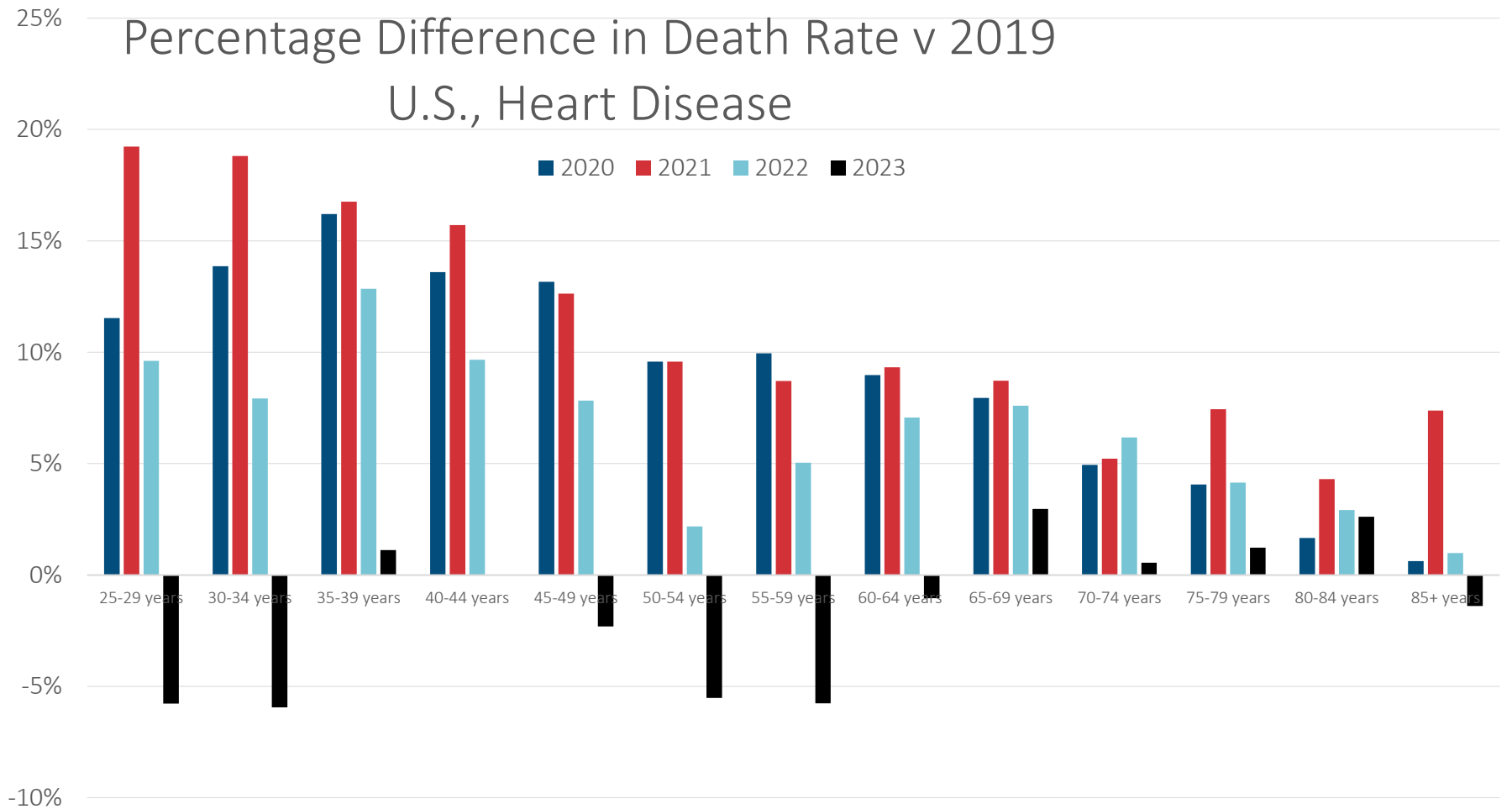
# Death Rates by 5-Year Age Group by Year U.S., Heart Disease

2018 2019 2020 2021 2022 2023



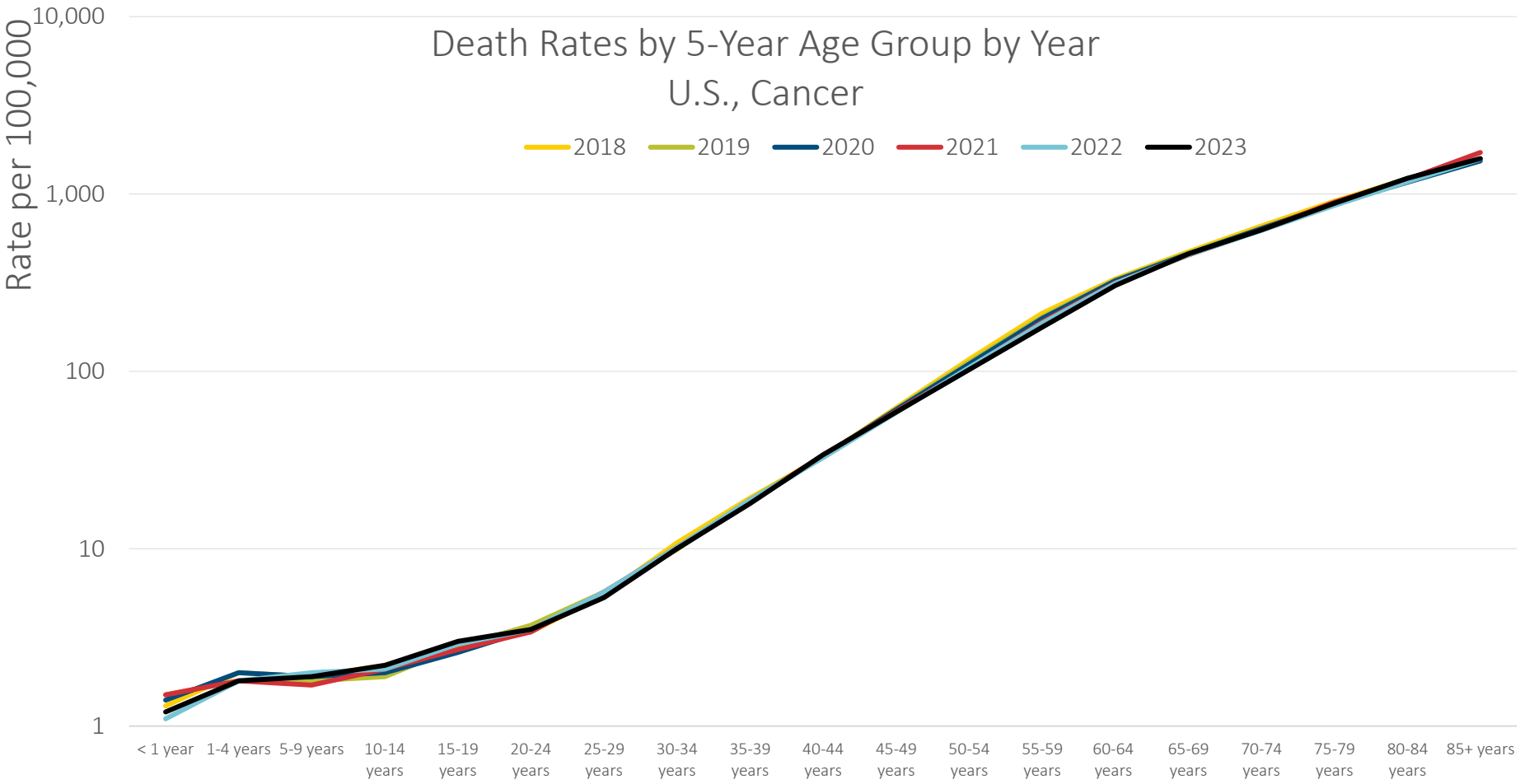
# Percentage Difference in Death Rate v 2019

## U.S., Heart Disease



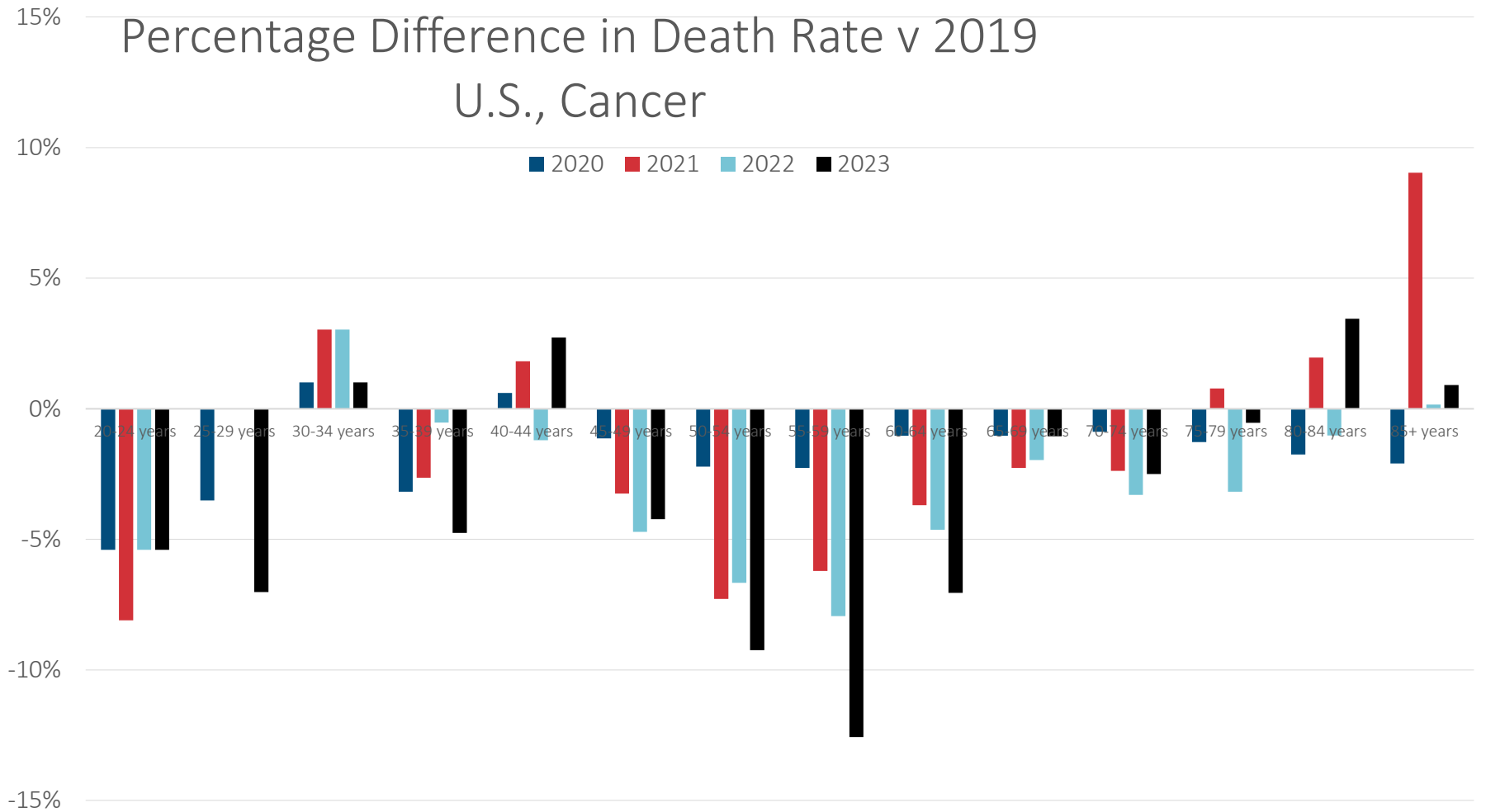
# Death Rates by 5-Year Age Group by Year U.S., Cancer

— 2018 — 2019 — 2020 — 2021 — 2022 — 2023



# Percentage Difference in Death Rate v 2019

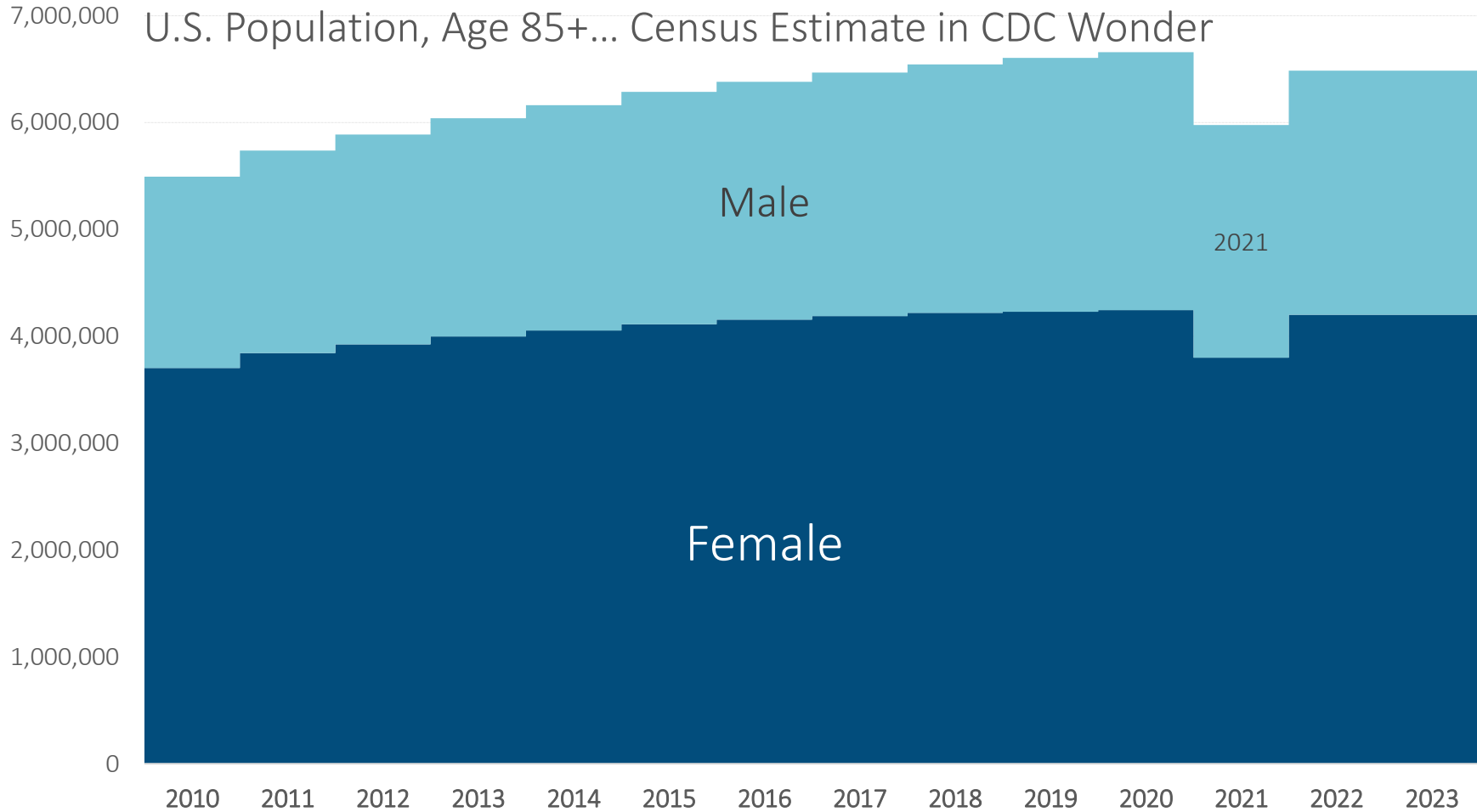
## U.S., Cancer



Interlude: the strange spike in cancer deaths age 85+ in 2021....



# U.S. Population, Age 85+... Census Estimate in CDC Wonder



# Yes, Really

## Provisional Mortality Statistics, 2018 through Last Week Results Deaths occurring through February 17, 2024 as of February 25, 2024

Request Form Results Map Chart About

[Multiple Cause of Death Data](#) [Dataset Documentation](#) [Other Data Access](#) [Help for Results](#) [Printing Tips](#) [Help with Exports](#) Save Export Reset

Quick Options More Options API Options Top Notes Citation Query Criteria

Ten-Year Age Groups: 85+ years

Year ↓	→ Deaths ↑↓	↔ Population ↑↓	← Crude Rate Per 100,000 ↑↓
2018	880,280	6,544,503	13,450.7
2019	873,746	6,604,958	13,228.6
2020	1,012,805	6,658,420	15,210.9
2021	940,780	5,975,756	15,743.3
2022 (provisional)	933,233	6,485,868	14,388.7
2023 (provisional)	884,391	6,485,868	13,635.7
2024 (provisional and partial)	118,769	6,485,868	1,831.2
<b>Total</b>	<b>5,644,004</b>	<b>45,241,241</b>	<b>12,475.4</b>

Top Options Notes Citation Query Criteria



# More Geeking Out

## **Geeking Out: In Death Rates, the Denominator Is Also Important**

<https://marypatcampbell.substack.com/p/geeking-out-in-death-rates-the-denominator>

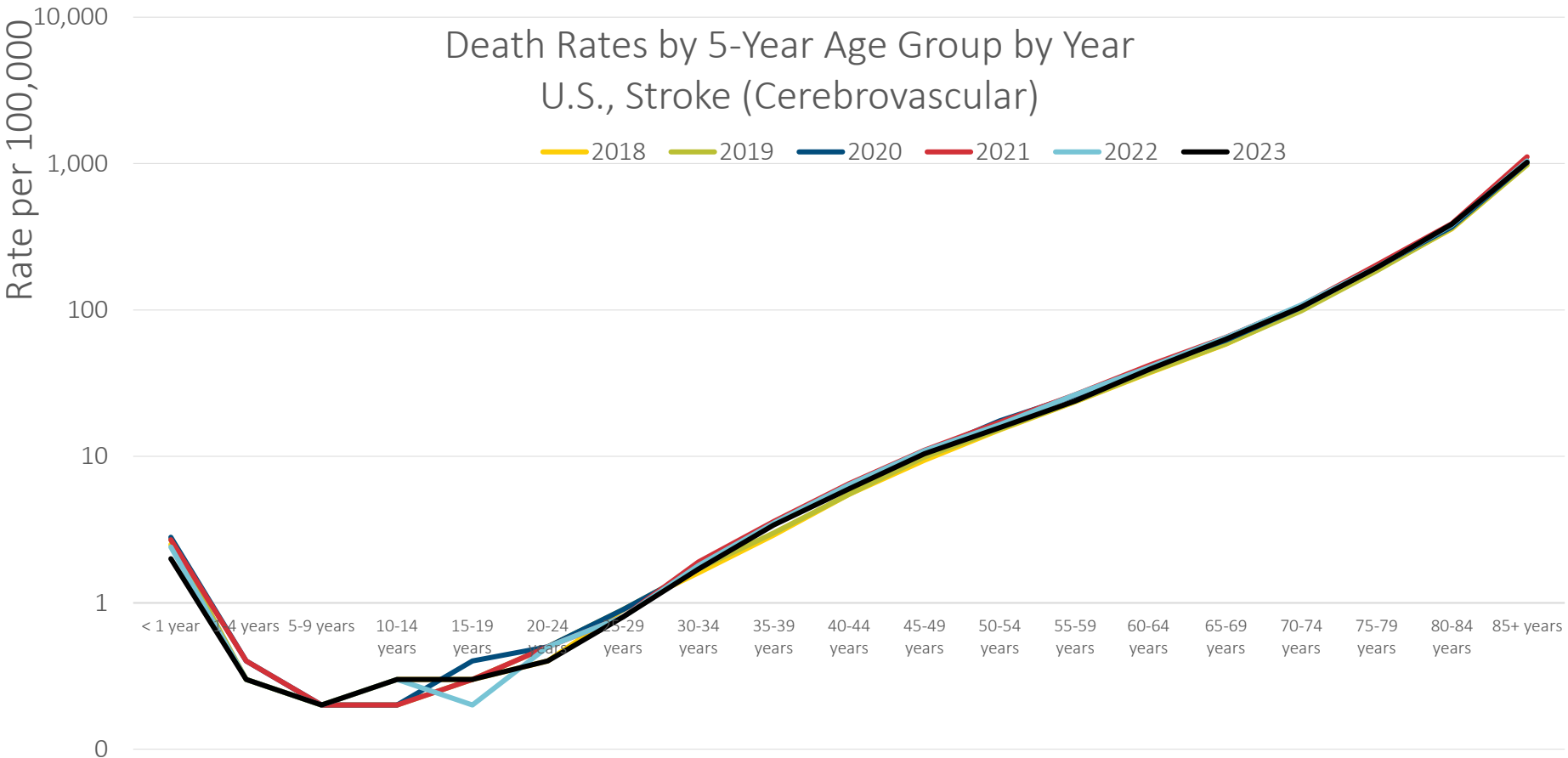
3 March 2024

# Physiological Causes



# Death Rates by 5-Year Age Group by Year U.S., Stroke (Cerebrovascular)

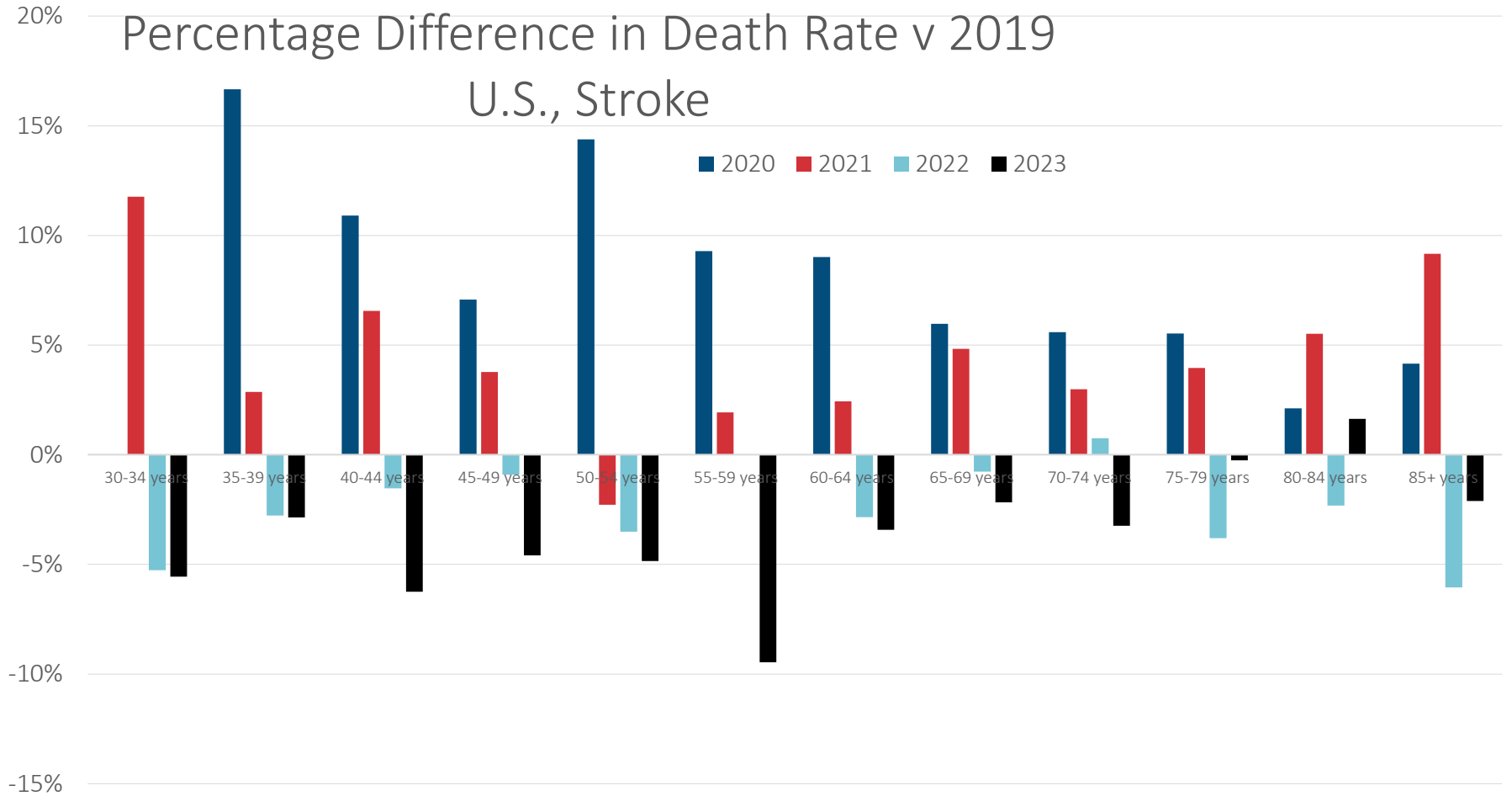
— 2018 — 2019 — 2020 — 2021 — 2022 — 2023



# Percentage Difference in Death Rate v 2019

## U.S., Stroke

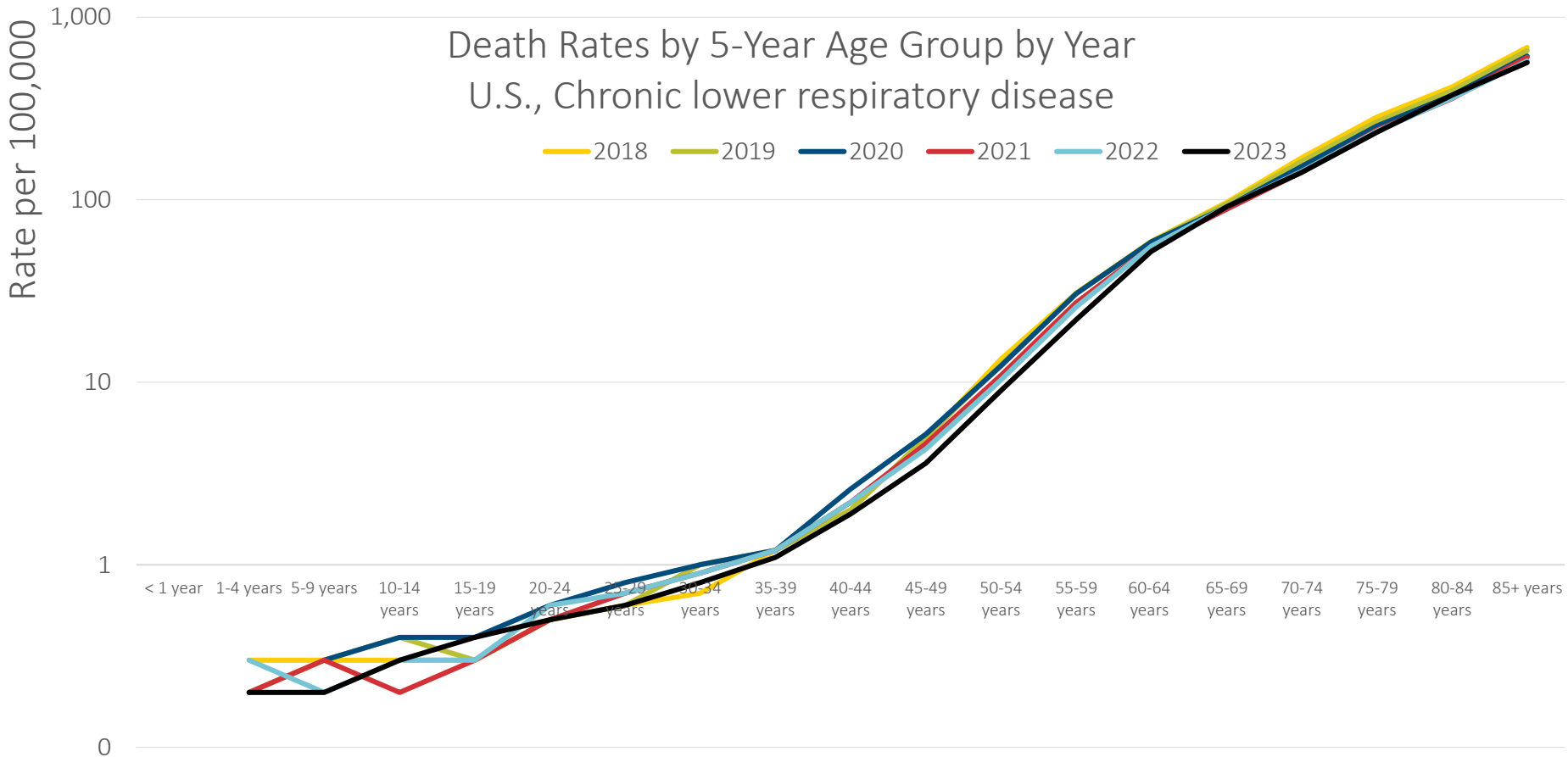
2020 2021 2022 2023



# Death Rates by 5-Year Age Group by Year

## U.S., Chronic lower respiratory disease

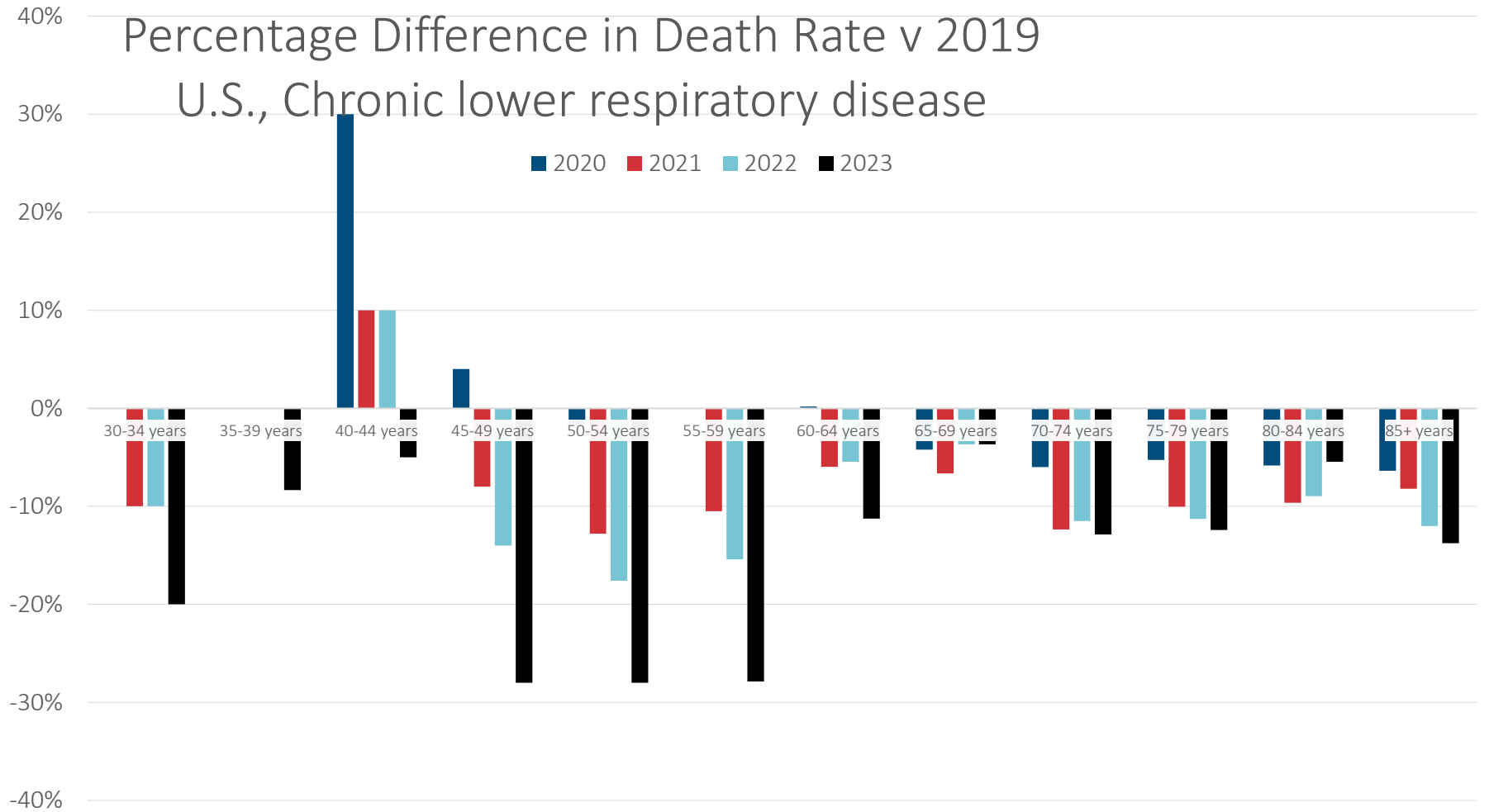
— 2018 — 2019 — 2020 — 2021 — 2022 — 2023



# Percentage Difference in Death Rate v 2019

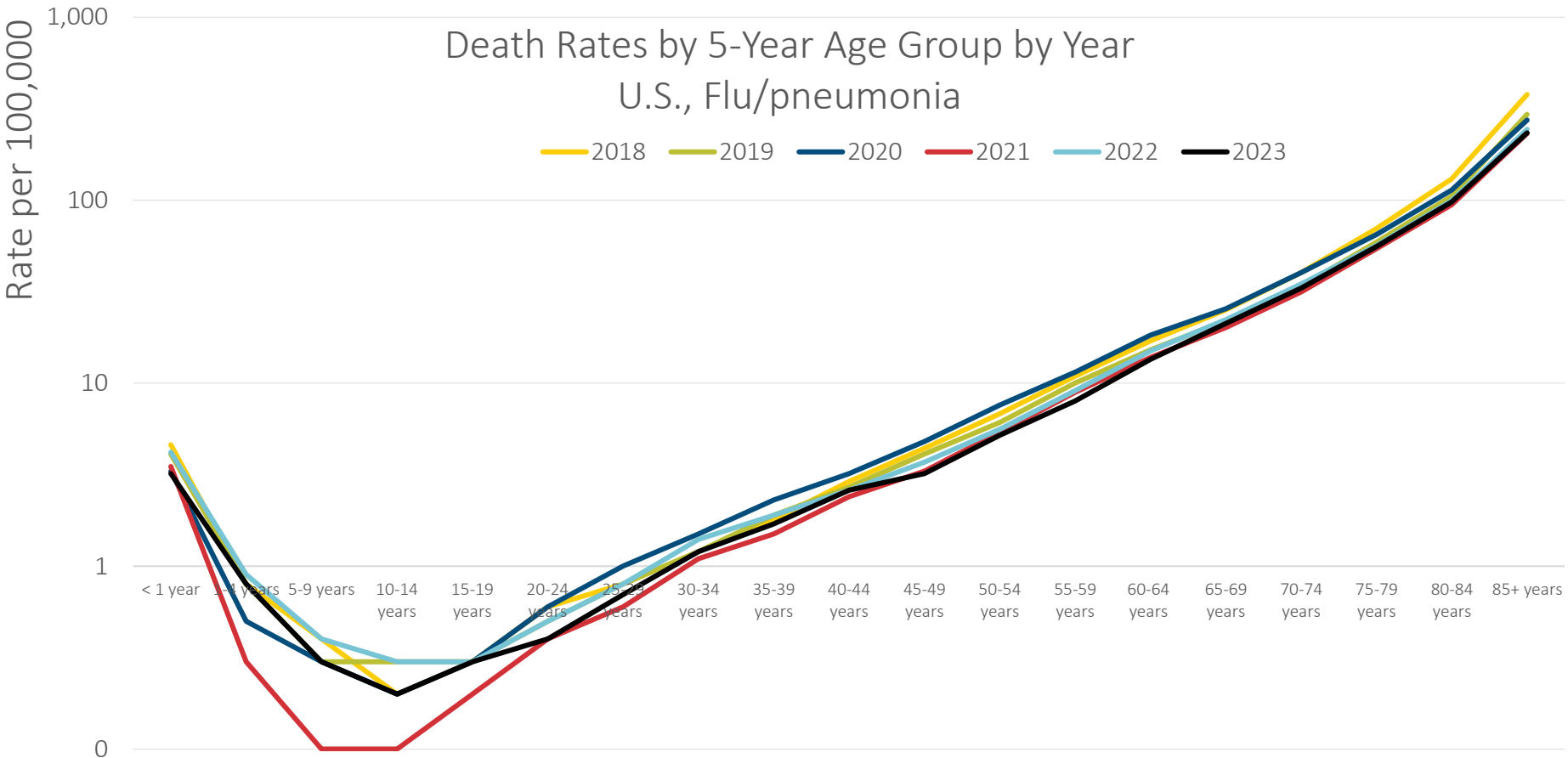
## U.S., Chronic lower respiratory disease

■ 2020 ■ 2021 ■ 2022 ■ 2023



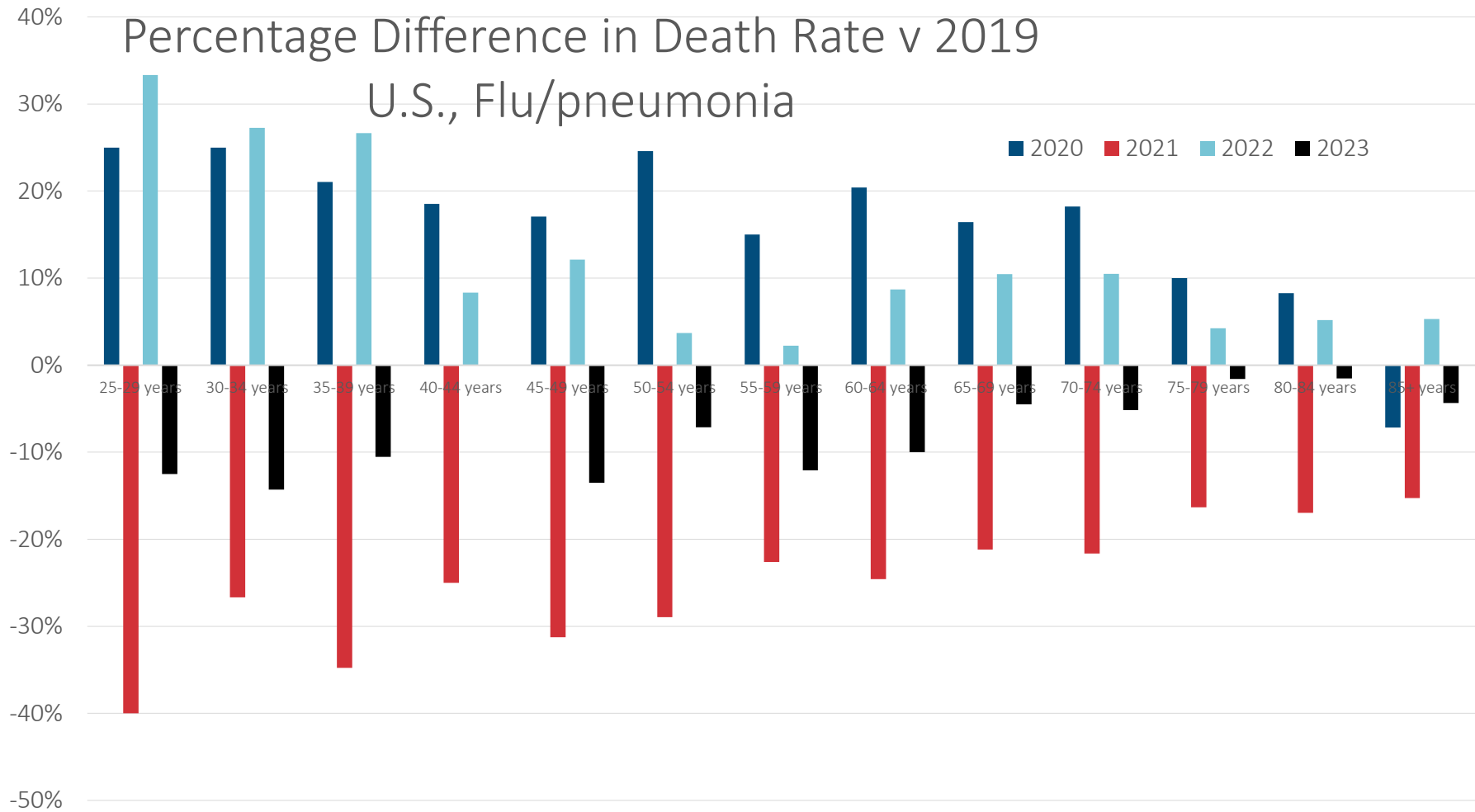
# Death Rates by 5-Year Age Group by Year U.S., Flu/pneumonia

— 2018 — 2019 — 2020 — 2021 — 2022 — 2023



# Percentage Difference in Death Rate v 2019

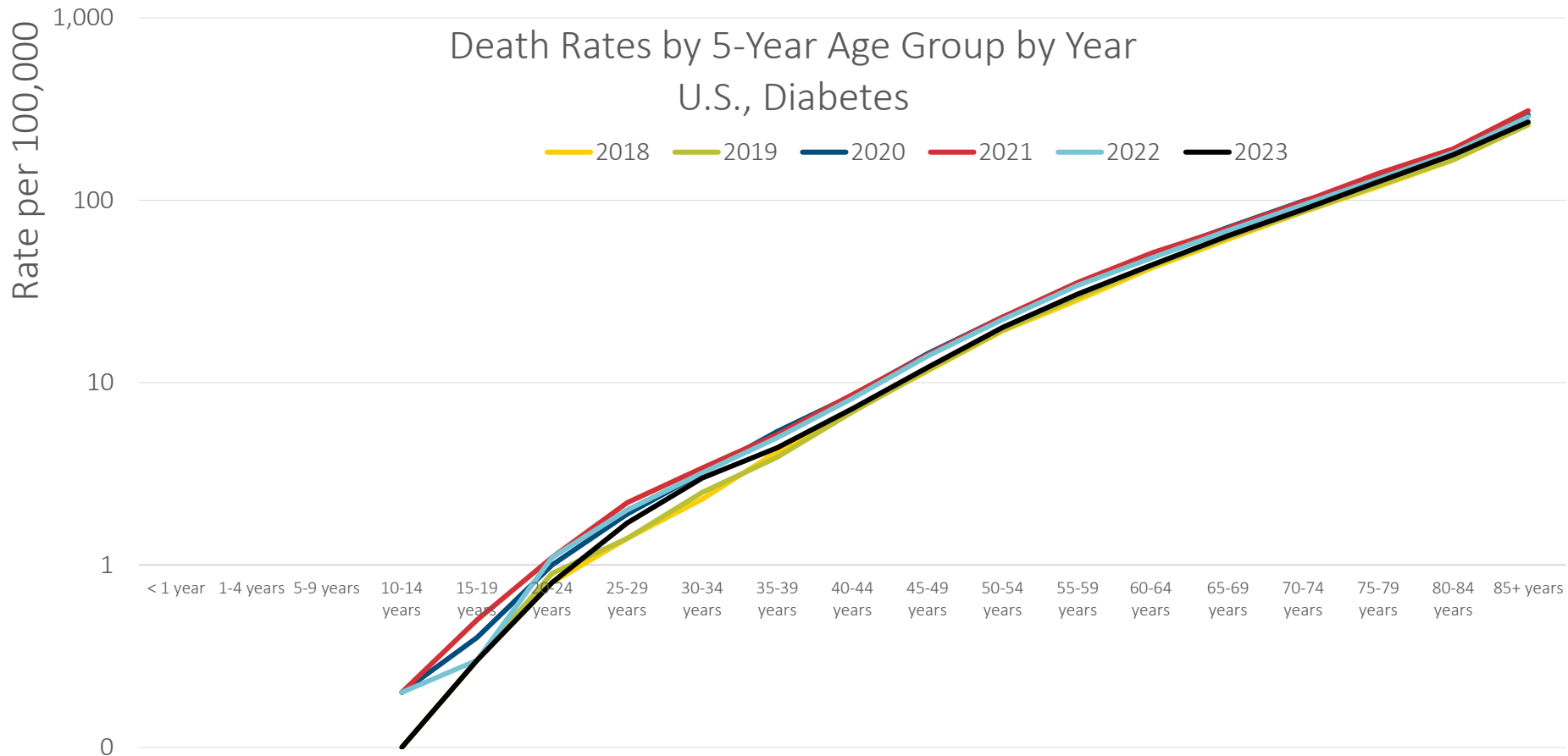
## U.S., Flu/pneumonia





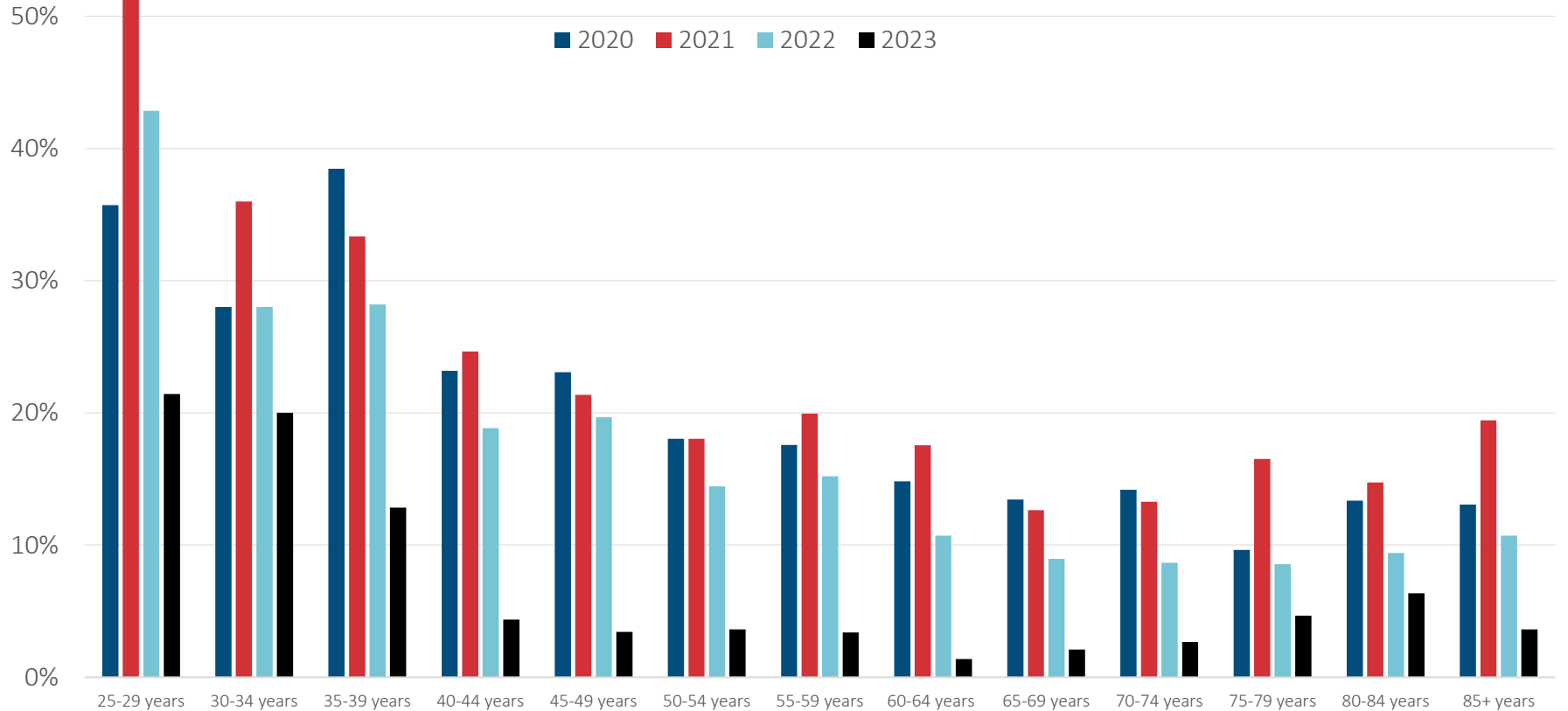
# Death Rates by 5-Year Age Group by Year U.S., Diabetes

— 2018 — 2019 — 2020 — 2021 — 2022 — 2023



# Percentage Difference in Death Rate v 2019

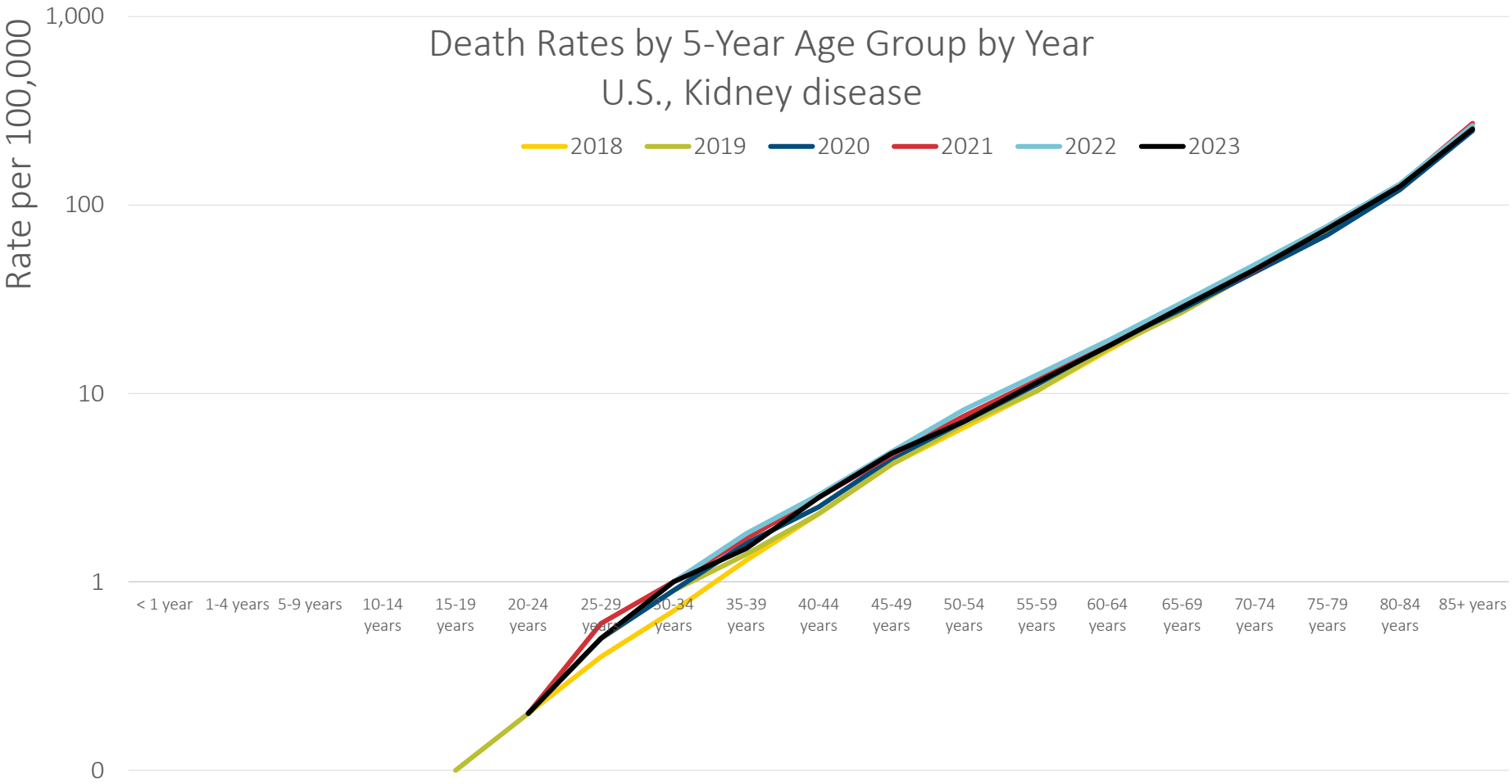
## U.S., Diabetes



# Death Rates by 5-Year Age Group by Year

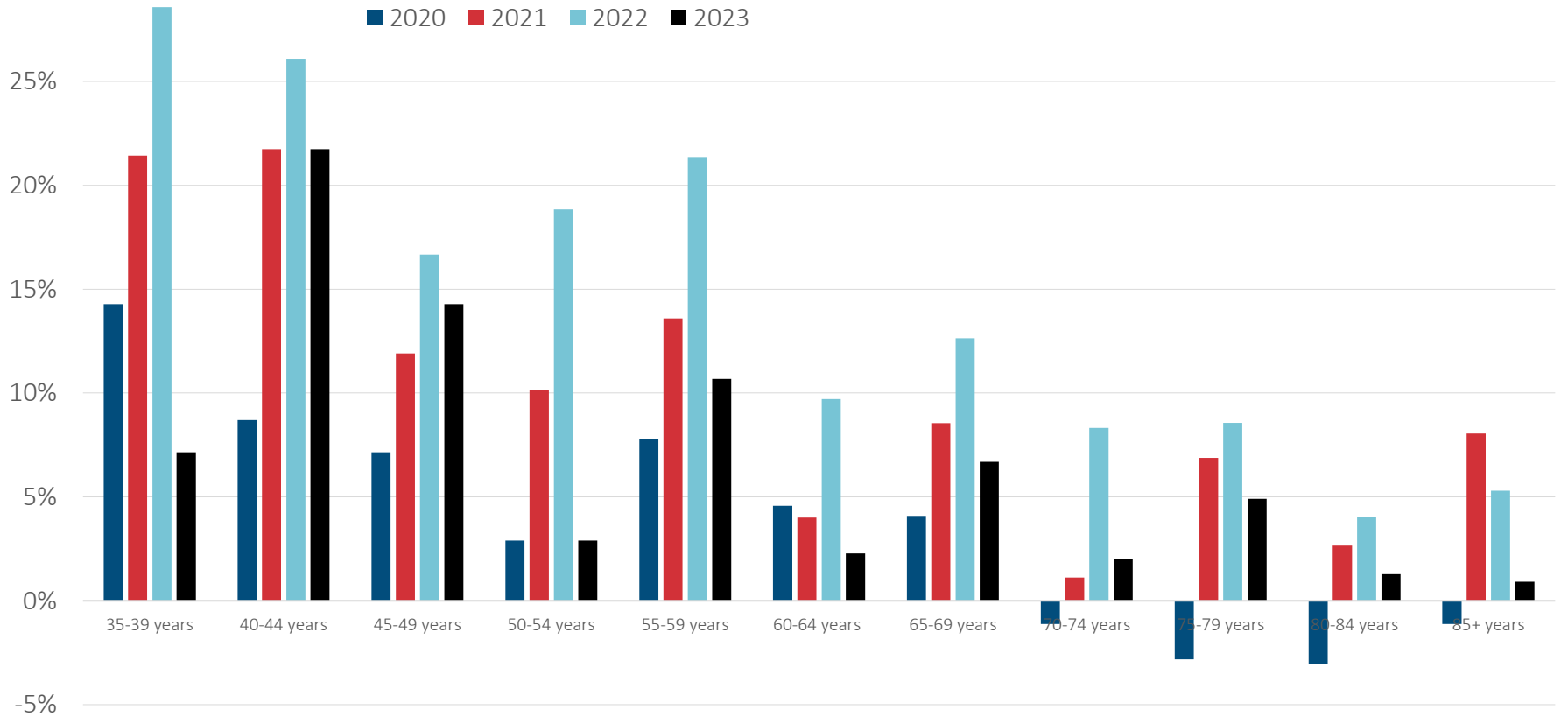
## U.S., Kidney disease

2018 2019 2020 2021 2022 2023



# Percentage Difference in Death Rate v 2019

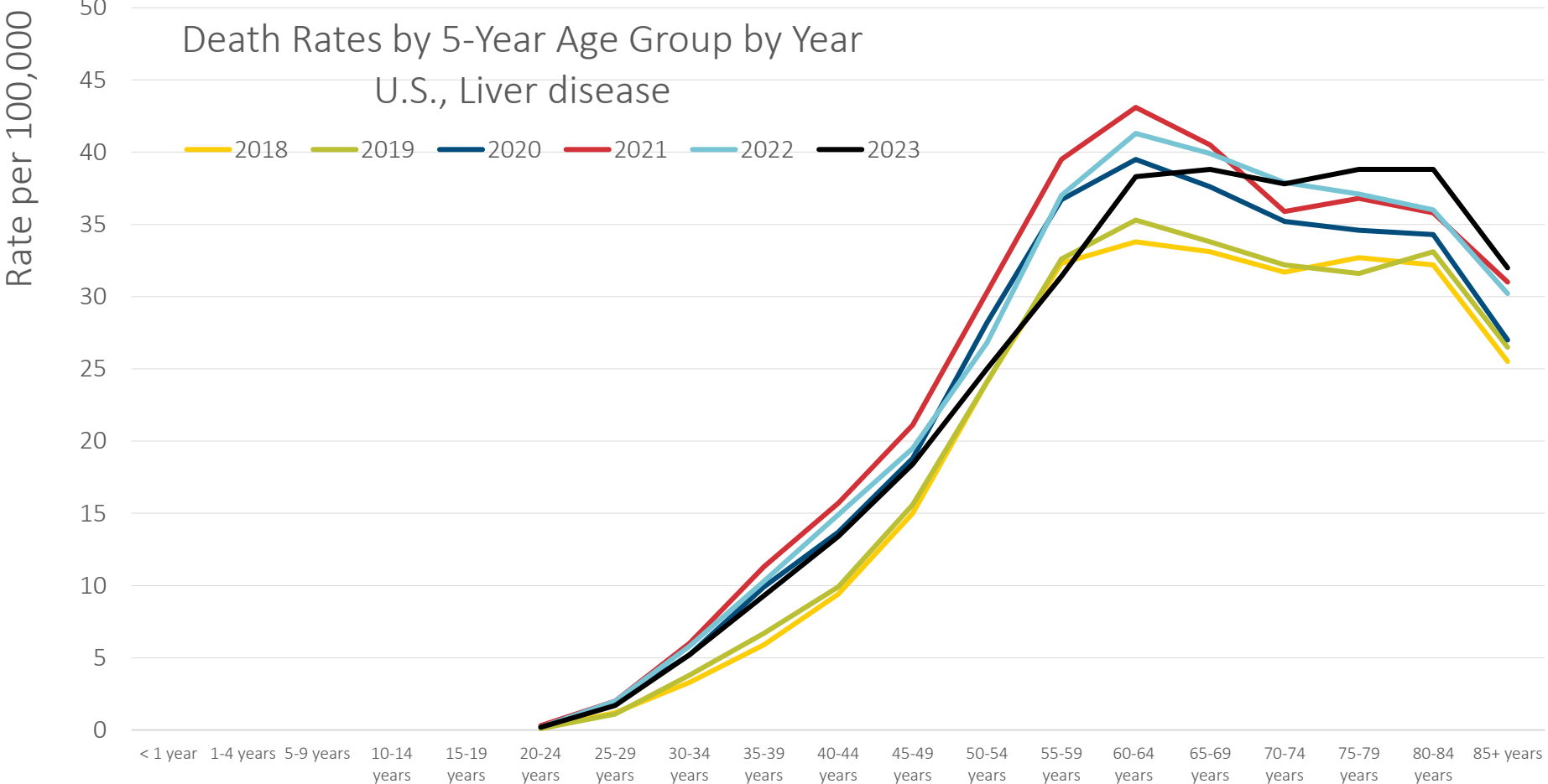
## U.S., Kidney Disease



# Death Rates by 5-Year Age Group by Year

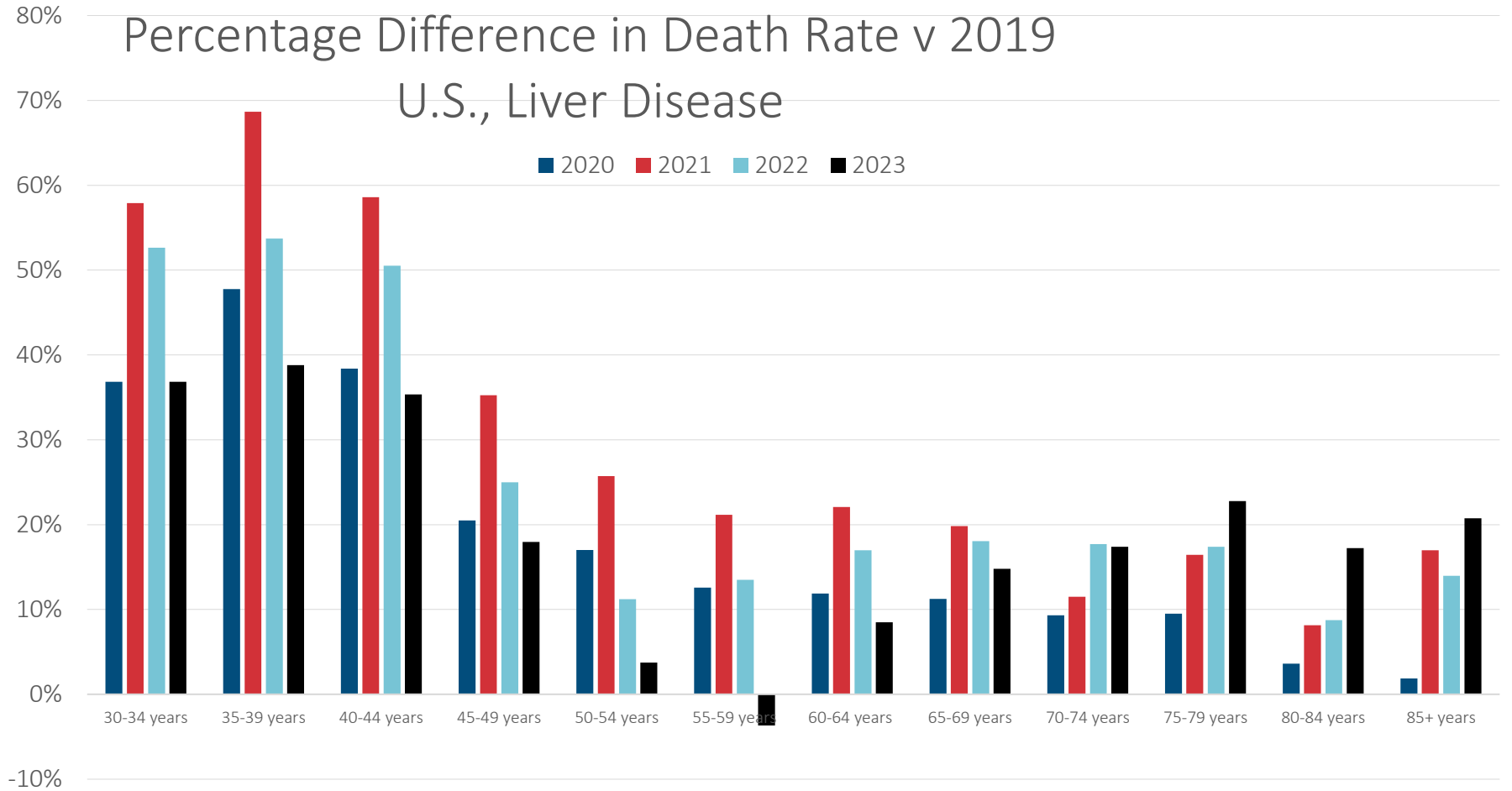
## U.S., Liver disease

2018 2019 2020 2021 2022 2023



# Percentage Difference in Death Rate v 2019

## U.S., Liver Disease



# External causes

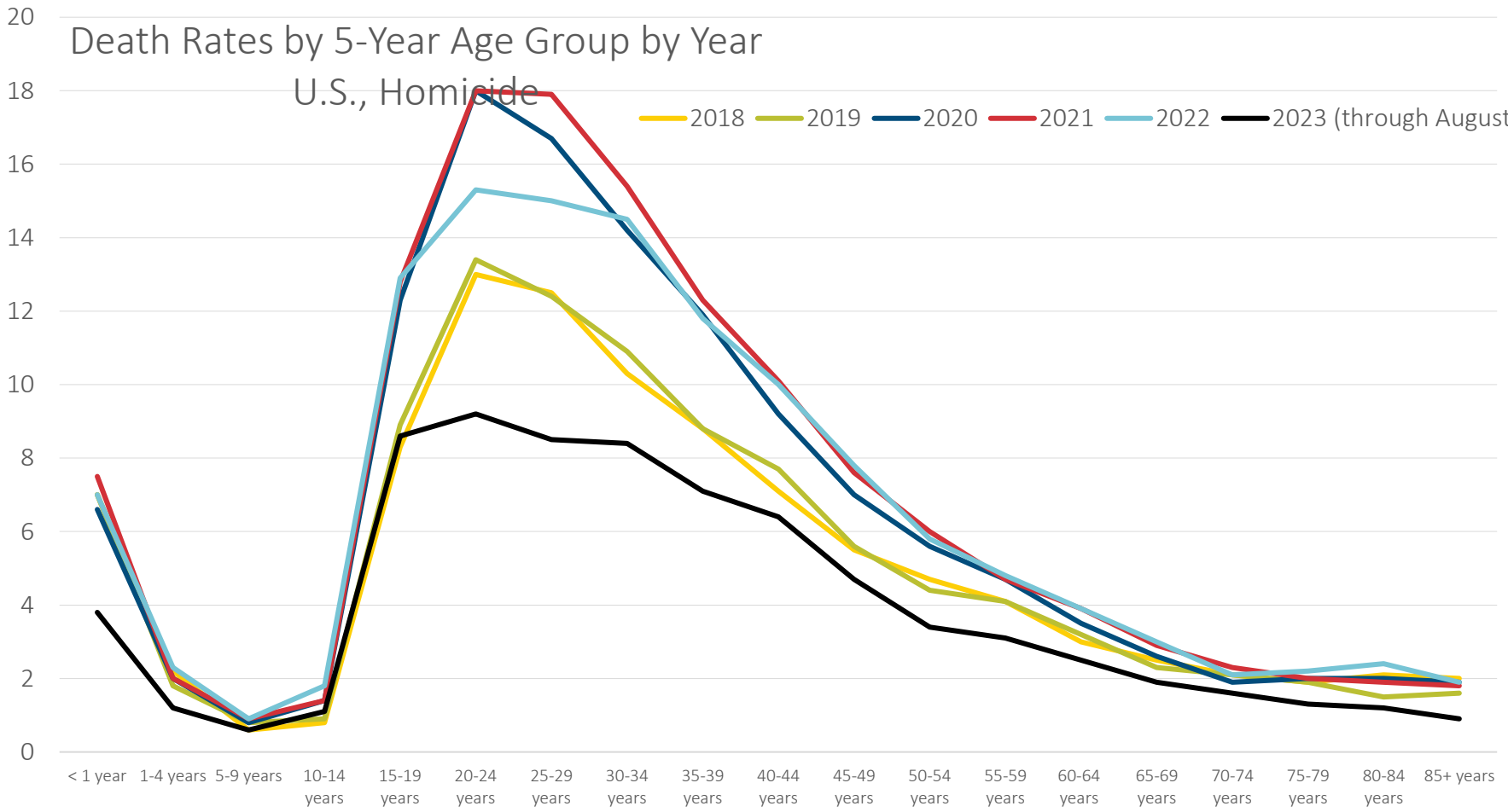


Rate per 100,000

# Death Rates by 5-Year Age Group by Year

U.S., Homicide

2018 2019 2020 2021 2022 2023 (through August)



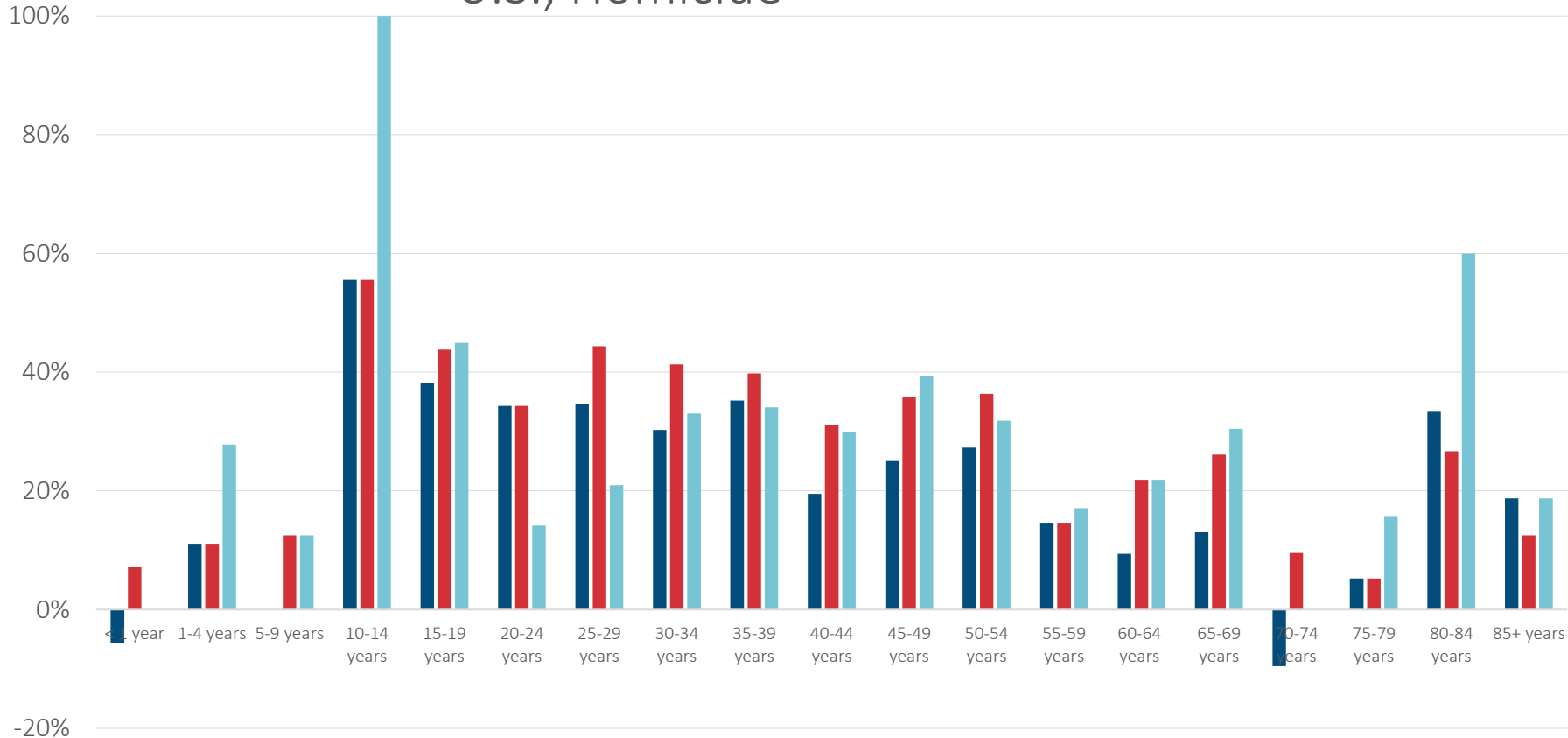
Source: CDC Wonder, data as of 28 Feb 2024, external causes censored for 6 months



# Percentage Difference in Death Rate v 2019

## U.S., Homicide

■ 2020 ■ 2021 ■ 2022

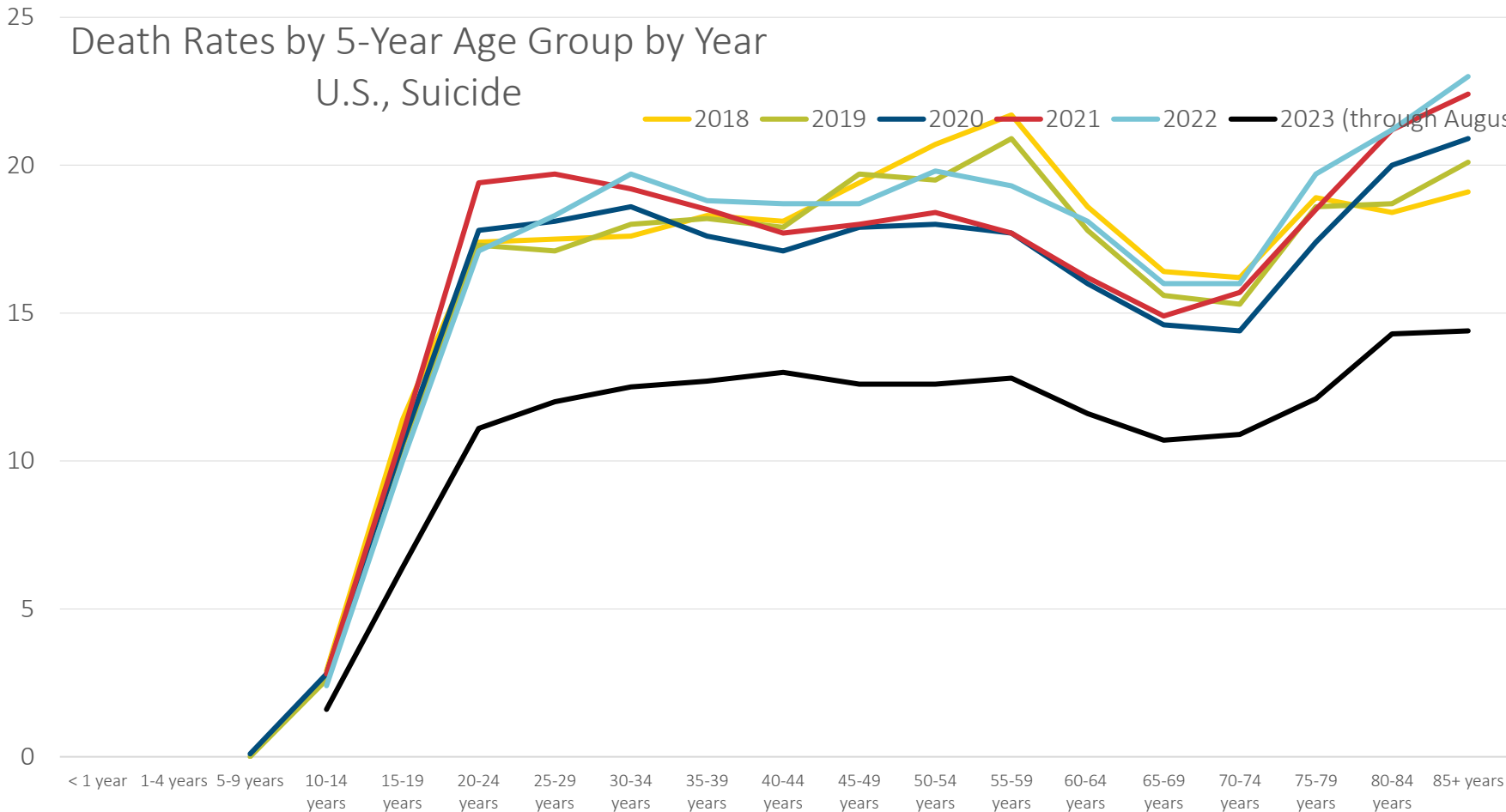


Rate per 100,000

# Death Rates by 5-Year Age Group by Year

## U.S., Suicide

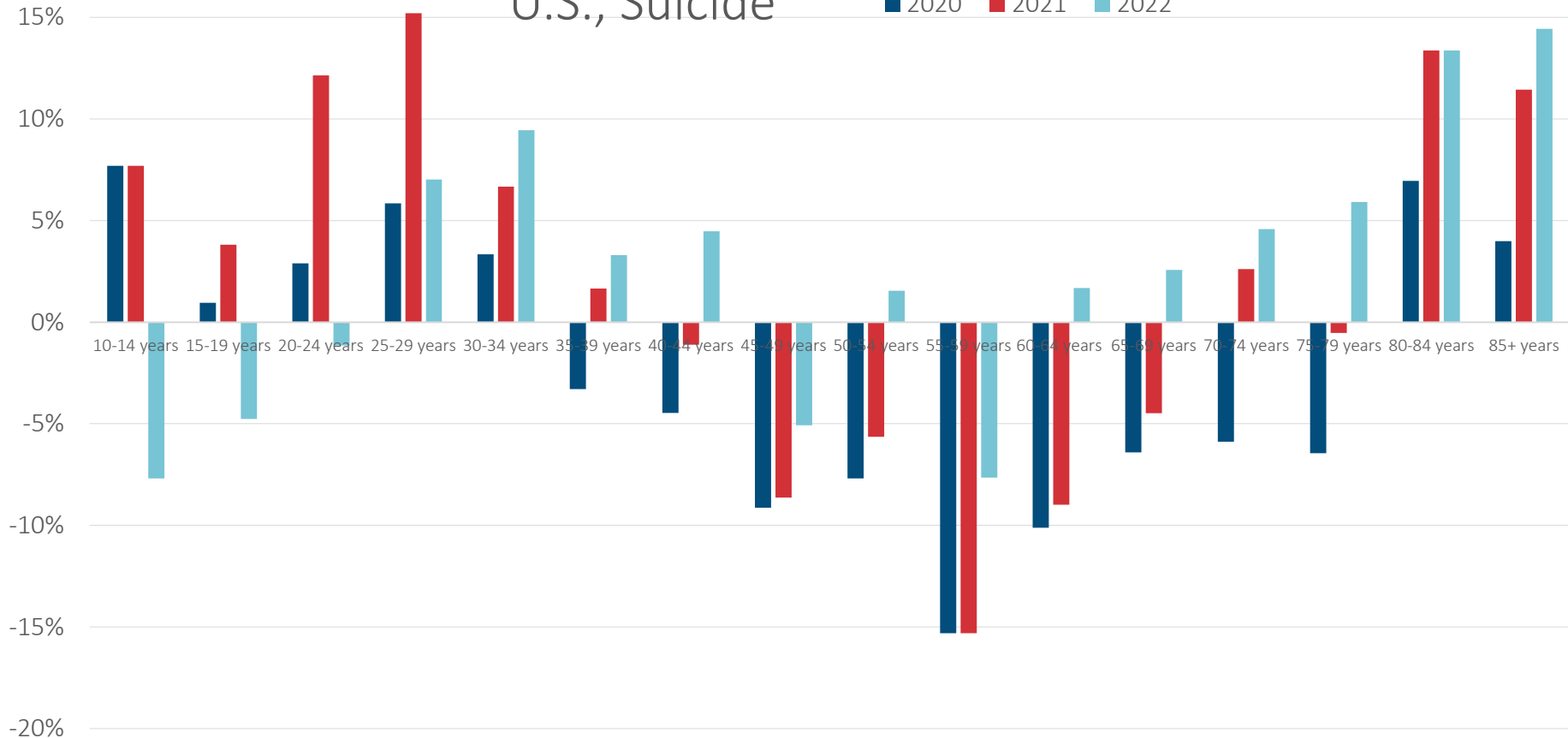
2018 2019 2020 2021 2022 2023 (through August)



# Percentage Difference in Death Rate v 2019

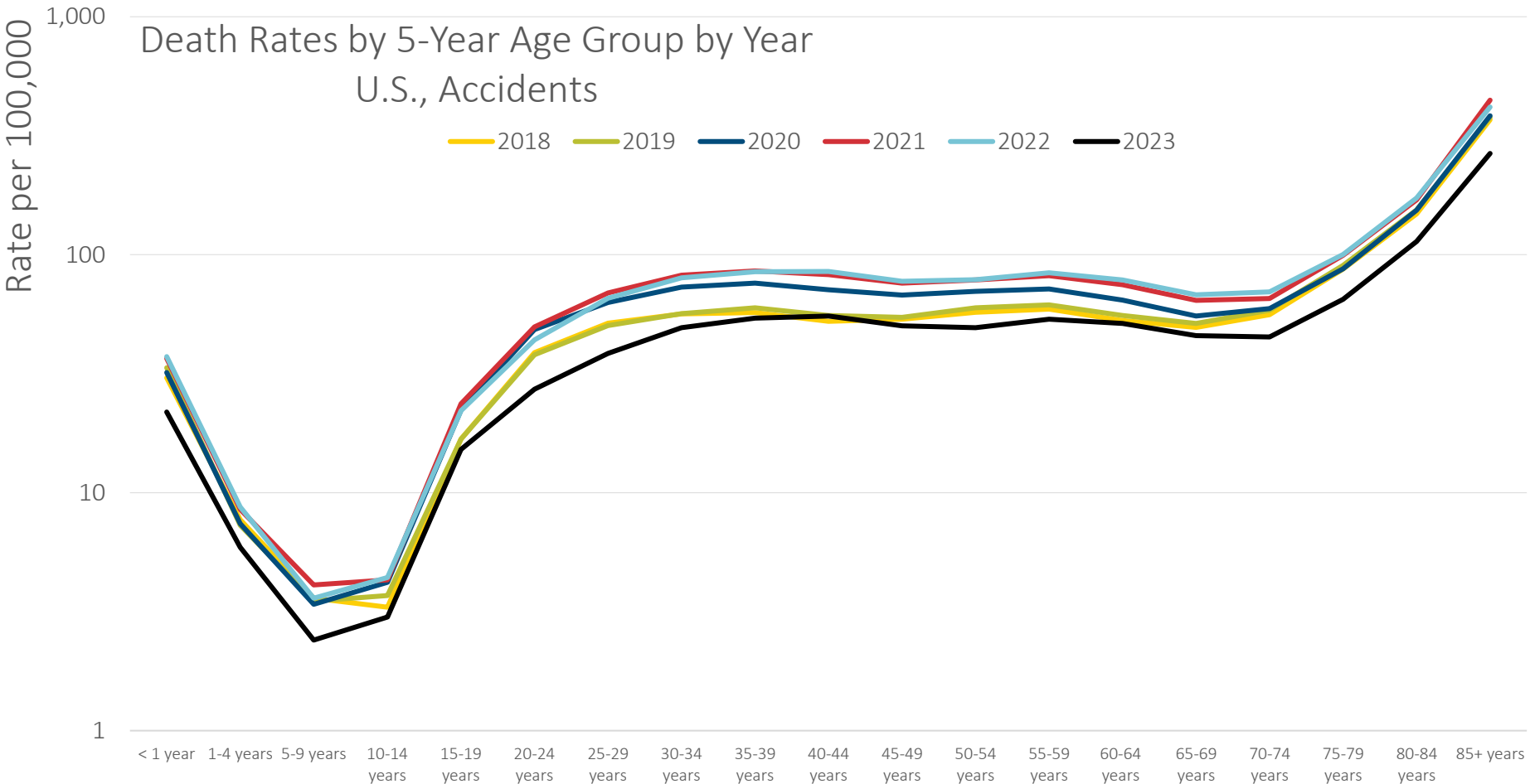
## U.S., Suicide

2020 2021 2022



# Death Rates by 5-Year Age Group by Year U.S., Accidents

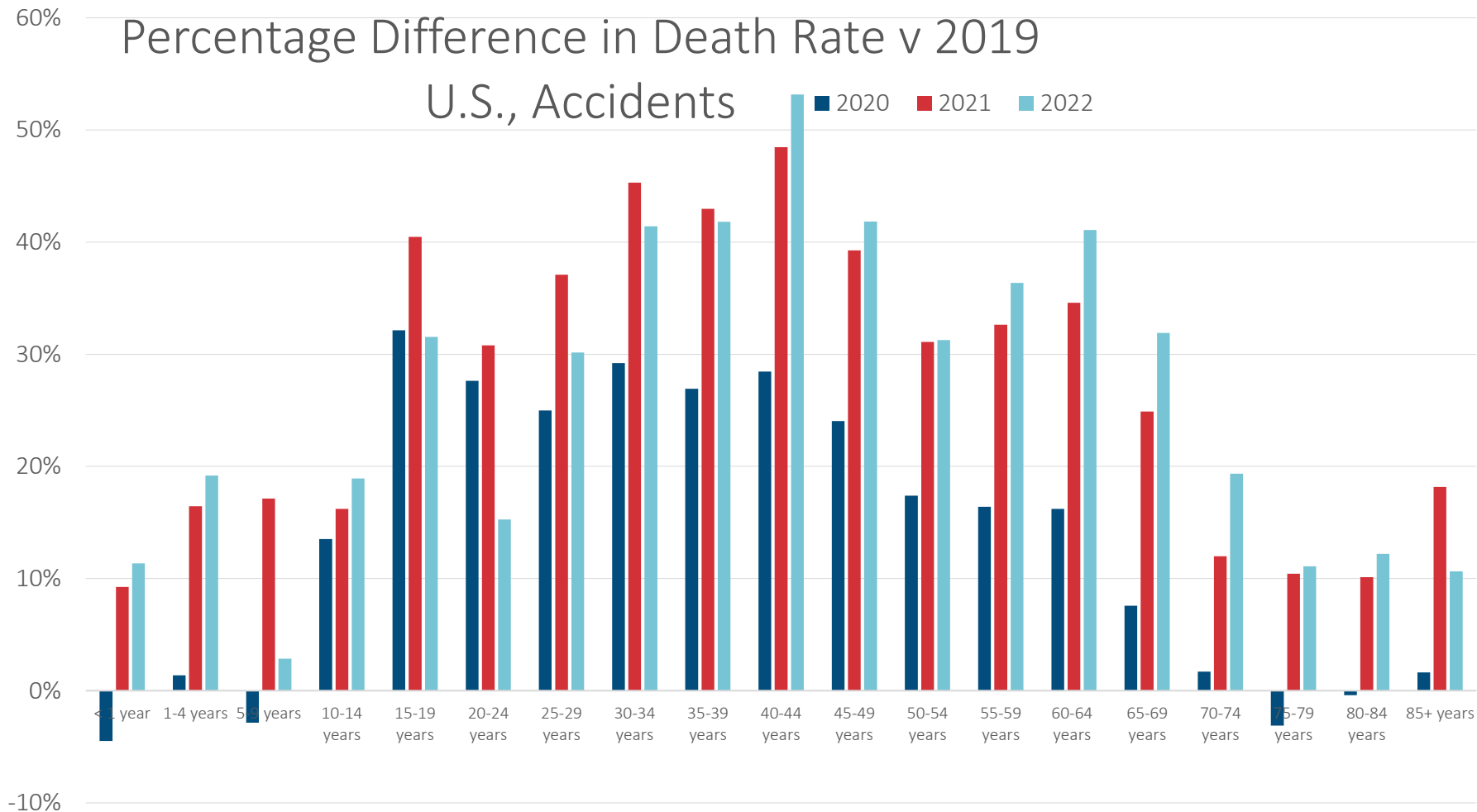
2018 2019 2020 2021 2022 2023

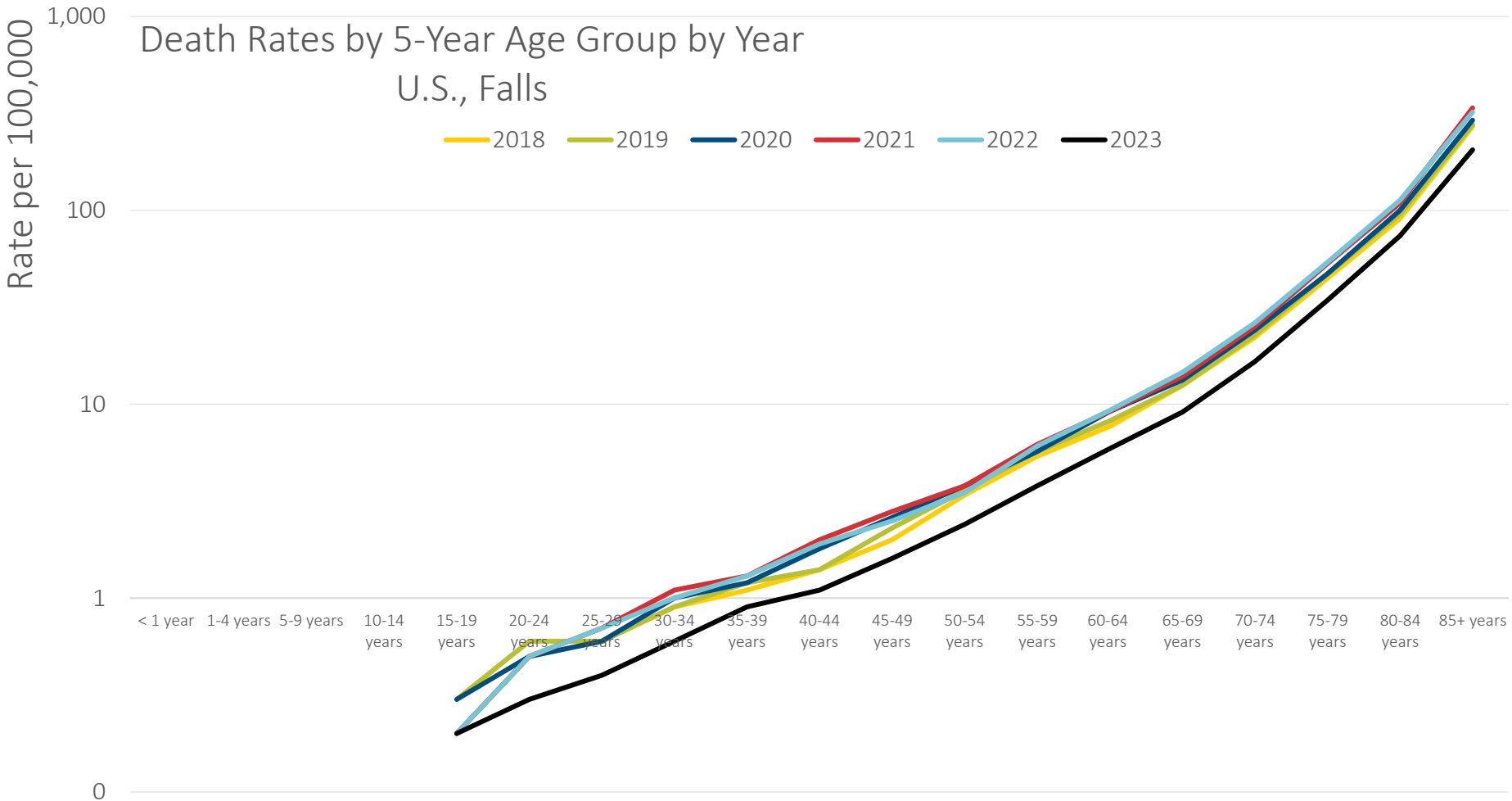


Source: CDC Wonder, data as of 28 Feb 2024

# Percentage Difference in Death Rate v 2019

## U.S., Accidents

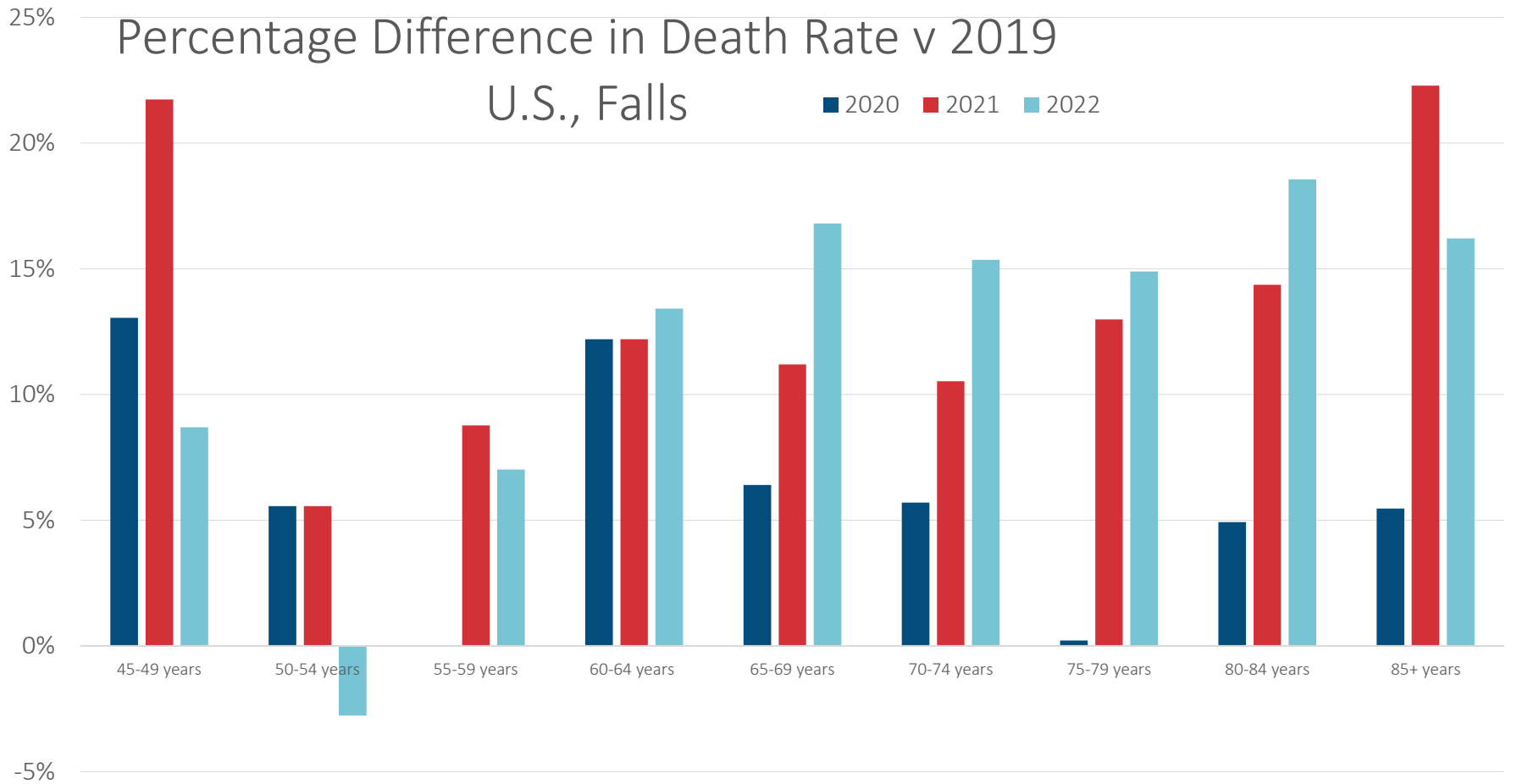




Source: CDC Wonder, data as of 28 Feb 2024

# Percentage Difference in Death Rate v 2019

## U.S., Falls

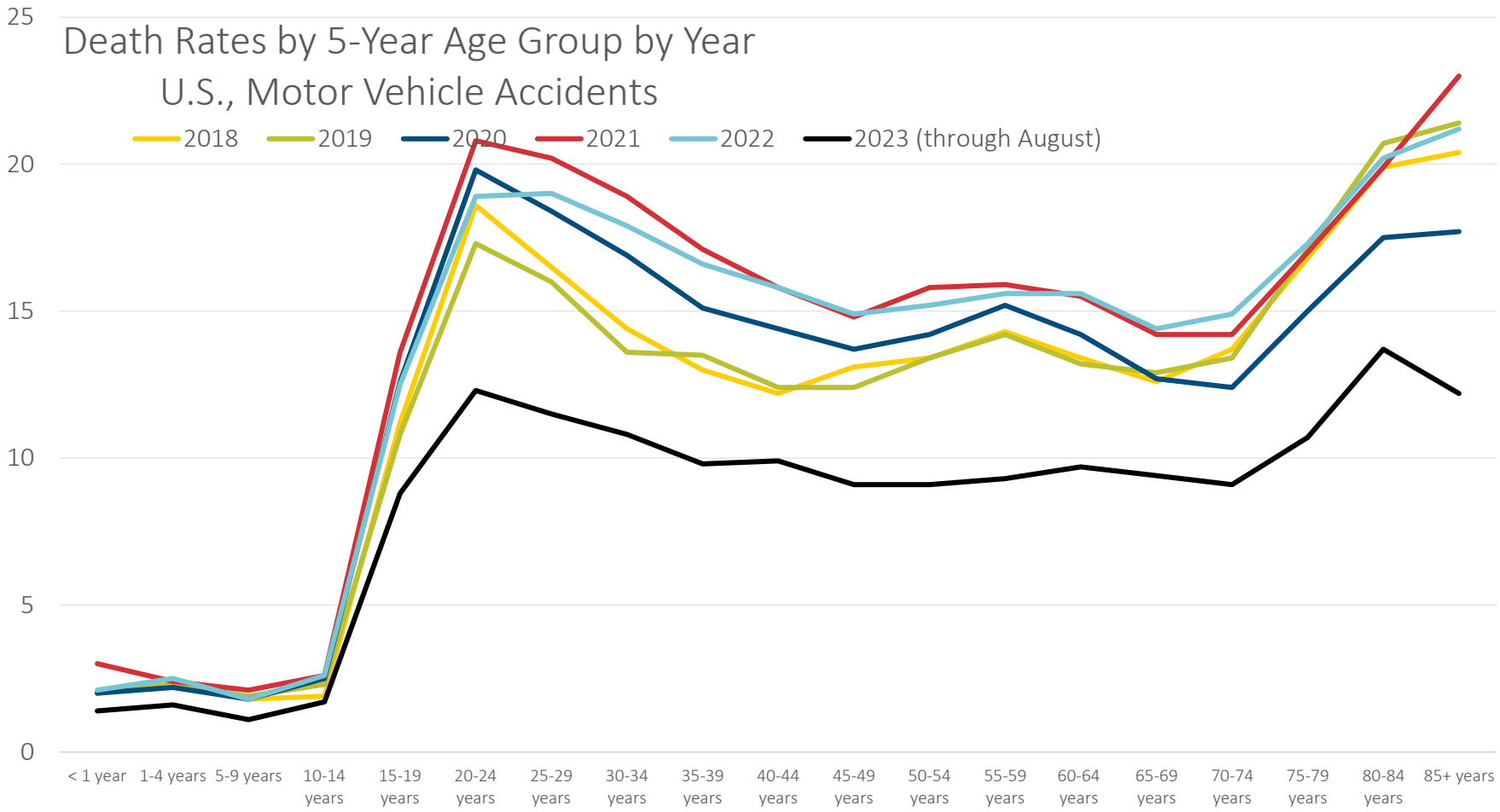


Rate per 100,000

# Death Rates by 5-Year Age Group by Year

## U.S., Motor Vehicle Accidents

2018 2019 2020 2021 2022 2023 (through August)

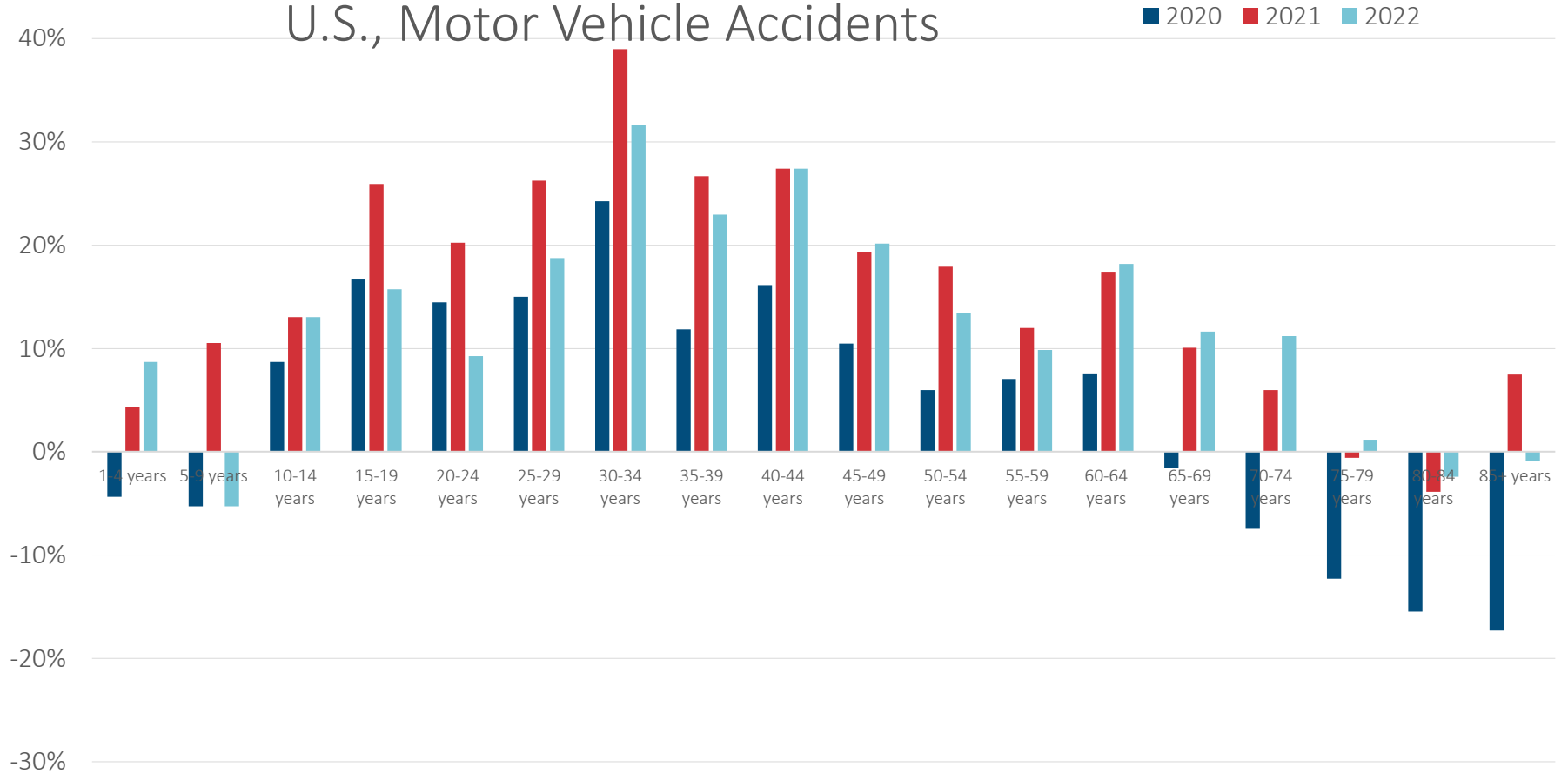


Source: CDC Wonder, data as of 28 Feb 2024



# Percentage Difference in Death Rate v 2019

## U.S., Motor Vehicle Accidents

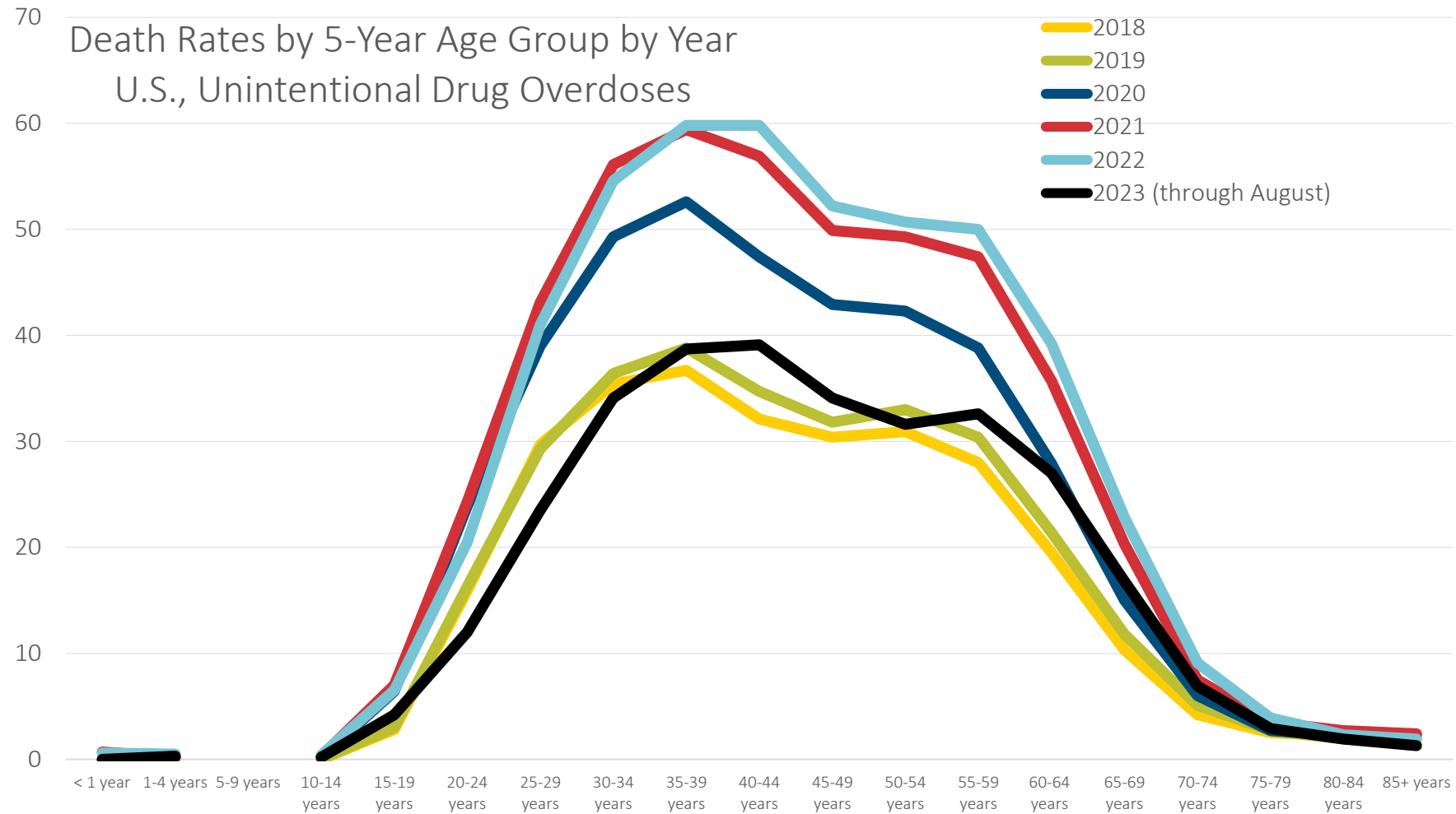


Rate per 100,000

# Death Rates by 5-Year Age Group by Year

## U.S., Unintentional Drug Overdoses

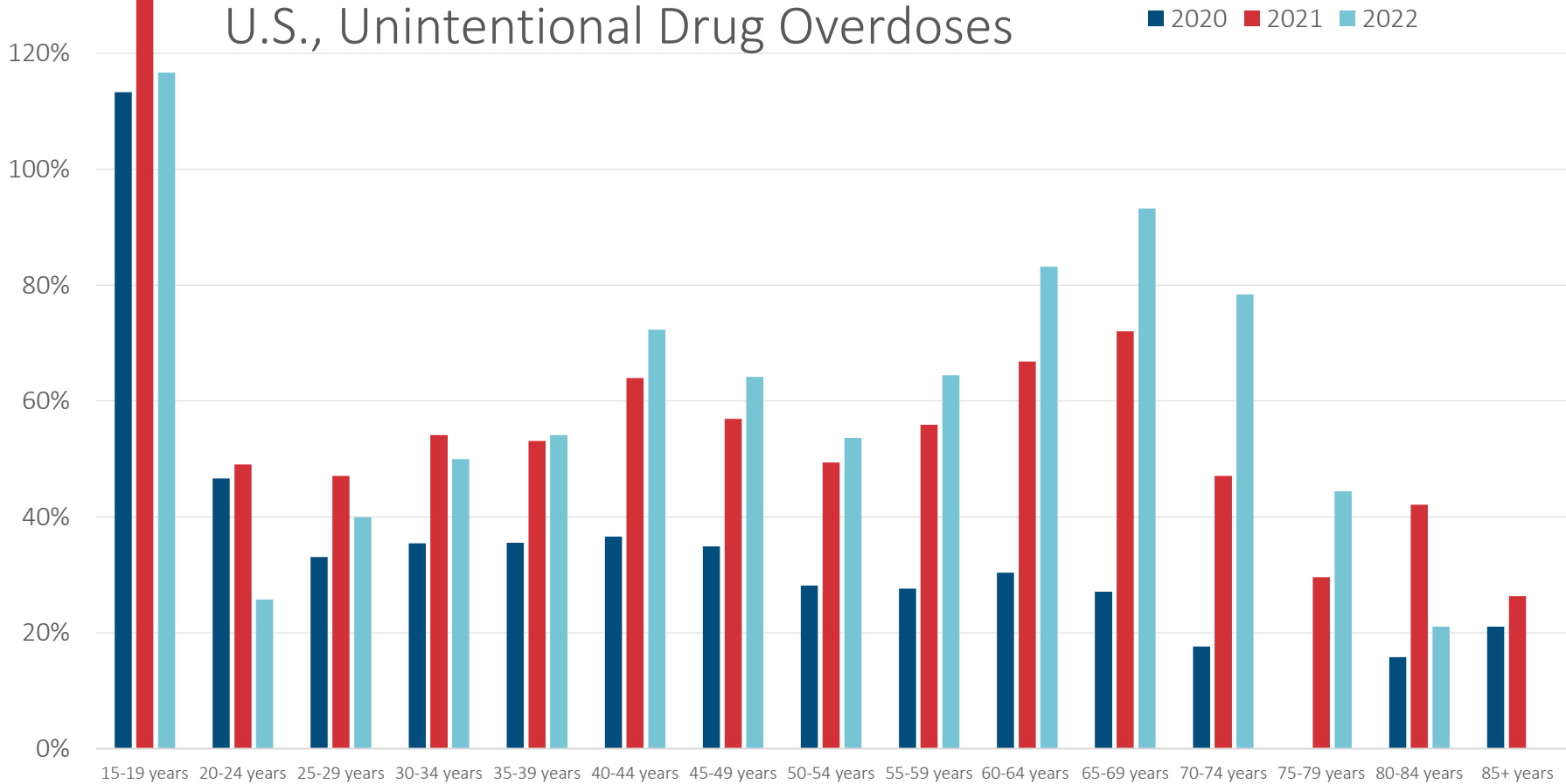
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023 (through August)



Source: CDC Wonder, data as of 28 Feb 2024

# Percentage Difference in Death Rate v 2019

## U.S., Unintentional Drug Overdoses



Links to spreadsheets and data  
citation(s)



# Finalized mortality data, 1999-2020

Centers for Disease Control and Prevention, National Center for Health Statistics.

Underlying Cause of Death 1999-2020 on CDC WONDER Online Database, released in 2021. Data are from the Multiple Cause of Death Files, 1999-2020, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on 10 Feb 2024 and later dates.

# Compressed Mortality, 1968-1978

Centers for Disease Control and Prevention, National Center for Health Statistics.

National Vital Statistics System, Mortality: Compressed Mortality File 1968-1978. CDC WONDER Online Database, compiled from Compressed Mortality File CMF 1968-1988, Series 20, No. 2A, 2000.

Accessed at <http://wonder.cdc.gov/cmfi-cd8.html> on 10 Feb 2024 and later.

# Compressed Mortality, 1979-1998

Centers for Disease Control and Prevention, National Center for Health Statistics.

National Vital Statistics System, Mortality:  
Compressed Mortality File 1979-1998. CDC WONDER  
On-line Database, compiled from Compressed  
Mortality File CMF 1968-1988, Series 20, No. 2A,  
2000 and CMF 1989-1998, Series 20, No. 2E, 2003.

Accessed at <http://wonder.cdc.gov/cmfi-icd9.html> on 10 Feb 2024 and later.

# Provisional mortality data

Centers for Disease Control and Prevention, National Center for Health Statistics.

National Vital Statistics System, Provisional Mortality on CDC WONDER Online Database. Data are from the final Multiple Cause of Death Files, 2018-2021, and from provisional data for years 2022-2024, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program.

Accessed at <http://wonder.cdc.gov/mcd-icd10-provisional.html> on 27 Feb 2024 and later.



# Dropbox link to spreadsheets and slides

Folder link:

<https://www.dropbox.com/scl/fo/5i7bbpu8phueerp5qrzig/h?rlkey=yppbc315qwy5vg3thgara4mrgg&dl=0>

Can view/download.

Email [marypat.campbell@gmail.com](mailto:marypat.campbell@gmail.com) if any problems

# Contacts/Links



# Mary Pat Campbell links

Substack

<https://marypatcampbell.substack.com/>

Mortality with Meep

<https://marypatcampbell.substack.com/s/mortality-with-meep>

LinkedIn

<https://www.linkedin.com/in/marypatcampbell/>



<https://www.insurancecollaborationtosavelives.org/>



# Insurance Collaboration to Save Lives

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*seek answers, save lives, mitigate loss*