

Data from US Colleges and Swedish schools confirms extraordinarily low risk in young people, including those with underlying health conditions

Latest update November 20th, 2020

Matt Irwin, M.D. M.S.W.

I have written two papers on covid-19 being a milder illness than most people believe possible, one written in April, May and June focused mostly on elderly and fragile populations (Irwin, 2020a) and a second one written in June, July, and August, focused more on younger people (Irwin, 2020b). However, the recent results from college campuses in the United States have required me to write this update. The “elephant in the room”, which almost no one talks about, has become even more obvious; extraordinarily low death rates in young people and the clear implications that the virus is much weaker than people think.

At this point in my conversations about this issue, sometimes even friends and colleagues have difficulty accepting this information. Although I encourage you to consider the evidence and make your own decisions, it can be very challenging emotionally to consider that the world’s fears have been so exaggerated. Acknowledging that I have my own exaggerated fears has helped me in this regard. We are all human, after all.

Death rates in US college students are less than 1 in 100,000

The death rate in college students has been found to be less than 1 in 100,000, as documented by an extensive analysis in the New York Times, which will be reviewed in detail, below. This rate is even lower than chickenpox, and much lower than the yearly influenza epidemic. However, the hyper-focus on covid-19 has drained away resources from other issues that cause thousands of deaths in college students each year, which will also be discussed below. The mild nature of the illness in young people makes it hard to believe that it can be so forceful in the elderly and in people with fragile health. As I argued in detail in my first paper, the increased deaths in these groups are in large part due to other factors, including the very social isolation policies put in place to protect them, which become extremely severe when they are suspected of having covid-19, as well as underlying illnesses which already gave them a limited prognosis (Irwin, 2020a).

For those of you who do not know me, I am not a republican and I do not care what political side people are on. I have been a family medicine and hospice doctor for the past 16 years as well as a father of two children who are now young adults. My interest is in relieving suffering, and unfortunately the current covid-19 social isolation of young and old, and especially the solitary confinement policies in long-term care facilities, have increased suffering instead of reducing it, and I am also confident that it has cost more lives than it has saved. I have followed these types of epidemics for over 25 years, and although other epidemics such as swine flu and zika were similarly exaggerated, as documented in my first paper, I never thought that humanity’s innate fear of death could take such a grip. As Frank Herbert wrote, “Fear is the mind killer”, and it is time to loosen its grip a bit. A nice silver lining to this otherwise dark cloud is to gain insight into ourselves. Psalm 90:12 states, “Learn that you must die, that you may gain a heart of wisdom” (Fabrycky, 2020, page 188).

Hospice experience with end of physical life

Over the past 16 years I have visited thousands of hospice patients, and I have seen how events that are relatively mild in younger people, such as urinary tract infections and fall-related injuries, can place

vulnerable people past the tipping point towards end of life. Although grief is a normal part of this experience, death is also a natural process and people need not suffer if they are well cared for during this time. Most people view death as a spiritual release, but few people would advocate increased social isolation in the months, weeks and days before this release occurs, even though it might make the release feel even better. Although a life limiting illness can be extremely difficult to live with, once people get very close to end of life they usually appear quite peaceful, and many of them have “deathbed visions” of loved ones who have passed on, which are comforting to them and their families.

However, most of our hospice patients who have contracted covid-19 have not died, despite their advanced underlying illnesses, and despite the strict quarantine and social isolation that comes with the illness. Most of them have had minimal or no respiratory symptoms with their covid-19 diagnosis, and many of them were completely asymptomatic. All of them had significant pre-existing life limiting illnesses, which is why they were in hospice care in the first place. However, if they have had covid-19 at some point in the few months or weeks before they died, this information is sent to the health department, unlike other opportunistic infections that commonly occur in people with life limiting illnesses as they approach end of life such as urinary tract infections, other viral illnesses, or aspiration events. This special status results in exaggerated “death counts” as discussed in more detail in my first paper which also discusses other sources of bias (Irwin, 2020a).

Tens of thousands of medical professionals and researchers have called for an end to current social isolation policies

Tens of thousands of medical professionals and researchers have signed a declaration calling for better care of the elderly, with an immediate end to viral containment policies in people who do not have underlying illnesses. Although their recommendations are a welcome change, they have been widely ignored. Also, even their protective measures for people with fragile health may be excessive and risk causing isolation and reduced caregiving. The founder of the agency, *Ageing With Dignity*, wrote a short but excellent article about the declaration which is well worth reading (Towey, 2020).

Swedish schools had no deaths in students despite staying open without physical distancing or masks, confirming prior similar data found throughout the world since the very beginning

Other new data also confirms the low risk in young people. The governments of Sweden and Finland published results from their schools through August, and both countries had zero deaths despite Sweden keeping schools open throughout the pandemic and Finland only closing schools temporarily, without using social distancing or masks. Together they had more than 2 million students in their schools. This data will also be reviewed in detail below (Public Health Agency of Sweden, 2020).

Although the extremely low mortality in young people sounds like a new finding, it just confirms prior research going back to the very start of the pandemic in China, as documented in my second paper (Irwin, 2020b). The media and public health virus-containment advocates consistently fail to mention any of this research, instead focusing their fear-based stories on increasing numbers of new cases. However, these new cases are a natural result of greatly expanded testing, with tens of millions of tests being done on people with mild or no symptoms who would never have been tested previously due to a limited number of test kits. Even the New York Times article failed to offer any reassurance when they mentioned finding only three students deaths out of 250,000 cases on college campuses. As will be described below, only one of these deaths can confidently be blamed on covid-19, and this involved a well-known post viral syndrome that can occur after any infectious illness, including chickenpox, and which has been causing more than

600 deaths per year in the United States for decades (Tartarelli et al, 2016; Prevots & Sutter, 1997). Despite what should be reassuring news that might allow our resources to shift back to helping people in need and reducing their isolation, somehow the message of alarm has carried the day yet again. As I write this many states are placing harsher social isolation policies, including expanded mask wearing rules and more limits on people gathering in groups.

While any death in a young person is cause for concern, the media and public health virus-containment advocates continue to ignore other health issues that cause thousands of preventable deaths in young people. For example, there are over a thousand suicides per year and over two thousand deaths from alcohol related injuries each year in college students. Young people facing social isolation have increased risk of these issues, and by encouraging healthy social activities including playing sports, participating in performing arts, and having in person classes, the flames of covid-19 fears can abate, one social interaction at a time.

Swedish schools in more detail: Zero deaths despite never closing and not adopting social distancing or masks

One clear example of the low risk for children comes from Sweden, where schools were kept open throughout the pandemic for all children ages 1-15 and where they did not employ masks or social distancing for students. Iceland had a very similar approach, with the same results, but with a much smaller sample size because the population of Iceland is so small. A joint government report from Sweden and Finland found no difference in infection rates among children, and zero deaths in either country in people aged 1 to 19 (Public Health Agency of Sweden, 2020). There were no deaths in this age group despite 1124 covid-19 documented cases in Sweden and 528 cases in Finland, for a total of 1652 cases, and over 2 million children attending the schools.

Although 1652 cases sounds like a fairly large number, the number of cases is actually much higher than that. As described in detail in my first paper (Irwin 2020a), the actual number of cases has been found in numerous studies to be 10 to 50 times more than the documented number, because a large majority of people with mild symptoms do not get tested. There are also many people who had a mild case of the illness previously, and even if tested in a study with random sampling, will test negative. Therefore, the actual number of covid-19 cases in Swedish and Finnish children and adolescents was likely between 15,000 and 82,000, without a single death. The government report states simply, “The overall cumulative incidence among school-aged children in Finland and Sweden is similar even though Finland closed schools for most children and Sweden did not” (page 13). Although the similar infection rates is interesting, it is the lack of any deaths that makes the strongest case for allowing children to engage in activities with a minimum of social isolation and viral containment policies, which cause significant harm. The similarly low mortality in children and adolescents around the world (Halperin, 2020 a&b; Irwin, 2020b), as well as the extremely low mortality in college students, makes it increasingly clear that the virus is nothing like what has been claimed by people who advocate social isolation, solitary confinement, and other viral containment strategies, all of which have a negative effect on health, especially in vulnerable populations.

College campuses in the United States had over 250,000 positive covid-19 cases, but only three student deaths, and only one that was reasonably caused by covid-19. This is a death rate lower than chickenpox and thousands of times less than deaths from preventable causes like suicide and alcohol related injuries.

Death in a youth is especially traumatic for families, but a severe reporting bias has occurred as colleges have reopened in the United States starting in August, ignoring the major causes of death and diverting resources away from them. The drastic action of closing all schools in March and sending students home mid-semester shows how devastating the effects of covid-19 were expected to be. When colleges reopened there was fear of finding a large number of covid-19 cases, and this is exactly what has happened. However, with over 250,000 positive cases on college campuses by mid-October, the vast majority in undergraduate and graduate students, only three documented student deaths were found by an extensive New York Times investigation, and as will be discussed below, only one of these deaths was confidently caused by covid-19 (New York Times, 2020). The 250,000 cases include professors, maintenance workers, grounds keepers and other older adults. Although difficult to judge accurately, a reasonable estimate for the number of positive students is about 210,000.

Although 210,000 seems like a very high number, this is only about 1% of the total number of college students in the US, and is likely only a fraction of the actual number of covid-19 cases. As mentioned above, studies around the world using random population testing have consistently found that there are 10 to 50 times as many mild cases as listed in official counts (Irwin, 2020a). This bias in testing is unavoidable unless purely random samples are used, and is known as selection bias. Some people who were not tested had mild infections, and others had the illness in the past and would test negative even if they were tested, adding to the total number of mild cases. Because of increased testing of mild and asymptomatic students on college campuses, a conservative estimate might be that only 4 to 10 times as many mild cases existed than actually tested positive. This would mean that between 840,000 and 2,000,000 college students in the US have had covid-19, with only three deaths, two of which were likely caused by other issues, with covid-19 as an innocent bystander, or at best a secondary contributor.

The actual death rate for college students is at most 1 in 70,000, but more likely closer to 1 in a million.

Even if you use the raw unadjusted data without accounting for selection bias, and even if you include all three student deaths without accounting for other causes of death, this would still be an extremely low death rate of about 3 in 210,000, or 1 in 70,000, slightly lower than the rate for chickenpox. However, if you only count the one confident case and adjust the number of mild cases upwards appropriately, accounting for selection bias, the rate is between 1 in 840,000 and 1 in 2,000,000. This seems impossible, but it is the most logical conclusion based on the available evidence. It is also similar to the death rates in children and adolescents found since the start of the pandemic in China, with only about 20 deaths in children and adolescents in the entire world during the first 6 months of the pandemic (Halperin, 2020 a&b). Meanwhile more than a hundred thousand children died from other preventable causes during the same time-period, mostly from malnutrition related illnesses in developing countries (Irwin, 2020b; World Hunger Education Service, n.d.). In the children and adolescents who are listed as dying from covid-19, there were likely other contributing causes, just as in the college students and in people with advanced underlying illnesses such as our hospice patients.

The college data also shows clearly that having pre-existing illnesses such as childhood asthma or diabetes does not have a significant effect. For example, no college students with childhood asthma died, but assuming the same prevalence of asthma as the rest of the population, about 8%, at least 17,000 of the positive cases had this in their health history, and when accounting for selection bias the number rises to 68,000 to 170,000 cases, with zero deaths.

More than a thousand college students die each year from suicide, and about 2,000 die from alcohol related injuries, areas that could use more support and that benefit from healthy group activities.

Thousands of deaths that occur each year in college students for other reasons continue to be ignored. About 1100 college students die per year from suicide (Wilcox et al., 2010), and each year, according to the National Institute of Alcohol Abuse and Alcoholism, “About 1,825 college students between the ages of 18 and 24 die from alcohol-related unintentional injuries” (*College Drinking*, 2020). These two causes alone are about 1000 times more than the deaths from covid-19, and as discussed previously, both alcohol abuse and suicide are increased during times of social isolation and economic hardship (CDC MMWR, 2020; Kerr et al, 2017). There are also many other causes of death in this age group, including other injuries such as firearm-related deaths and motor vehicle accidents, and in 2016 almost 16,000 people in the United States between the ages of 15 and 24 died (Kochanek, 2017). Maybe the current alarm over covid-19 can be transferred to increased support for these other areas.

In addition to an extremely low death rate, the hospitalization rate for college students is also many times lower than for influenza.

Another sign of how mild the illness has been in college students is that only a tiny fraction of positive cases were even hospitalized. Although difficult to quantify accurately, one investigative journalist found only about 12 out of 6000 cases in Ohio were hospitalized, for a rate of 1 in 500. The article painted a very dark picture of the overall situation, without considering that this rate is considerably lower than the rate for influenza in this age group of about 1 in 200 (CDC Influenza, 2019; Grieve, 2020). However, when adjusting for selection bias and accounting for the large number of mild cases who did not get counted, the correct hospitalization rate is more likely between 1 in 2000 and 1 in 10,000. It is incredible that this finding, as well as the remarkably low mortality in young people, is not front page news around the world.

Two of the three college students’ cause of death was not likely from covid-19, and in one case this was explicitly stated by the county coroner.

Because the death rate is so incredibly low for college students who test positive for covid-19, and because college age youths died from other causes thousands of times more often, it is reasonable to ask more details about the students who died to see if covid-19 was actually the cause. While any young person dying is traumatic for loved ones, blaming covid-19 falsely might only compound the trauma, adding unnecessary guilt to their parents who sent them away to college in the first place.

The students who died were named in the New York Times report, and their cases were described in the media. One died from a heart attack, one from a blood clot in the lung, and the other from a well known post viral neurological condition called Guillain-Barre syndrome, which started shortly after he finished his home quarantine and returned to campus (Conway, 2020; Faherty, 2020; Grace College, 2020). All of these health conditions occur every year in young people who do not test positive for covid-19, and in the case with a blood clot in the lung, the county coroner specifically stated that although covid-19 may have contributed to the death, “it was not caused by COVID” (Grace College, 2020).

Regarding the young man who had a heart attack, adolescents and young adults do have heart attacks, and nearly a thousand die per year from heart disease (CDC Vital Statistics, 2015; Lane & Ben-Shachar, 2007). Although the New York Times article and some others have stated that blood clots are known to be caused by covid-19, this does not explain why none of the other positive students, over 200,000 of them, did not die from this problem, just as they did not die from a heart attack. However, Guillain-Barre is a well-known condition that can follow an illness of any kind, not only covid-19, and so this student’s death is

most likely a direct sequela of his viral infection. Although Guillain-Barre is usually not fatal, it still causes about 630 deaths per year in the United States, and can even follow mild illnesses such as chickenpox (Tartarelli et al, 2016; Prevots & Sutter, 1997). Although just as painful for the student's family no matter the cause, a single death in a college student from Guillain-Barre does not make covid-19 a special virus, and a better use of resources to help people like this young man and his family would be to support communication and treatment of Guillain Barre, rather than focusing efforts on containment of covid-19.

Our world has devoted incredible resources to social isolation, solitary confinement, and other viral containment strategies. However, a wiser use of these resources would be to increase treatment, support, research and communication between clinicians about the other issues such as suicide, alcohol and drug abuse, and accidental injuries from firearms and motor vehicle collisions. I personally just learned that although no students have died at my son's college campus from covid-19, despite over 1500 positive cases, a student died last week when she was struck by a car. This event creates ripples of suffering in the student, her family and friends, as well as in the driver of the car and their family and friends. Redirecting resources to safe driving programs and mental health programs for young people would help so much more than viral containment policies. Although supporting these kinds of programs and changing our health care to focus on more significant issues may help significantly, people's own healing systems are the best defense against any illness. Promoting healthy and safe activities including music, arts, in person classes, exercise, and sports, might make more of a difference than any part of the health care system ever could.

Links:

Matt Irwin paper on restarting youth activities and increasing social contacts:

www.drmattirwin.com/restart

Article from the founder of *Aging With Dignity*, Jim Towey, about the declaration signed by tens of thousands of scientists and medical professionals calling for an end to social isolation policies

<https://agingwithdignity.org/the-great-barrington-declaration/>

References

CDC MMWR. (2020, August 14). Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic. *Morbidity and Mortality Report*, 69(32).
<https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6932a1-H.pdf>

CDC Vital Statistics. (2015). *10 Leading Causes of Death by Age Group, United States – 2015*. Retrieved November 4, 2020, from
https://www.cdc.gov/injury/wisqars/pdf/leading_causes_of_death_by_age_group_2015-a.pdf

College Drinking. (2020, February). National Institute of Alcohol Abuse and Alcoholism. Retrieved October 17, 2020, from <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/college-drinking>

Conway, T. (2020, September 15). *Jamain Stephens' family says he died of blood clot following covid-19 diagnosis*. Bleacher Report. <https://bleacherreport.com/articles/2909284-jamain-stephens-family-says-he-died-of-blood-clot-following-covid-19-diagnosis>

Cunningham, R., Walton, M., & Carter, P. (2018). The Major Causes of Death in Children and Adolescents in the United States. *New England Journal of Medicine*, 379(25). <http://mediad.publicbroadcasting.net/p/michigan/files/201812/NEJMSr1804754.pdf>

Fabrycky, L. (2020). *Keys to BonHoeffler's Haus: Exploring the Wisdom of Dietrich Bonhoeffer*. Fortress Press.

Faherty, S. (2020, October 1). *Parents of ASU student who died from COVID-19 complications open up about loss*. WSOC TV. <https://www.wsocvtv.com/news/local/19-year-old-app-state-sophomore-dies-covid-19-complications/X4AAXZ7JQBBRLFICKM3QIE3BZI/>

Grace College. (2020, November 3). *Grace College Provides Update on Bethany Nesbitt Death*. Retrieved November 9, 2020, from <https://www.grace.edu/student-death-at-grace-college/>

Grieve, P. (2020, October 7). *At Least A Dozen Ohio College Students Suffered Medical Emergencies from COVID-19*. Spectrum News 1. <https://spectrumnews1.com/oh/dayton/news/2020/10/06/at-least-a-dozen-ohio-college-students-suffered-medical-emergencies-from-covid-19>

Halperin, D. (2020, May 29). The case for reopening schools this fall. *Washington Post*. <https://www.washingtonpost.com/opinions/2020/05/29/case-reopening-schools-this-fall/?outputType=amp>

Halperin, D. (2020, June). Coping With COVID-19: Learning from Past Pandemics to Avoid Pitfalls. *Global Health: Science and Practice*, 8(2). <https://www.ghspjournal.org/content/ghsp/early/2020/06/19/GHSP-D-20-00189.full.pdf>

Irwin, M. (2020a, July 12). *A Rapidly Changing View of Covid-19* [Unpublished working paper]. <http://www.drmattirwin.com/covid-19.html>

Irwin, M. (2020b, September 3). *Restarting School, Performing Arts, and Youth Athletics* [Unpublished working paper]. <http://www.drmattirwin.com/covid-19.html>

Kerr, W., Kaplan, M., Huguet, N., Caetano, R., Giesbrecht, N., & McFarland, B. (2017). Economic Recession, Alcohol, and Suicide Rates: Comparative Effects of Poverty, Foreclosure, and Job Loss. *American Journal of Preventive Medicine*, 52(4), 469-475. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5362282/>

Kochanek, Murphy, Xu, & Arias. (2017, December). *Mortality in the United States, 2016*. NCHS Data Brief. <https://www.cdc.gov/nchs/data/databriefs/db293.pdf>

Lane, J., & Ben-Shachar, G. (2007). Myocardial Infarction in Healthy Adolescents. *Pediatrics*, 120(4), e938-e943. <https://doi.org/10.1542/peds.2006-3123>

New York Times. (2020, October 8). Tracking covid at U.S. colleges and universities. *The New York Times*. <https://www.nytimes.com/interactive/2020/us/covid-college-cases-tracker.html>

Prevots, D., & Sutter, R. (1997). Assessment of Guillain-Barré syndrome mortality and morbidity in the United States: implications for acute flaccid paralysis surveillance. *Journal of Infectious Disease*, February, S151-5. <https://pubmed.ncbi.nlm.nih.gov/9203708/>

Public Health Agency of Sweden. (2020, August). Covid-19 in schoolchildren A comparison between Finland and Sweden. In *Special Report*. Retrieved October 24, 2020, from <https://www.folkhalsomyndigheten.se/contentassets/c1b78bffbde4a7899eb0d8ffdb57b09/covid-19-school-aged-children.pdf>

Sullum, J. (2020a, April 3). What We Should Have Learned From Iceland's Response to COVID-19. *Reason Magazine*. Retrieved from <https://reason.com/2020/04/03/what-we-should-have-learned-from-icelands-response-to-covid-19/>

Tartarelli, P., Garnero, N., DelBono, V., Camera, N., Grandis, M., & Viscoli, C. (2016). Guillain-Barré syndrome following chickenpox: a case series. *International Journal of Neuroscience*, 126(5), 478-479. <https://www.tandfonline.com/doi/full/10.3109/00207454.2015.1033621>

Towey, J. (2020, October 7). *The Great Barrington Declaration*. Aging With Dignity. Retrieved November 18, 2020, from <https://agingwithdignity.org/the-great-barrington-declaration/>

Van Drujten, L. (2020, May 22). How Dutch schools reopened with no pupil distancing. *Tes: The Times Educational Supplement*. <https://www.tes.com/news/coronavirus-how-dutch-schools-reopened-no-pupil-distancing>

Wilcox, H., Arria, A., Caldeira, K., Vincent, K., & O'Grady, K. (2010). Prevalence and predictors of persistent suicide ideation, plans, and attempts during college. *Journal of Affective Disorders*, 127, 287-294. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924459/#:~:text=Results,%25wt%20of%20the%20sample>

World Hunger Education Service (n.d.) Retrieved March 28, 2020, from <https://www.worldhunger.org/world-child-hunger-facts/>