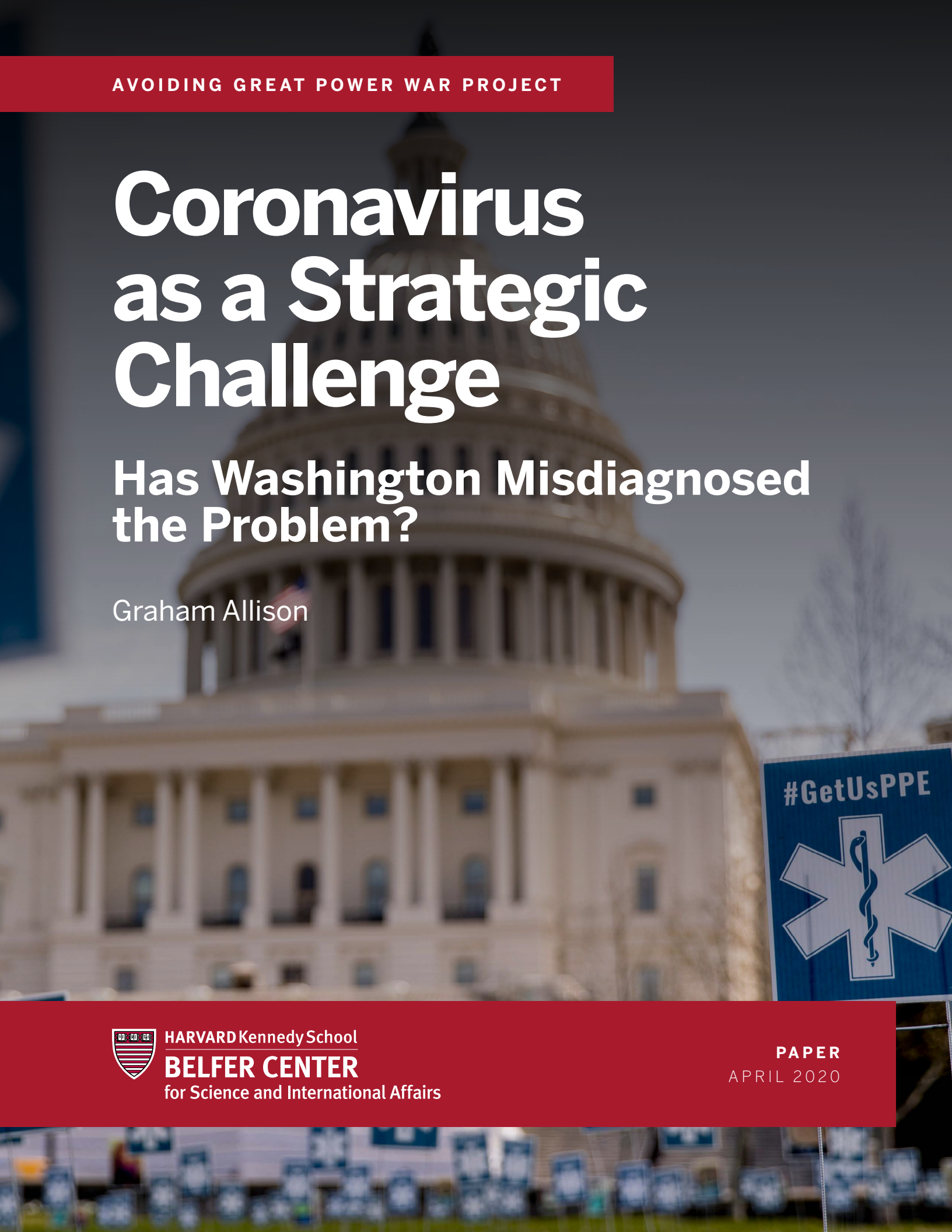
AVOIDING GREAT POWER WAR PROJECT

Coronavirus as a Strategic Challenge

Has Washington Misdiagnosed the Problem?

Graham Allison



HARVARD Kennedy School
BELFER CENTER
for Science and International Affairs

PAPER
APRIL 2020

Avoiding Great Power War Project
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Design and layout by Andrew Facini

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Advocacy groups display a thousand signs that read #GetUsPPE, along images of health care workers, in a call for personal protective equipment for frontline health workers during the coronavirus outbreak, on the West Lawn of the U.S. Capitol, Friday, April 17, 2020, in Washington.

AP Photo/Andrew Harnik

Introduction

In strategy, diagnosis precedes prescription. While accurate diagnosis does not always lead to a wise choice of treatments, misdiagnosis reliably predicts failed responses.

For those outside a community of professionals to question the consensus of experts on the frontlines of the fight against coronavirus may seem presumptuous. But history offers many cases where facing novel threats, particularly ones in which professionals failed to anticipate the threat, their best efforts to understand what hit us have misdiagnosed the challenge—with tragic consequences.

The most glaring recent example produced what is now generally recognized as "the most dangerous foreign policy blunder since Vietnam," to quote former Secretary of Defense and Senator Chuck Hagel.[1] Staggered by the unimagined attack on America that toppled the World Trade Center and instantly killed 3,000 people, President George W. Bush's Administration chose to invade Iraq. That lost cause has so far caused the death of more than 7,000 American servicemen, at a cost of $7 trillion and counting.[2]

Thus, with reservations about venturing into territory outside our normal wheelhouse, and in full certainty that some of what we write here will in retrospect turn out to have been wrong, a team of researchers at the Belfer Center and I have been collecting all the data we have been able to find about coronavirus, analyzing it to the best of our ability, and debating competing answers to the fundamental questions about the challenge this novel virus poses to our nation.

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1 "McCain, Hagel and the Surge," *Wall Street Journal*, January 31, 2013, https://blogs.wsj.com/washwire/2013/01/31/mccain-hagel-and-the-surge-video-and-transcript/.

2 Numbers reflect post-9/11 wars. See Watson Institute, "United States Budgetary Costs and Obligations of Post-9/11 Wars through FY2020: $6.4 Trillion," November 30, 2019, https://watson.brown.edu/costsofwar/files/cow/imce/papers/2019/US%20Budgetary%20Costs%20of%20Wars%20November%202019.pdf; Watson Institute, "Human Cost of the Post-9/11 Wars: Lethality and the Need for Transparency," November 2018, https://watson.brown.edu/costsofwar/files/cow/imce/papers/2018/Human%20Costs%2C%20Nov%208%202018%20CoW.pdf.

What follows is our current first-approximation of a work in progress. We are posting at this point in the hope of stimulating a wider debate that will include a much larger number of analysts beyond public health professionals and epidemiologists—including in particular intelligence officers, financial wizards, historians, and others. While respecting the extraordinary efforts the public health professionals and medical community are now doing in the midst of the fight, we nonetheless need to begin by recognizing that they may have fundamentally misdiagnosed the challenge coronavirus poses to our society. In the language of the U.S.intelligence community, we need a "Team B" competitor that is prepared to begin by questioning everything, beginning with the data our current collection process has produced as the starting point for the current diagnosis. If because of constraints on the number of tests we are able to conduct, testing has been rationed to those whose symptoms suggest they are infected, what would one expect? The fact that as the number of tests conducted daily has crept up, this process has found an increasing number of positives would surely not be a surprise. Until we are able to conduct massive testing, or conduct a series of random tests, it is impossible to have a solid basis for estimating the size of this problem. But it seems quite likely that the number of Americans who have actually been infected by this virus is twice or more the 650,000 reported this week. If most of these individuals have responded by staying at home, resting, drinking lots of fluids, and waiting for their white cells to defeat the invader, as they would do when they had a bad case of the flu, that would certainly be relevant as the White House and governors are now making choices about next steps up the ladder to reopening the economy. In sum: especially at this point in this war, we need insights from all sources in a wide-open debate: first, about the diagnosis of the threat, and second, about how the nation should respond.

To that end this Report states five provocative propositions. Each is a hypothesis. We have no illusions about any of these being the final word. Indeed, our best bet is that after cross-examination as more evidence about this novel threat emerges, some of these will prove to be incorrect. But we have stated these starkly in the hope that as others disagree, offer additional data, and provide a deeper analysis, a clearer picture of what the nation is facing will emerge. And armed with that our country will be able to craft a winning response.

Recognizing that the preferred form of communication in Washington today has become tweets, we begin with five:

a. For most Americans, coronavirus does NOT pose a significant additional risk of death beyond risks they were living with before coronavirus appeared.[3] This plague largely passes over the young. The number of Americans under 25 who have died to this point are fewer than 50.

b. For the 15% of Americans over 65, and especially for those with severe preexisting conditions, coronavirus DOES pose a significant additional threat of death.[4] While those over 65 had previously been dying at four times the rate of those under 65 before coronavirus appeared, since its arrival their risk of death has jumped more than 10%.[5]

c. This virus disproportionately kills males. Among its victims so far, five of each eight have been male.

d. While selective evidence gathered in New York City and several other sites suggests that this virus is prejudiced against African-Americans, the data available at this point does not yet provide a basis for considered assessment of how much. On the basis of all the evidence we have seen, the dramatic claims being made in the press are likely to be overblown.[6]

e. Assessments of how a new disease impacts relative risks of death obviously need to take account of preexisting conditions of members of various groups of interest. While CDC has not released enough data about the incidence of preexisting conditions

3 Assuming essentially equivalent actions by the federal and state governments and citizens that we have today.

4 Again, assuming essentially equivalent actions by the federal and state governments and citizens that we have today.

5 See, for example, "Table 2: number of deaths and death rates by age, race, and Hispanic origin," in Kenneth D. Kochanek, Sherry L. Murphy, Jiaquan Xu, and Elizabeth Arias, "Deaths: Final Data for 2017," in the CDC's National Vital Statistics Reports, June 24, 2019, https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf.

6 See, for example, Jeffrey C. Mays and Andy Newman, "Virus Is Twice as Deadly for Black and Latino People Than Whites in N.Y.C." *New York Times*, April 8, 2020, https://www.nytimes.com/2020/04/08/nyregion/coronavirus-race-deaths.html; and John Eligon, Audra D. S. Burch, Dionne Searcey, and Richard A. Oppel Jr., "Black Americans Bear the Brunt as Deaths Climb," *New York Times*, April 7, 2020, https://www.nytimes.com/2020/04/07/us/coronavirus-race.html.

(including heart disease, chronic lung disease, and diabetes) that make individuals more vulnerable, the best evidence available points to a large difference between risks of death from coronavirus for those with and without these preconditions.

To repeat, our purpose is not to settle any of these issues, but to demonstrate the urgent need for a much wider debate that will include experts from domains beyond those currently dominating the discussion, both about the shape of the challenge coronavirus poses to our society and about what the nation should do to defeat it. If in national security policy, as the saying goes, war is too important to just be left to the generals, so too in the current declared "war on coronavirus." In what follows, we have adopted a modified debate format in which we summarize the best evidence we have been able to find—first, for each of these propositions, and second, against each. For each point, footnotes identify what we believe are the best sources available.[7]

In sum: we hope readers will take this as a genuine invitation to disagree, agree, and clarify.

7 In broad terms, the best source for information on total number of confirmed COVID-19 cases and deaths is Johns Hopkins University Coronavirus Resource Center. Their website has a world map, U.S. map, and interactive critical trend charts. The CDC website has a section with provisional death counts with data about total deaths, ages, gender, location of death, and some information on a state-by-state basis. Although this website is updated on a daily basis on weekdays, it typically is inconsistent with other sources from the media or Johns Hopkins because of the thorough standards and guidelines required by the National Center for Health Statistics (as a rule of thumb, its cumulative death count is about 2 weeks behind other reported numbers). The CDC also has its Morbidity and Mortality Weekly Report (MMWR) where it further releases data and studies. See also Hannah Ritchie and Max Roser, "What do we know about the risk of dying from COVID-19?" *Our World in Data*, March 25, 2020, https://ourworldindata.org/covid-mortality-risk. The most detailed source of county-level data is the NYT database on county-level case and death counts. The best source of information on COVID-19 testing in the United States (and data on individual state's testing efforts) is the COVID Tracking Project. It has data on positive, negative, and pending coronavirus tests.

Starting Points

The question this paper addresses is: what's new about coronavirus? Specifically, what additional risk of death does coronavirus impose on whom? And in allocating the risk of what could—if the death toll reaches the low point of the White House estimate—be an additional 100,000 deaths among the U.S.population of 330 million citizens, is coronavirus discriminating against some groups, and if so against whom?

As the U.S.death toll reached 32,000 yesterday at the halfway point in what the U.S.Surgeon General predicted would be "the worst two weeks in most Americans' lives," the question is: *Who* now faces a significantly increased risk of death as a result of the arrival of this deadly demon? In the picture presented by the White House Task Force on Coronavirus, we are all in this together. As one public health professional put it last week, coronavirus is an "equal opportunity killer."

Over the past two weeks, the elite press has headlined their own proposed answers to this critical question about the differential impact of this novel killer. According to *The New York Times*, "Black Americans Bear the Brunt as Deaths Climb." *The Washington Post* shouted: "The coronavirus is infecting and killing black Americans at an alarmingly high rate." And *The Wall Street Journal*'s weekend headline declared: "Toll in Senior Homes Wider than Reported."

While each of these answers has a thread of truth, unfortunately, most fail to answer the critical question or do so only partially. To address this question, it is necessary to divide the world into life BC (before coronavirus) and AC (after coronavirus). In the world BC, the fact that the chronically ill in nursing homes and hospitals, African Americans, the poor, and elderly face a greater risk of death than the rest of the population was well known. For decades, annual editions of U.S.Vital Statistics have provided facts underscoring these differences.

To repeat the puzzle more precisely. That those in nursing homes and critical care are more likely to die is a well-known fact. In many cases, the reason individuals are there is because they are at risk. That African

Americans are more likely to be poor, homeless, without medical insurance (and thus access to medical care), and burdened with diabetes, obesity, and moreover, that these conditions create a higher risk of death, is again a well-established and reported fact.

The question is whether this new killer is piling on to those already disadvantaged and adding additional risk of death disproportionately—or alternatively, sharing that additional risk equally across the entire population?

While a conclusive answer to this question must await more demographic data on deaths, if current data proves to be representative of the larger picture, the answer is: yes. coronavirus discriminates further:

- Against the elderly, especially those with preexisting conditions;
- For the young;
- Against males;
- Against African Americans, though from the small samples of data available, it is not possible to say with any confidence how much.

Provocative Propositions

Proposition I

Coronavirus does not pose a significant additional risk of death to most Americans.[8] For the overwhelming majority of Americans, the risk that they will die from coronavirus is lower than risks they face from a number of other causes they were living with before coronavirus appeared.

Evidence For

a. **This plague has largely passed over the young**: Among the 110 million Americans under 25, fewer than 50 have been killed.[9] For those under 45 the chance of being killed by coronavirus is less than half the chance of their dying by drowning.[10]

b. **For the 85 percent of America's population who are under 65, the added risk of death from coronavirus is modest:** If the future reflects the current data, readers under 65 have a 0.04% (1 in 2,500)

8 Assuming essentially equivalent actions by the federal and state governments and citizens that we have today. But of course, "it depends." Estimates always come with caveats including "on current trend lines," and "all other things being equal." If a way is found to prevent direct contact between individuals who have been infected and others, the virus' opportunity to infect new hosts goes away and the virus dies out (at least for that population and season). On the other hand, if healthy individuals are in regular, close contact with others who may be infected, for example when confined in close quarters in a nursing home or jail or on a U.S.Navy vessel where the sleeping quarters are compact, the probability of their being exposed to the virus and a substantial number of them being infected significantly increases. If a government can identify each infected individual, accurately trace direct contacts between him and all others with whom he's been in direct contact, and isolate those who may have been infected, as Singapore and South Korea have done, this can prevent further transmission. On the other hand, if for its failure to prepare a government is unable to conduct massive testing and is thus unable to identify substantial numbers of the infected who may be transmitting the virus, if its default is to resort to a combination of closing workplaces where healthy would likely interact with infected, and requiring "social distancing" that requires most of the population is to shelter at home, this can slow the number of transmissions and new infections. If the infected, particularly those that have other life-threatening conditions, have access to medical care including in the extreme cases ICUs and ventilators, their prospects of survival clearly increases. And the list goes on.

9 Centers for Disease Control and Prevention and National Center for Health Statistics, "Provisional Death Counts for Coronavirus Disease (COVID-19)," https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm.

10 National Safety Council, "Odds of Dying," https://injuryfacts.nsc.org/all-injuries/preventable-death-overview/odds-of-dying/.

chance of dying from coronavirus in the next year.[11] At the low point of the White House Task Force death estimate—100,000—the death toll among under-65s would be 20,000.[12] While that would be a great tragedy, it would represent less than a 3% increase over the numbers that died last year—before coronavirus appeared—and fewer than the number of deaths caused by cancer, heart disease, accidents, suicide, diabetes, respiratory disease, and strokes. On April 9, the nation's chief infectious disease expert, Dr. Fauci, offered his latest estimate, predicting that the total number of deaths "would look more like 60,000 rather than the 100,000-200,000" range.[13] In that case, expected deaths among under-65s would be closer to 12,000.

Table: *Leading causes of death for those under 65 in the United States*[14]

Cause	Total Deaths
Cancer (malignant neoplasms)	171,212
Heart disease	128,405
Accidents (unintentional injuries)	113,985
Intentional self-harm (suicide)	38,605
Diabetes	24,544
Chronic lower respiratory diseases	24,062
Stroke (cerebrovascular diseases)	20,730
Nephritis	8,963
Influenza and pneumonia	8,810
Alzheimer's disease	1,297

11 Rick Noack, Meryl Kornfield, Derek Hawkins, Teo Armus, Adam Taylor, and Marisa Iati, "White House task force projects 100,000 to 240,000 deaths in US, even with mitigation efforts," *Washington Post*, April 1, 2020, https://www.washingtonpost.com/world/2020/03/31/coronavirus-latest-news/.

12 Ibid.

13 Bill Chappell, "Fauci Says U.S. Coronavirus Deaths May Be 'More Like 60,000'; Antibody Tests On Way," *NPR,* April 9, 2020, https://www.npr.org/2020/04/09/830664814/fauci-says-u-s-coronavirus-deaths-may-be-more-like-60-000-antibody-tests-on-way.

14 Deaths in 2017. Centers for Disease Control and Prevention, "10 Leading Causes of Death by Age Group, United States—2017," https://www.cdc.gov/injury/wisqars/pdf/leading_causes_of_death_by_age_group_2017-508.pdf.

c. **Data from other countries**: Evidence about differential risks of being killed by coronavirus from other nations where the virus struck earlier offers the same bottom line: the virus is killing far fewer young people.[15]

Table: *Deaths over 70 by Country/Region*[16]

Country	% of Deaths over 70+
United States	78%*
Singapore	64%
South Korea	77%
Hong Kong	75%
Diamond Princess	92%
Italy	84%
Spain	87%
France	82%
Germany	86%
UK	87%*
Switzerland	90%
Turkey	80%**

d. **Data from "Accidental Labs:"** The largest underutilized source of clues to the spread and consequences of this disease can be found in the closest approximation to a laboratory experiment available: floating "accidental labs" on ships where passengers have been quarantined at sea for weeks.

In February, 3,711 passengers and crew were left at sea for approximately three weeks with a number of infected individuals on board the cruise ship *Diamond Princess*. Of 712 who caught the disease,

15 For further discussion on lessons learned from other countries' experiences in battling coronavirus, see Graham Allison, "To Defeat Coronavirus, Adapt Lessons from Those Who Have," forthcoming.

16 Johns Hopkins University, "COVID-19 Data Visualization Center: Mortality Analysis," https://coronavirus.jhu.edu/data/mortality. Additional sources: CDC, 4/15; Singapore and Taiwan, 4/15; KCDC, 4/7; Japan Ministry of Health, Labor and Welfare; Italian Ministry of Health, 4/15; Spanish Ministry of Health, 4/15; Public Health France, 4/15; Robert Koch Institute, 4/15; ONS, 4/3; Swiss Federal Office of Public Health, 4/15; Turkish Ministry of Health, 4/1 *Note: [1] Data is older than one week. UK data is for week ending April 3. Turkey data is from April 1st.*
** These percentages represent deaths over 65, not 70. Further stratification is not available.*
*** 80% of deaths are over 60, not 70. Further stratification is not available.*
+ Most data for age-stratified deaths lag behind total deaths. This percentage is calculated based off either total deaths reported at time of stratification or representative samples.

12 died. All but one of them was over 70, and four were over 80.[17] Among 1,546 under 50, the number of deaths was zero.[18] Data from other "accidental labs," including the *Coral Princess*, *Zaandam/Rotterdam*, and *Ruby Princess* show similar results.[19]

Evidence Against

While we have been unable to find persuasive evidence to refute the disproportionate increased risk of death for Americans over 65 compared to other age groups, it is important to recognize several important counterpoints.

a. **Coronavirus is causing serious illness among many younger than 65:** *The New York Times* reports that 40 percent of coronavirus cases serious enough to be hospitalized in New York City were ages 20-54,[20] and the CDC calculated that 50 percent of Coronavirus cases admitted to the ICU were adults under 65.[21]

b. **Systemic risk:** High levels of hospitalization among the populations for whom coronavirus is not a serious death threat can nonetheless

17 Note that for one of the deceased, we have not been able to confirm the passenger's age. See Japanese Ministry of Health, Labor, and Welfare, "About the present situation of the Novel Coronavirus infectious disease," March 31, 2020, https://www.mhlw.go.jp/stf/newpage_10636.html. However, as Russell et al. note, the Diamond Princess passengers are not a representative sample (the average age on board was 58) Russell et al., "Estimating the infection and case fatality ratio for COVID-19 using age-adjusted data from the outbreak on the Diamond Princess cruise ship," https://www.medrxiv.org/content/10.1101/2020.03.05.20031773v2.full.pdf. Nonetheless, since as of 2/20 just over half of the Diamond Princess passengers who tested positive were under 70, this case is included as a potential clue. For a breakdown of the cases and ages up to 2/20, see "Field Briefing: Diamond Princess COVID-19 Cases, 20 Feb Update," National Institute of Infectious Diseases, 2/21/2020, https://www.niid.go.jp/niid/en/2019-ncov-e/9417-covid-dp-fe-02.html.

18 For further discussion on accidental labs, see Graham Allison, "Estimating the Coronavirus Death Threat: Clues from the 'Accidental Lab,'" forthcoming.

19 Alex Chapman, "Coronavirus death in ACT was a passenger on the under-fire Ruby Princess cruise ship," *7News*, March 31, 2020, https://7news.com.au/lifestyle/health-wellbeing/coronavirus-death-in-act-was-a-passenger-on-the-under-fire-ruby-princess-cruise-ship-c-901621; Michael Parris, "Coronavirus: Hunter's Ruby Princess death toll grows," *Newcastle Herald*, April 13, 2020, https://www.newcastleherald.com.au/story/6720876/latest-update-hunters-ruby-princess-death-toll-grows/; "Statement Regarding Zaandam," Holland America, March 22, 2020; https://www.hollandamerica.com/blog/ships/ms-zaandam/statement-regarding-zaandam/.

20 Pam Belluck, "Younger Adults Make up Big Portion of Coronavirus Hospitalizations in US," *New York Times*, March 26, 2020, https://www.nytimes.com/2020/03/18/health/coronavirus-young-people.html.

21 Centers for Disease Control and Prevention, "Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) — United States, February 12–March 16, 2020," March 26, 2020, https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e2.htm?s_cid=mm6912e2_w.

overload the medical system, compounding the threat for over 65s and others at higher risks of death. Extreme projections from the CDC have warned that "2.4 million to 21 million people in the United States could require hospitalization, potentially crushing the nation's medical system, which has only about 925,000 staffed hospital beds. Fewer than a tenth of those are for people who are critically ill."[22] Critics of the public health professionals now driving the Trump Administration's choices have called this a "scare tactic" that reflects the specter that has led them to focus on what they call "flattening the curve." The possibility of Americans seeing their screens overflowing with a version of Italy 2.0 in which emergency rooms and hospitals are overflowing with dying people unable to be cared for is their worst nightmare. As one of these professionals put it to me candidly, it is not the number of deaths, but the prospect of a peak in life-threatening infections overloading our medical system that current policy is focused on avoiding.

22 Sheri Fink, "Worst-case Estimates for US Coronavirus Deaths," *New York Times*, March 18, 2020. https://www.nytimes.com/2020/03/13/us/coronavirus-deaths-estimate.html?action=click&module=RelatedLinks&pgtype=Article.

Proposition II

For the 15% of Americans over 65, and especially for those with severe preexisting conditions, coronavirus does pose a significant additional risk of death.[23] This risk differs substantially depending on age, the severity of preexisting conditions, and treatment.[24]

Evidence For

a. **Coronavirus is disproportionately killing those over 65:** Coronavirus is selecting its victims primarily from the 15% of Americans over 65, preferring in particular the approximately one-third of those who have severe preexisting conditions. While BC, those over 65 had previously been dying at four times the rate of those under 65, with the arrival of coronavirus the risk of death for these individuals has jumped more than 10%.[25]

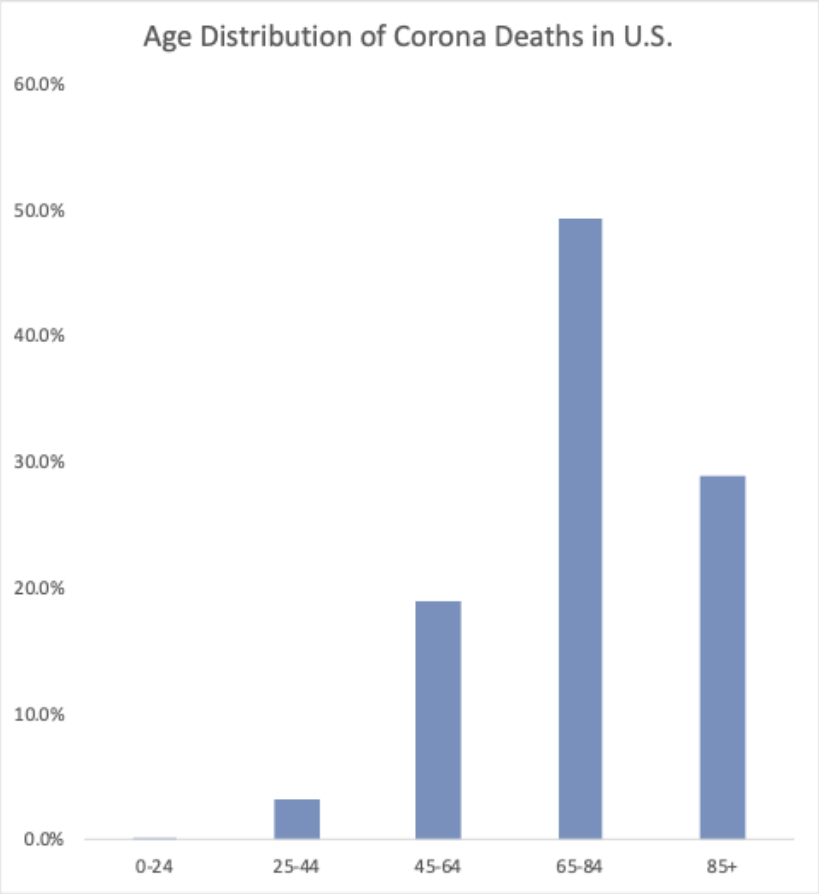
b. **Evidence from other countries**: This disproportionate risk among the elderly is consistent with the evidence from other countries, as noted in the table in Proposition I.

23 Assuming essentially equivalent actions by the federal and state governments and citizens that we have today. See footnote eight for additional discussion.

24 For an additional analysis on the coronavirus' targeting of older populations and those with preexisting conditions, see Niall Ferguson's slide deck, "Networked Pandemic," April 11, 2020, https://www.dropbox.com/s/xqvhypekjs5jcn5/2020_04_11%20Networked%20pandemic.pdf?dl=0.

25 See, for example, "Table 2: number of deaths and death rates by age, race, and Hispanic origin," in Kenneth D. Kochanek, Sherry L. Murphy, Jiaquan Xu, and Elizabeth Arias, "Deaths: Final Data for 2017," in the CDC's National Vital Statistics Reports, June 24, 2019, https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf.

Chart: Coronavirus deaths in the United States by age[26]



Evidence Against

a. **Coronavirus will be a leading cause of death for individuals over and under 65:** Using the low point of the White House Task Force's estimate of deaths—100,000—deaths among those 65 years old and above would total 80,000.[27] This would make coronavirus the 6th leading cause of death among the elderly. If Fauci's latest estimate proves closer to the mark, it would rank 8th—the same as for under 65s.

26 Centers for Disease Control and Prevention, "Provisional Death Counts for Coronavirus Disease (COVID-19)," April 9, 2020, https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm.

27 Rick Noack, Meryl Kornfield, Derek Hawkins, Teo Armus, Adam Taylor, and Marisa Iati, "White House task force projects 100,000 to 240,000 deaths in US, even with mitigation efforts," *Washington Post*, April 1, 2020, https://www.washingtonpost.com/world/2020/03/31/coronavirus-latest-news/.

Table: Leading causes of death for those 65 and over in the United States[28]

Cause	Total Deaths
Heart disease	519,052
Malignant neoplasms (cancer)	427,896
Chronic low respiratory disease	136,139
Cerebrovascular disease (stroke)	125,653
Alzheimer's disease	120,107
Diabetes mellitus	59,020
Unintentional injury (accident)	55,951
Influenza & pneumonia	46,862
Nephritis	41,670
Parkinson's disease	31,177

28 Deaths in 2017. Centers for Disease Control and Prevention, "10 Leading Causes of Death by Age Group, United States—2017," https://www.cdc.gov/injury/wisqars/pdf/leading_causes_of_death_by_age_group_2017-508.pdf.

Proposition III

The virus disproportionately kills males.

Evidence For

a. **Five of every eight deaths from coronavirus to date in the U.S. have been male.**[29] Data from other countries show a similarly higher rate of death for males,[30] and in the New York City sample, males have been dying at nearly twice the rate of females.[31] Similarly suggesting that males are more likely to die from coronavirus, on the *Diamond Princess*, of 2035 males, 9 died or 0.4%, of the 1679 females, 3 died, or 0.2%.[32]

Table 3. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by sex, United States. Week ending 2/1/2020 to 4/11/2020.*

Data as of April 14, 2020

Sex	COVID-19 Deaths (U07.1)[1]	Deaths from All Causes	Pneumonia Deaths (J12.0–J18.9)[2]	Deaths with Pneumonia and COVID-19 (J12.0–J18.9 and U07.1)[2]	Influenza Deaths (J09–J11)[3]
Total deaths	**8,259**	541,934	39,961	3,716	4,820
Male	**4,918**	278,621	21,051	2,170	2,434
Female	**3,341**	263,295	18,910	1,546	2,386
Unknown	**0**	18	0	0	0

29 "Table 3. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by sex, United States. Week ending 2/1/2020 to 4/11/202," accessed April 14, 2020, https://www.cdc.gov/nchs/nvss/vsrr/covid19/index.htm; "Table 3. Deaths involving coronavirus disease 2019 (COVID-19), pneumonia, and influenza reported to NCHS by sex, United States. Week ending 2/1/2020 to 4/4/2020," accessed April 13, 2020, https://www.cdc.gov/nchs/nvss/vsrr/covid19/index.htm.

30 See for instance, Nell Greenfieldboyce, "The New Coronavirus Appears To Take A Greater Toll On Men Than On Women," *NPR*, April 10, 2020, https://www.npr.org/sections/goatsandsoda/2020/04/10/831883664/the-new-coronavirus-appears-to-take-a-greater-toll-on-men-than-on-women; Katie Camero, "Coronavirus Seems to Be Infecting and Killing More Men Than Women," *Wall Street Journal*, April 2, 2020, https://www.wsj.com/articles/coronavirus-seems-to-be-infecting-and-killing-more-men-than-women-11585819801; Annette Young, "Coronavirus: Why do more men die of Covid-19 than women?" *France 24*, March 31, 2020, https://www.france24.com/en/20200331-coronavirus-why-do-more-men-die-of-covid-19-than-women.

31 As of 4/14, the New York City department of health website, "COVID-19: Data" page reports that for every 100,000 people, 51.88 females are dying, compared to 92.11 males. https://www1.nyc.gov/site/doh/covid/covid-19-data.page.

32 Male/Female identities gathered from the Japanese Ministry of Health, Labour, and Welfare notices, as well as news articles. Total number of male/female passengers from "Public Health Responses to COVID-19 Outbreaks on Cruise Ships — Worldwide, February–March 2020," Centers for Disease Control and Prevention, March 27, 2020, https://www.cdc.gov/mmwr/volumes/69/wr/mm6912e3.htm#T1_down.

b. **Since females outnumber males in the population over 65,** the degree of discrimination against males is even larger than aggregate numbers of deaths suggest.

Uncertainties

a. Age adjusted rates are unknown: Early reporting indicating a disproportional coronavirus death rate among males is based on aggregate death rates, not age-adjusted death rates. When we have enough demographic date to compare age-adjusted rates, that may account for some of this disparity.[33]

33 National Vital Statistics Reports, "Deaths: Final Data for 2017," Centers for Disease Control and Prevention, June 24, 2019, https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf.

Proposition IV

While the data about whether coronavirus is racially prejudiced, and by how much, is too limited to draw conclusions from with confidence, the selective reports from New York City and several other sites suggest that this virus is prejudiced against African-Americans—though less dramatically than claims being made in the press.

Uncertainties

a. Insufficient data: Of the over 23,000 deaths in the United States, as of April 13, race-disaggregated data is only partially or fully available for twelve states and four localities that account for 35 percent of these deaths. As more data is made available, the picture painted by many news sources including *The New York Times* claiming that the virus is twice as deadly for Black and Latino populations[34] is likely to be proven wrong. Indeed, with the release of information from Mississippi last week, deaths among African Americans in the aggregate numbers decreased by 6%.[35]

34 Jeffrey C. Mays and Andy Newman, "Virus Is Twice as Deadly for Black and Latino People Than Whites in N.Y.C." *New York Times*, April 8, 2020, https://www.nytimes.com/2020/04/08/nyregion/coronavirus-race-deaths.html.

35 The total percent of fatalities attributed to African American deaths fell from 34% to 32% between 4/13 and 4/14. See APM Research Lab, "The Color of Coronavirus," April 14, 2020, https://www.apmresearchlab.org/covid/deaths-by-race. This is not to diminish or gloss over the extensive health, economic, social and other prejudices and disadvantages that the African American community face—and which factor into and compound the risk they face by coronavirus. Although the African American community has seen progress over the years in areas like life expectancy, they continue to face significant disadvantages that put them at further risk of death during this pandemic. For instance, the black community is more prone to the preexisting conditions that leave individuals more at risk of death to COVID-19: black men have twice the risk of a first time stroke than white men; the black community is 80% more likely to be diagnosed with diabetes; and both black men and women are more prone to getting and dying from cancer (see Cigna, "Health Disparities: African American or Black Population," https://www.cigna.com/static/www-cigna-com/docs/health-care-providers/african-american-health-disparities.pdf). Furthermore, African Americans face structural racism, including wealth disparity and racial bias within health care institutions, which will leave them more vulnerable in this pandemic. (See Uché Blackstock, "What the COVID-19 Pandemic Means for Black Americans," Scientific American, April 7, 2020. https://blogs.scientificamerican.com/voices/what-the-covid-19-pandemic-means-for-black-americans/; US Dept. of Health and Human Services, "Profile: Black/African Americans," https://www.minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=61).

Evidence Against

a. **NYC data suggests that African Americans could be dying at twice the rate of white Americans:** In the total sample size of 1,555 deaths, 428 were African Americans, and 1,127 others.[36] Given the percentage of the NYC population who are African American, that would mean African Americans were dying from coronavirus at a rate of 23 per 100,000, while others are dying at 17 per 100,000. As reported in *The New York Times*, the NYC Health Department released what it labeled "age adjusted death rates" for African Americans according to which, by that calculation, the current age adjusted death rate for African Americans is 19.8 per 100,000 in comparison with the 10.2 per 100,000 for white Americans.[37] But, as critics have noted, since those presenting these estimates have not provided any information about how they adjusted for age, it is not possible to assess their claims.[38]

b. **Coronavirus will be a leading cause of death for African Americans:** In the last National Vital Statistics Report published, 335,667 African Americans died in 2017 from all causes.[39] (Why 2017 is the last year for which they have provided data is another matter—and another reason for one of our recommendations below.) Using the White House Task Force's low point estimate of 100,000 and the preliminary death percentages from twelve states with disaggregated

36 1,127 is comprised of 521 deaths for "All Hispanics," 424 deaths for "Non-Hispanic/Latino: White," 112 deaths for "Non-Hispanic/Latino: Asian," and 70 deaths for "Non-Hispanic/Latino: Other." See NYC Health, "Age adjusted rate of fatal lab confirmed COVID-19 cases per 100,000 by race/ethnicity group," April 6, 2020, https://www1.nyc.gov/assets/doh/downloads/pdf/imm/covid-19-deaths-race-ethnicity-04082020-1.pdf.

37 NYC Health, "Age adjusted rate of fatal lab confirmed COVID-19 cases per 100,000 by race/ethnicity group," April 6, 2020, https://www1.nyc.gov/assets/doh/downloads/pdf/imm/covid-19-deaths-race-ethnicity-04082020-1.pdf.

38 Assessing the impact of a new variable (coronavirus) on a population is analytically complex. To oversimplify, imagine two populations, A and B. If one begins at the aggregate level with the total number of As and Bs, and the total number of deaths caused by this new killer in each group as a percentage of their total population, on the basis of the limited data available, the difference between the risk of death for As and Bs is: 23 vs. 16 per 100,000. But if As have a shorter life expectancy than Bs (since African Americans die at a higher rate than their counterparts in their younger years), if one compares As and Bs at age 50, again recognizing that the sample currently available is too small for confident inference, the difference between the risk of death for As compared to Bs widens: to 20 vs 10 per 100,000. If one disaggregates further to take account of preexisting conditions of those 50 year olds, it seems likely that these factors account for much of this difference. And if one includes the sex of the 50-year-old As and Bs, the increased risk of death for males in both groups over females appears larger than the differential risks caused by race.

39 The last report documented the final data for deaths in the United States in 2017. See https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf.

data by race, we would expect 32,000 additional African American deaths, making coronavirus the third leading cause of death among this demographic, just below heart disease and cancer.[40] For white Americans, however, the 45,000 additional deaths that would rank as the number eight leading cause of death, making risks like unintentional injuries, stroke, and asthma greater threats to this populace than the coronavirus.

Top 10 leading causes of death among African Americans[41]

Cause	Deaths	% of total deaths
Diseases of heart	78,161	23.3
Malignant neoplasms	69,872	20.8
Accidents (unintentional injuries)	19,869	5.9
Cerebrovascular diseases	19,088	5.7
Diabetes mellitus	14,798	4.4
Chronic lower respiratory diseases	11,217	3.3
Assault (homicide)	9,908	3.0
Nephritis, nephrotic syndrome and nephrosis	9,542	2.8
Alzheimer disease	8,991	2.7
Septicemia	6,568	2.0

Top 10 leading causes of death among Caucasian Americans[42]

Cause	Deaths	% of total deaths
Diseases of heart	508,485	23.3
Malignant neoplasms	465,679	21.4
Chronic lower respiratory diseases	139,833	6.4
Accidents (unintentional injuries)	127,029	5.8
Cerebrovascular diseases	110,038	5.0
Alzheimer disease	101,876	4.7
Diabetes mellitus	55,116	2.5
Influenza and pneumonia	43,397	2.0
Intentional self-harm (suicide)	38,106	1.7
Nephritis, nephrotic syndrome and nephrosis	35,191	1.6

40 Of course, these numbers are an estimate and are not simply additive because some of these coronavirus fatalities would die from other preexisting conditions. APM Research Lab, "The Color of Coronavirus," April 14, 2020, https://www.apmresearchlab.org/covid/deaths-by-race; *Centers for Disease Control and Prevention*, "Vital Statistics: Deaths, Leading Causes for 2017," June 24, 2019, https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_06-508.pdf.

41 *Centers for Disease Control and Prevention*, "Vital Statistics: Deaths, Leading Causes for 2017," June 24, 2019, https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_06-508.pdf.

42 Ibid.

Proposition V

While the CDC has not released enough data about the incidence of pre-existing conditions (including heart disease, chronic lung disease, and diabetes) that make individuals more vulnerable, the best evidence available points to a large difference between risks of death from coronavirus for those with and without these preconditions.

Evidence For

a. **Preexisting conditions increase risks for Coronavirus patients**: The CDC's preliminary analysis of comorbidity of Coronavirus deaths found that 94 percent of Coronavirus deaths were reported among patients with at least one underlying condition.[43] Early evidence from New York paints a similar picture, with 88 percent of the 10,580 deaths to date reporting at least one comorbidity, with hypertension, diabetes, and hyperlipidemia as the leading factors.[44]

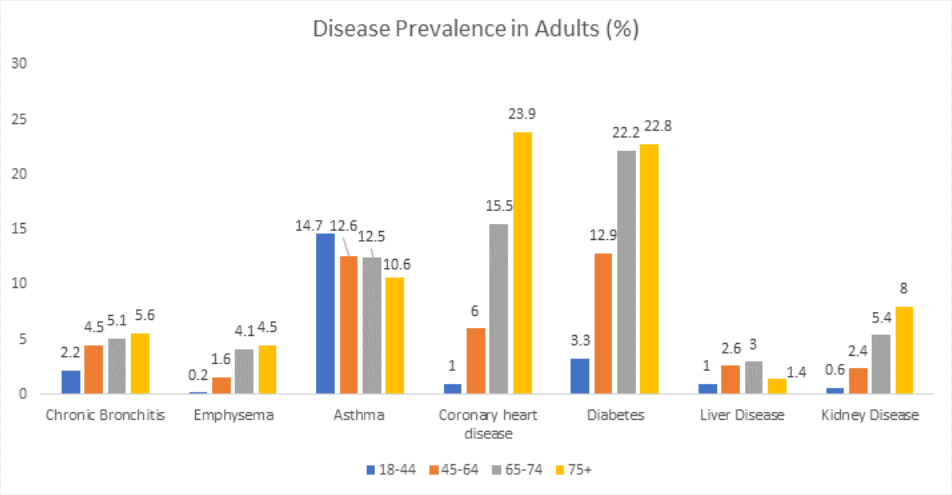
Uncertainties

a. **Specifics about comorbidities remain uncertain**: How many people have each condition and multiple preconditions, these individuals' age, housing, income, access to medical care, and a number of other confounding variables make it difficult to make assessments with confidence. Nonetheless, emerging data offer several dots of light:

43 Centers for Disease Control and Prevention, "Preliminary Estimates of the Prevalence of Selected Underlying Health Conditions Among Patients with Coronavirus Disease 2019 — United States, February 12–March 28, 2020," April 2, 2020, https://www.cdc.gov/mmwr/volumes/69/wr/mm6913e2.htm.

44 New York State Department of Health, "Top 10 Comorbidities by Age Group," accessed April 16, 2020, https://covid19tracker.health.ny.gov/views/NYS-COVID19-Tracker/NYSDOHCOVID-19Tracker-Fatalities?%3Aembed=yes&%3Atoolbar=no&%3Atabs=n.

- One in four adult Americans reports having at least one of the relevant preexisting conditions.[45]
- Current disease prevalence in adults[46]:



45 The polling does not account, however, for specific preexisting conditions that have been known to exacerbate risk for coronavirus patients. See Jeffery Jones, "One in Four US Adults Say They Have a Preexisting Condition," *Gallup*, December 5, 2018, https://news.gallup.com/poll/245108/one-four-adults-say-pre-existing-condition.aspx.

46 Centers for Disease Control and Prevention, "Diseases and Conditions," accessed April 8, 2020, https://www.cdc.gov/nchs/fastats/diseases-and-conditions.htm.

How big is the threat?

Stepping back, while it may seem insensitive, to assess the magnitude of the threat to the nation that has so far led to choices that have pushed what had been a robust economy into what markets expect will be the deepest contraction since the Great Depression, it is nonetheless necessary to look at the big picture. In round numbers, BC, according to actuarial tables, 3 million Americans were expected to die in 2020. If AC that number grows by 100,000 to 3.1 million, how should we assess the significance of that? For each of these individuals and their families and friends, of course, each death is a great tragedy. As John Donne taught us, every man or woman's death "diminishes me."

At the same time, for those who set life insurance rates, produce actuarial tables, and make judgments about hospital capacity, an additional 100,000 deaths would not require any change left of decimal place.[47]

Brute facts are hard to ignore.[48] In the world BC, how many Americans were dying daily from other causes? Roughly, 8,000. That means that in the 50 days since the first death from Coronavirus in which it claimed an additional 32,000 lives in the U.S., 400,000 of our fellow citizens died from other causes.[49] The coronavirus death toll is thus roughly 4 days of "normal" deaths BC. (And statisticians would insist that we note that many of these coronavirus deaths are individuals who would otherwise have died from the conditions they had BC. And that most of these occurred among the elderly who were already seriously ill as they reached 70 or 80 with few good years to live.)

47 See, for example, Felicittie Bell and Michael Miller, "Life Tables for The united States Social Security Area 1900-2100," *Social Security Administration*, https://www.ssa.gov/oact/NOTES/as120/LifeTables_Body.html; Social Security Administration, "Actuarial Life Table," https://www.ssa.gov/oact/STATS/table4c6.html.

48 For relevant discussion see David Katz, "Coronavirus, Casualties, and Context: Do We Dare Discuss Other Numbers?", LinkedIn, April 1, 2020, https://www.linkedin.com/pulse/coronavirus-casualties-context-do-we-dare-discuss-david; David Katz, "Is Our Fight Against Coronavirus Worse Than the Disease," *New York Times*, 3/20/20, https://www.nytimes.com/2020/03/20/opinion/coronavirus-pandemic-social-distancing.html. For Katz's more detailed work on coronavirus, see materials on his website, https://davidkatzmd.com/coronavirus-information-and-resources/.

49 That was the projection BC. AC, the impact of social distancing on other factors—mitigating deaths from flu and other contagious diseases, on the one hand, and potential increases from substance abuse and other causes of death, on the other—show that the trends could go in either direction.

What to do?

The starting point in every discussion of coronavirus should be to remind ourselves of the uncertainties surrounding a novel threat about which much remains unknown. Nonetheless, in confronting challenges like the risk of "loose nukes" when the Soviet Union collapsed in 1991; what would come after the terrorist attack on the U.S.on 9/11 that toppled the World Trade Center killing 3,000, including the possibility that that follow-up could be an unprecedented case of nuclear terrorism; and hundreds of similar uncertain threats to the nation, the intelligence community has developed the art of what they call "connecting the dots." If—after further analysis and debate— the facts summarized above about who is actually dying from this virus prove to be correct, coronavirus will be understood to pose a significantly increased threat of death to a small percentage of America's population, particularly the 15% of Americans over 65 with specific preexisting conditions, but not to the overwhelming majority of Americans.

The question then becomes: What to do? To be sure, much remains unknown, and the world is acquiring new dots of evidence every day. But if after further clarification the picture painted above is basically correct, then three immediate actions top the list of ToDos.

Recommendation one should be incontestable. The time is long past for the CDC and its related agencies to release all the demographics they have about age, sex, race, preexisting conditions, and other attributes of those being infected and dying from this novel killer. Congress and the press should demand that it be released now.

The second recommendation calls on governments at all levels to act to protect those most likely to be victims of this killer. Current choices about allocation of scarce resources should be reviewed with an eye to differential risks coronavirus is imposing on specific groups. To cite one example, if males over 65 with preexisting conditions are shown to be disproportionately in the crosshairs of this killer, guidelines about who should be at work now and as the economy reopens, and who should remain sheltered at home should take this into account.

Finally, we recommend radically widening the debate—far beyond the public health professionals and policymakers now driving the Trump Administration's choices. Both in developing a more accurate diagnosis of the challenge coronavirus poses to our nation, and in identifying options for what comes after the current shut down, we need the best minds from every arena in the nation in which professionals have developed expertise in analyzing novel risks wrapped in uncertainties. In particular, skilled intelligence analysts, financial wizards, and historians should join the fray.

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