Written based on August 3 data.

(1) The death rate worldwide, even if we consider total deaths as a percent of current cases (not accounting for the lag - I'll explain below) is: (total deaths)/(total cases) = 695550/18349260 = 3.79%. Source: Total cases and deaths from [https://coronavirus.jhu.edu/map.html](https://l.facebook.com/l.php?u=https%3A%2F%2Fcoronavirus.jhu.edu%2Fmap.html%3Ffbclid%3DIwAR0IKTGWPiUtuz6-8r4jlGMYi2wGdz2pxgyKCxUTvQBRr3CpuypEqBGNvuE&h=AT27Xw6-JpC5qOHjsiXC9_4ccKxKcg9lTPNsiREFeNXI1-NHCIKCnYOGnDlXn4OHabnlQgVyUBoLyHAdxNoboixX1bI8gcAuhmYry33mpOoB6RNBi2WDerjqVev17Q_G&__tn__=R%5d-R&c%5b0%5d=AT2cUMrP7s9nZSOEwoJEm5nwNqeH68AFKJ-fmwQ7kpaceGJ-suhMSg0ckmNNqMSojjd1sIejhTznX_3vF4IjBv6xtsda_1dosffCjdLkHHM7blmkqF3vw8sNKho84uNUYc-emhXLSftK98ijBAFSpEKbd7qONbOPPopnFpwvXDx5vEnE_6TCi7o4eKV_EcB4zBD6RQUMQw), front page. This is 11.37 times larger than the (wildly innaccurate) "death rate has now been reduced to less than 1/3 of 1% worldwide" from the above statement - i.e., that statement is just so very, very wrong.

(2) In the US, a similar calculation would lead to the value (total deaths)/(total cases) = 155942/4732418 = 3.30%. A bit better, but not by much.

But both of these ignore the simple fact that "death" typically lags after cases are diagnosed. I will post some graphs shortly demonstrating that.

I could (and would be happy to) add much more. But please, for the love of all that is holy, don't advocate such blatantly incorrect information (and easily disproved, it took me 5 seconds to look up the correct numbers).

Note that my above comment relates to Case Fatality Rate (description here: [https://ourworldindata.org/mortality-risk-covid](https://l.facebook.com/l.php?u=https%3A%2F%2Fourworldindata.org%2Fmortality-risk-covid%3Ffbclid%3DIwAR1zYU_lJNYpKuwVYRMAlxZIkST3TECqGRkmDVHCYHGkDc4ck5Zj1SIUsZo&h=AT0Zdw9DWgI0f8-f0dhRXo6W5TmUpdwkY4Ze9VGhBbbCgClE9LKaSRbkMNhHx0p8APtg0Rl4TUAPIhyawukV4YN0O9TR3B1jAyMyTtUNtaZdCDtjE34aJ2HYTlFFvC_O&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig))

However, this does not account for the time-lag between when cases are DIAGNOSED and when we see deaths resulting. Visually, this can be seen in one of my favorite subreddits, with daily graphs about Minnesota cases (see the latest here: [https://www.reddit.com/r/CoronavirusMN/comments/i3mkpl/804\_update\_57162\_positives\_602\_1620\_deaths\_4\_7770/](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.reddit.com%2Fr%2FCoronavirusMN%2Fcomments%2Fi3mkpl%2F804_update_57162_positives_602_1620_deaths_4_7770%2F&h=AT38NmqL3EZNulK0ofm0qdZFPFbmhLX-wwpqIWc0lpR1UosDHAI8iNb90zAAOW9XxtCskjQcZbRW1sf32244UpFctF2mlZKKNWObh6VM-AjqTFC4S9ZHM5QwNQGI_bgI&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig)). Note that the graph (log-scale) in the upper right corner shows that the pattern we see in deaths is "shifted" about 20 days to the right of the pattern in cases.

I have done a corresponding analysis of WI cases here, using a regression model on the log-deaths and log-cases: [https://jjkraker.github.io/EauClaireCOVIDsummary/TabbedDashboard.html#modeling](https://l.facebook.com/l.php?u=https%3A%2F%2Fjjkraker.github.io%2FEauClaireCOVIDsummary%2FTabbedDashboard.html%3Ffbclid%3DIwAR0iO5zR7iXtYJ2PR8Uvhk5aEVC8-nVMYCRSPrbqW150iAKtwhTd2xTQ5wY%23modeling&h=AT1llFTwjsMFJ-L5o5VmRuZap1jMEK_9JsP3s0xRqSNPf_ympI9diHls4wkHo2kfOIfiIg4KMTlUdDUD7_c1FLP5pwO5oqDL2IJyzMkP6HLdKdfqwyEcxVlN8PVnfg6h&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig). This estimates that the number of cumulative deaths, at a lag of 20 days, are approximately 9.1 times number of cumulative cases to the 0.45 power.

Fitting a similar model for the US (as I did for Wisconsin), I estimate that the number of cumulative deaths, at a lag of 25 days, are approximately 311 times number of cumulative cases to the 0.4160 power. (Differently curved model, due to different rates of case occurrence)

Hence, a more accurate estimate of the true (eventual) death rate would be to take the current number of deaths divided by the number of diagnosed cases about three weeks prior. Using this more accurate death rate (data from [https://github.com/CSSEGISandData/COVID-19/tree/master/csse\_covid\_19\_data](https://l.facebook.com/l.php?u=https%3A%2F%2Fgithub.com%2FCSSEGISandData%2FCOVID-19%2Ftree%2Fmaster%2Fcsse_covid_19_data%3Ffbclid%3DIwAR0LGOhXc9b-u_o1-swIzyjJAuwIu5cL5hQyZ1HQmEamEFeP-GSnM5Ahsu0&h=AT1sAq_SAMNavspifDTtngMWpT8w26o-pBdcrldOsCExxKLzTlls072LCEJ39-H9c_sw8VppMEvIePkwKc_El3F9QMik20wE3ldT5PW4fUkvBMl_5K4MuUIijZgv5365&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig)) at a lag of 25 days (based on model fit to the US cumulative cases and deaths):

US: (current deaths on August 3 data) / (diagnosed cases 25 days prior) = 155942/ 3117946 = 5.00% death rate, properly accounting for the lag.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

There is a big caveat here - this doesn't count undiagnosed cases (either due to lack of testing or asymptomatic situations). (this is referred to as Infection Fatality rate)

How many are there? We'll never know here in the US, unless the US much improves testing (active and antibody) availability. However, there are currently antibody testing studies underway in Germany trying to answer this same question, along with CDC in the US ([https://www.statnews.com/2020/04/04/cdc-launches-studies-to-get-more-precise-count-of-undetected-covid-19-cases/](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.statnews.com%2F2020%2F04%2F04%2Fcdc-launches-studies-to-get-more-precise-count-of-undetected-covid-19-cases%2F%3Ffbclid%3DIwAR0Es97xNNJItkqczD_2VKR2Tc_y1BzW0D1dAxjjxmdInDpUARg-UOIqlmE&h=AT3aRS55PxD-rQd0U-Y4VmtA84ce9rlzAX3J7phrgprcmP9-NvvdCX3HEkVT8SmZ1zvnrvPVaichK0GALitNHBtC0mBZ1nT_EaAfgLi7Yvm3-U5zBTAC0mCJKnaiefDe&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig)). According to a (Canadian-led) group of researchers, on [https://serotracker.com/Dashboard](https://l.facebook.com/l.php?u=https%3A%2F%2Fserotracker.com%2FDashboard%3Ffbclid%3DIwAR1uq4MqEi1n1hIakFJo94Kw_XARXQNDeSCQ9l7K9oz1I0s3EqLNqsRquiA&h=AT3KOc9upoyFu_6JiEKWpIAwiVJus5X3S-nWiZP0yl_IU0W9YcYQ6QdN6f1fkMPA8LSu4K3DV6ZwqIt4agbL1LAaVoHM8yact1P3PAYOqPBY93H6GDS3LK6gScU7zB05&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig), the percent of people in the US who have actually had COVID-19 is estimated to be 5.8%.

Caveat to the caveat: This also doesn’t include deaths from undiagnosed cases.

<https://www.nytimes.com/interactive/2020/05/05/us/coronavirus-death-toll-us.html>

That being said; since there are currently 155,942 deaths in the US, using the much more generous estimate of 5.8% of 328.2 million = around 19 million people in the US having been infected with COVID-19 at some point, that still means that the (unlagged) death rate is 155,942 / 19 million. In other words, even in the most generous interpretation of the above number, the quoted death rate is still wildly wrong. Added on to the fact that a lagged model predicts there to be around 185,726 deaths in the US by late August (28th), the death rate (out of the current cases), in this most generous interpretation of the number of cases (including diagnosed and potentially undiagnosed), is right at about 1%.

Finally, a personal note: While I personally may "only" have a 1-2% chance of dying if infected (above estimate, along with source: [https://www.acsh.org/news/2020/06/23/coronavirus-covid-deaths-us-age-race-14863](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.acsh.org%2Fnews%2F2020%2F06%2F23%2Fcoronavirus-covid-deaths-us-age-race-14863%3Ffbclid%3DIwAR06XDQ4FIzanlZ1apiGLSI0CFid1SHyCUpYS28q6v9EEgvrsRu7rs0PPO8&h=AT2-bXV4tKQQ6fw_hnmYmIkfBbSNxs_5QIIz6fium-Dse5ZWmqe8xzaerZg4hWD6k3adjNV0OH9v798E_j6bVaqYw0UAgaGuLUtUIhCBJXicHHotyt8I5zh146BS4oZ1&__tn__=R%5d-R&c%5b0%5d=AT3LPuQCMoZ3dD-XtY9guHx9ZIXBs3t6BMh15TLahTAa68sXv7zwxkBaWrsQNaUzZyKyDYwvft6vCzN0L81-XtJeyJ1RgNUvh1kVgvs_0HTo_tdfP8R1gLS75axDyIDhb_DfMlMIGwPwPy_Tuy0EVYm3UA2hzyd3pbJPceIT9QtPig)), this does not account for potential organ, including lung, damage. Additionally, my parents have closer to a 10% chance of dying because of their ages and immune-system status. As a consequence, I will only get to see my parents once this year… because once the school year starts, I am fairly likely to wind up getting this. Being required to work in close proximity to students who may pass this on to me, means that I cannot visit my parents until I (and my close family) are able to self-quarantine for 10 days; I’m not willing to risk killing my parents with such a high probability.

Thus, I fully support requirements for mask-wearing and social-distancing (in place at my university) to minimize the risk that I will get Covid while working. Even so, I am sacrificing a lot of time with my parents (and thus brother’s family as well) in order to do my job. While I am thankful for my family locally, it is difficult to sacrifice time with my parents.

Important: Rt value

<https://rt.live/>, generated models via <https://github.com/rtcovidlive/covid-model/blob/master/covid/models/generative.py>

When to close…

<https://covid19.healthdata.org/united-states-of-america>

[https://globalepidemics.org/key-metrics-for-covid-suppression/](https://l.facebook.com/l.php?u=https%3A%2F%2Fglobalepidemics.org%2Fkey-metrics-for-covid-suppression%2F%3Ffbclid%3DIwAR3p7tMRHZrWBw8eTYTQC3rBeJKUdo0AU-kBg7mnlRNBLPK9QaSdX8yY-2U&h=AT0jcJ7q6vWPs2LVzsIIDHovf0Tgk7-X3fXZg1kivH_0NGYooy9rHySfkrr1V0SuEQqxgGzhpsXRvj55J6l6KHhIlzcaJsKUWeicrY8RwIoVeJNPhI0e5lu2cViMbs0kHg),

[https://www.npr.org/sections/health-shots/2020/07/23/894425483/can-masks-save-us-from-more-lockdowns-heres-what-the-science-says?sc=18&f=894425483](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.npr.org%2Fsections%2Fhealth-shots%2F2020%2F07%2F23%2F894425483%2Fcan-masks-save-us-from-more-lockdowns-heres-what-the-science-says%3Fsc%3D18%26f%3D894425483%26fbclid%3DIwAR1gnQpBiQQAVFQKwZbTteMbYOmkQ7b8xPlnxbLAo_WXhsni1Wo3S2sQDaE&h=AT0jcJ7q6vWPs2LVzsIIDHovf0Tgk7-X3fXZg1kivH_0NGYooy9rHySfkrr1V0SuEQqxgGzhpsXRvj55J6l6KHhIlzcaJsKUWeicrY8RwIoVeJNPhI0e5lu2cViMbs0kHg)