

A Quantitative Ethical and Human Benefit-Harm Analysis of our Societal COVID Response

Hugh McTavish, Ph.D.

COVID-Sanity.org
December 2020

Quantitative Benefit-Harm Analysis

- Cost-benefit analysis but in human terms, not dollar terms.
- Our response has reduced COVID deaths.
- But also caused harms.
- How can we compare those? Can we quantify them?

U.S. vs. Sweden

	U.S.	Sweden
Stay at home orders	Yes	No
Closed restaurants and bars	Yes	No
Closed churches	Yes	No
Closed health clubs	Yes	Briefly
Closed non-essential businesses	Yes	No
Closed schools	Yes	No
Closed universities	Yes	Briefly
Mandated masks in public	Yes	No
% Urban	83%	88%
COVID deaths per million population	833	671

COVID Dead Characteristics and life expectancy

Long term care	70%
80+	60%
60+	92%
Pre-existing conditions	99%
Median life expectancy	< 1 year
Average life expectancy considering health condition	about 4 years
Average life expectancy considering only their age	11.7 years

Percent of Population Infected with SARS-Cov-2

Date	Number of U.S. COVID dead	% of Population infected	Case fatality rate
July 15, 2020	140,775	9.3% *	0.46%
November 25, 2020	267,472	≥ 17.7%	

* Anand, S. et al. 2020. Prevalence of SARS-CoV-2 antibodies in a large nationwide sample of patients on dialysis in the USA: a cross-sectional study. *The Lancet* 396: 1335-1344. Published: September 25, 2020
DOI:[https://doi.org/10.1016/S0140-6736\(20\)32009-2](https://doi.org/10.1016/S0140-6736(20)32009-2).

How many lives and person-years of life could our societal restrictions have saved in averted COVID deaths?

- About 20% ($\geq 17.7\%$) of the U.S. population had been infected by November 25, 2020, with 267,000 deaths.
- 34% of New York state had been infected by July 15, and only about 2% more by November 25. So New York is approaching herd immunity.
- A generous estimate would be that our restrictions have and will have prevented an additional 15% from being infected before a vaccine and/or herd immunity arrive, and thus prevented 200,000 deaths.
- Times 4 years life expectancy per death averted = 800,000 person-years of life saved.
- Divided by 328 million people = 0.0024 years per person = 0.9 days extension of life per person.
- **Has it been worth it to you to live this way for >9 months to add less than 1 day to your life?**

Benefits and Harms of Our COVID Response

Benefits:

- Saved many lives from COVID death

Harms:

- Increased clinical depression
- Increased deaths of despair – suicides and drug and alcohol overdoses
- Increased loneliness and unhappiness for nearly everyone
- Lost or impaired schooling and social benefit of schools for nearly all young people
- Increased deaths from missed diagnoses of cancer and other serious illness
- Increased domestic abuse and child abuse

Increased Clinical Depression

Depression category	% of U.S. pre-COVID	% of U.S. during COVID	increase during COVID
Severe	0.7%	5.1%	4.4%
Moderately Severe	2.1%	7.9%	5.8%
Moderate	5.7%	14.8%	9.1%
Sum of Major Depression	8.5%	27.8%	19.3%
Mild	16.2%	24.6%	8.4%

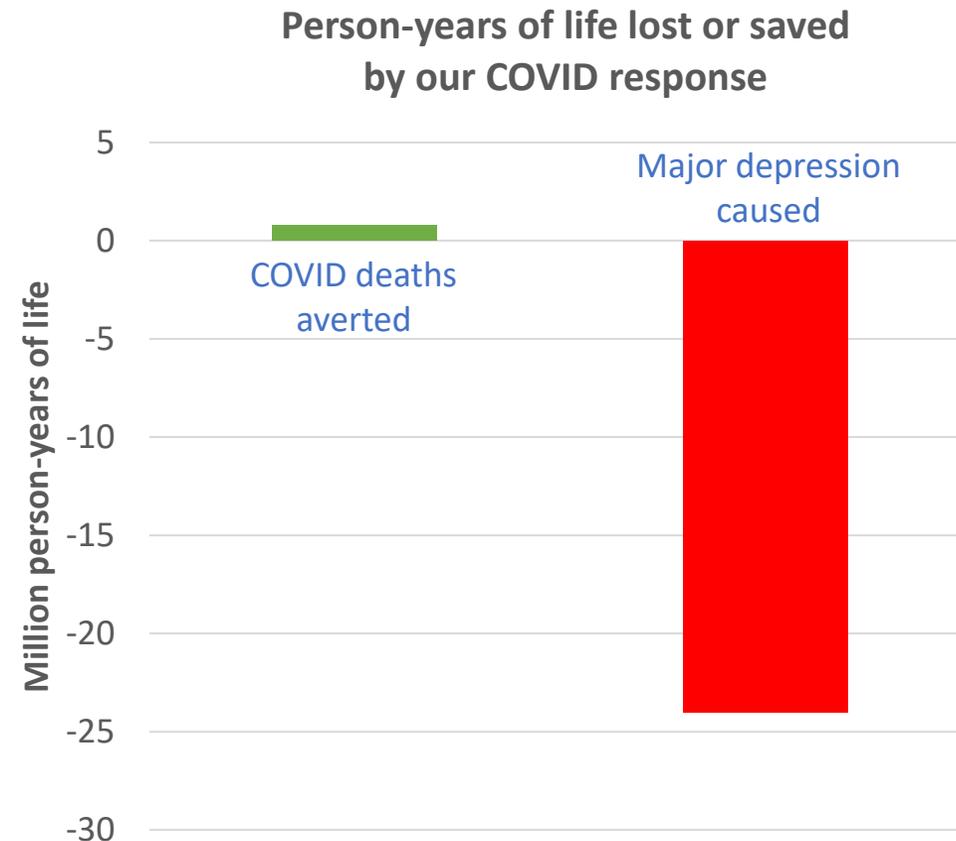
COVID response threw 19.3% of U.S. population, over 63 million people, into moderate to severe depression, and 8.4%, 27 million people, into mild depression.

Ettman, CK et al. Prevalence of Depression Symptoms in US Adults Before and During the COVID-19 Pandemic. *JAMA Netw Open*. 2020;3(9):e2019686. doi:10.1001/jamanetworkopen.2020.19686.

Person-years of life lost to Depression

(by our response to COVID, not because of COVID)

- COVID deaths averted: 200k persons x 4 years life expectancy = 800k or 0.80 million person-years of life saved.
- Major Depression (Moderate to Severe): 63.3 million persons x 0.38 years = 24 million person-years of life lost.
- 316 persons thrown into major depression for each COVID death we may have averted.
- If period of time depressed is considered a lost time of life:
 - **30 times** the loss of life from the depression we caused compared to the COVID deaths we may have averted.

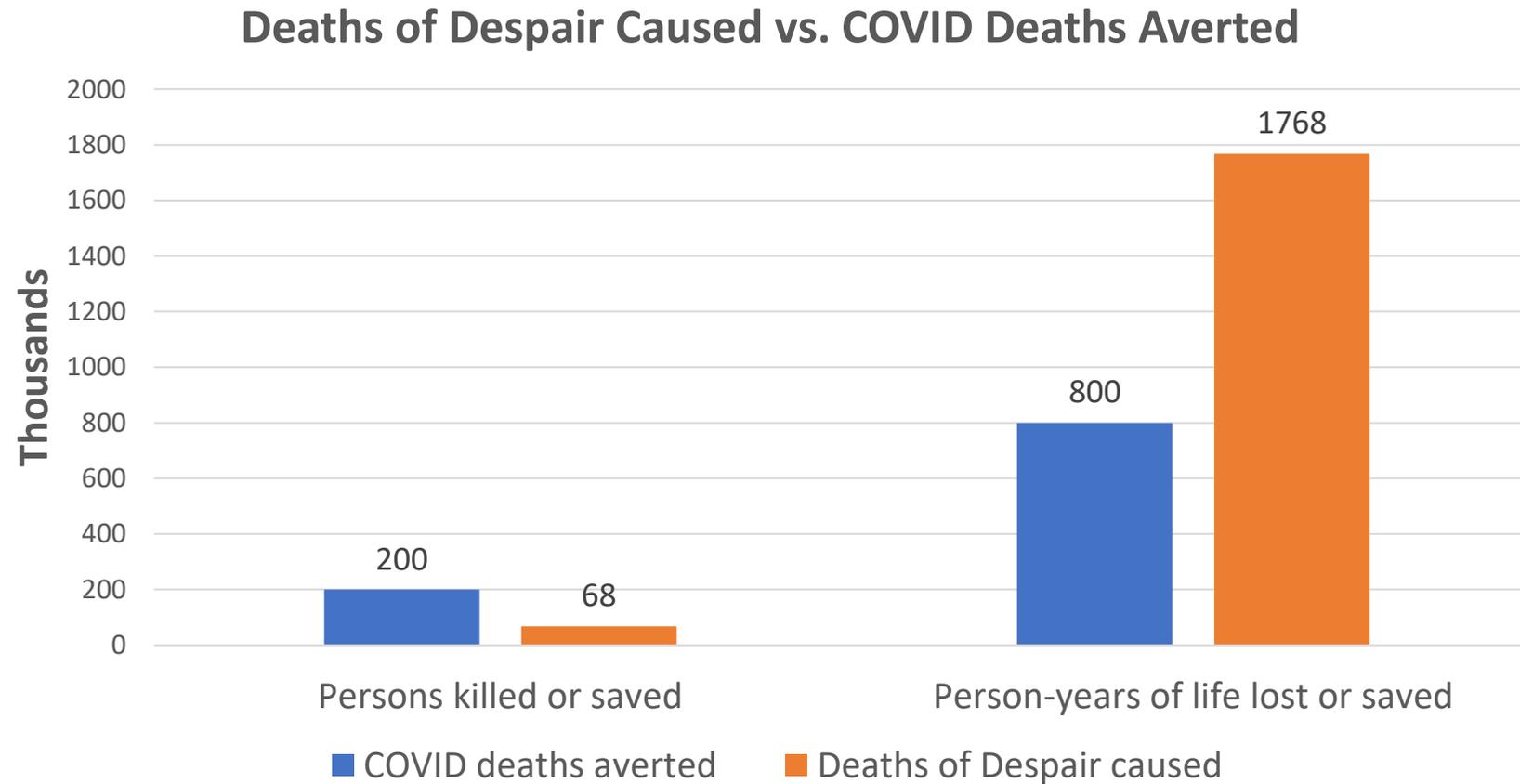


Increased Deaths of Despair (Suicides and Drug and Alcohol Overdoses)

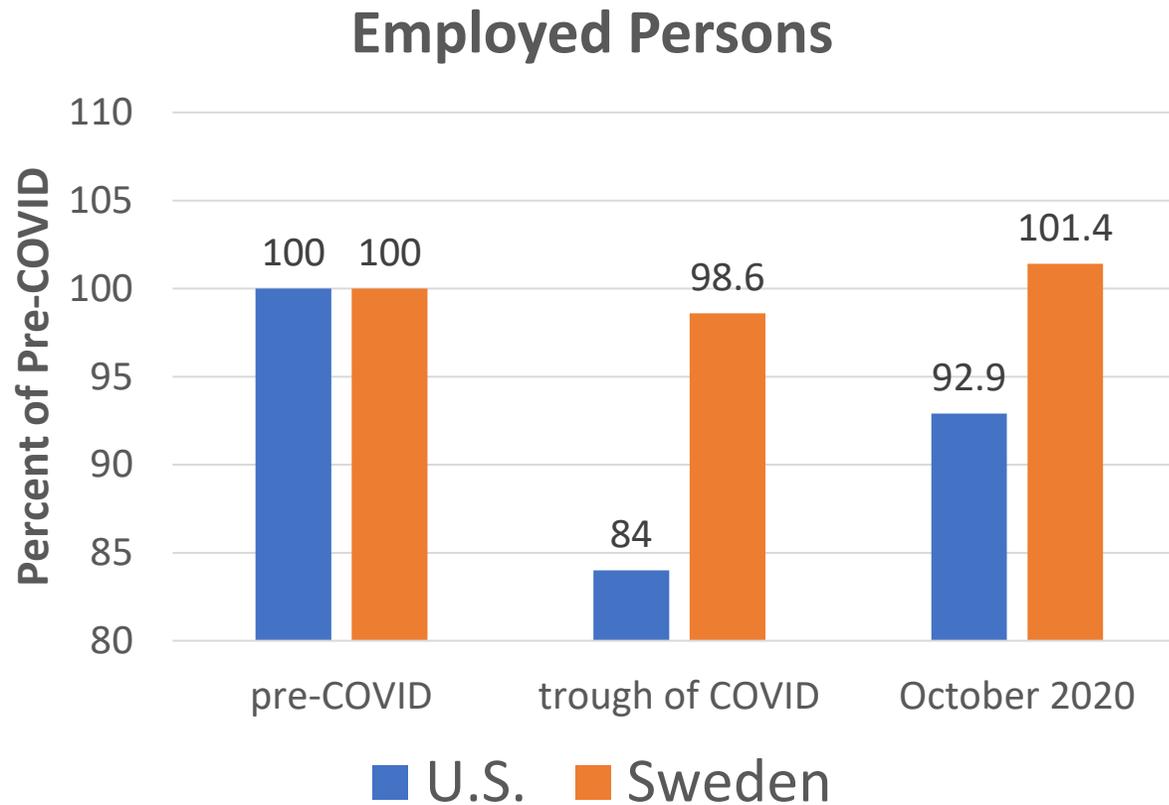
- 68,000 estimated excess deaths of despair caused by our COVID response x 26 years average life expectancy lost = 1.77 million person-years of life lost.

Source: Well Being Trust. <https://wellbeingtrust.org/areas-of-focus/policy-and-advocacy/reports/projected-deaths-of-despair-during-covid-19/>

Person-years of life lost to Deaths of Despair caused by our response vs. COVID deaths averted



Unemployment caused by our COVID response



- 25.36 million people thrown into unemployment in U.S. because of our COVID response.
- 127 persons thrown into unemployment by our response per 1 COVID death averted.

Missed diagnoses of cancer and other serious diseases

- We have had fewer cancer diagnoses in U.S. during COVID.
- A study* in Great Britain estimated excess missed diagnoses of four most common cancers would result in 3,400 excess deaths. Projected to U.S. population size that is 17,000 excess deaths.
- Other cancers, heart disease, and other serious illnesses not included in this, but presumably more missed diagnoses of these also.
- Estimate ~20,000 excess deaths from missed diagnoses and treatments of cancer, heart disease = 1 excess death per 10 COVID deaths averted.

*Maringe, C et al. The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. *The Lancet* 21:1023-1034. July 20, 2020
DOI: [https://doi.org/10.1016/S1470-2045\(20\)30388-0](https://doi.org/10.1016/S1470-2045(20)30388-0)

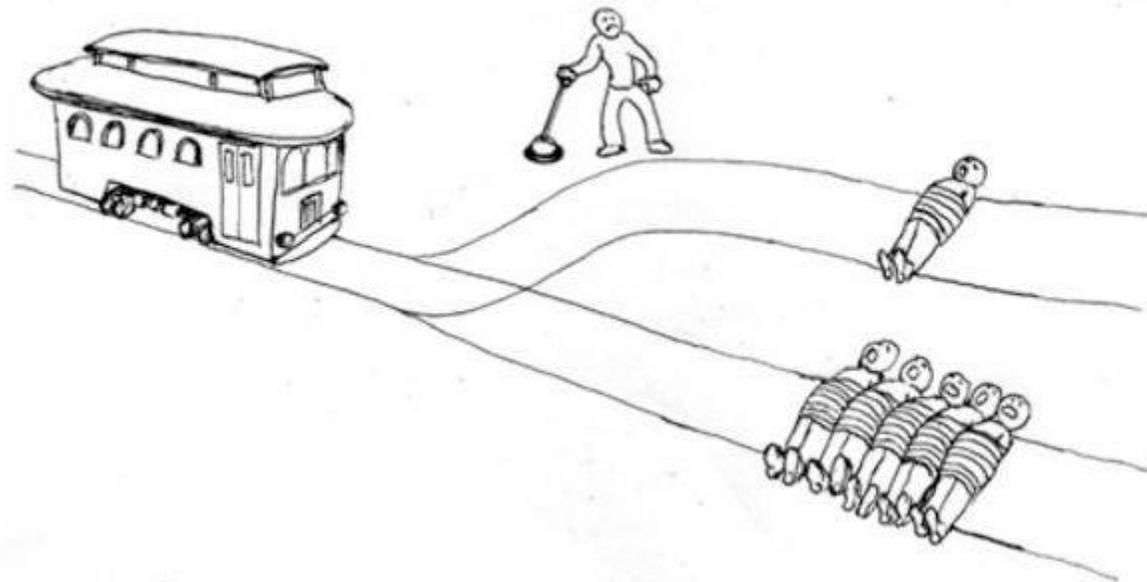
Increased domestic abuse and child abuse

- Elevated reports of domestic abuse and child abuse since COVID began.
- Predictable because of increased depression and irritability, and people together at home more because of school closings, lockdowns, unemployment, working from home.

Lost and impaired schooling

- We switched to distance learning for at least some time in almost all K-12 schools and colleges and universities.
- Lost or impaired schooling for every student in U.S.
- = 350 students with lost or impaired schooling per 1 COVID death averted.
- Children and anyone under age 30 at almost no risk of COVID death.
- Should a society demand a sacrifice from every child and young person to benefit the sickest and oldest persons in society?

Trolley Dilemma in Philosophy



Track 1 versus Track 2 Choices We Had

Track 1 (if we had done nothing and let COVID take its course)		
	Persons harmed	Person-years of life lost
Additional COVID dead	1	4

- Which track do you think involved more harm?
- Was it ethical to pull the switch so the trolley ran over the people tied to Track 2 instead of those tied to Track 1?
- Is it ethical now to continue to pull the switch and keep the trolley on Track 2?

Track 2 (The approach we took of lockdowns, school and business closing, mandatory mask wearing)		
	Persons harmed	Person-years of life lost
Deaths of despair	0.34	8.8
Major Depression	316	120
Cancer and heart disease deaths.	0.1	0.5
Loss of work	127	
Loss of education and schooling	350	
Children and adults victims of domestic abuse	?	
Slightly lonelier and less happy	1,640	

- **COVID Sanity** is a nonprofit whose mission is to provide policy makers and the public with scientific and factual information on the benefits and harms of current and potential policy responses and individual responses to COVID-19 and educate the public with scientifically accurate information on individual risk from COVID-19 so persons can make informed decisions about their risk from COVID-19 and if and how to modify their behavior. [COVID-Sanity.org](https://www.covid-sanity.org)
- Dr. Hugh McTavish is a Ph.D. biochemist and immunologist and also a patent attorney. He is the founder and Executive Director of COVID Sanity. He has authored 18 refereed scientific journal articles and is the inventor on 21 U.S. patents. He has started two pharmaceutical companies off of his own inventions – IGF Oncology, LLC, for a targeted drug for cancer and Squarex, LLC, for a treatment that prevents cold sores or oral herpes virus outbreaks.