

Table 1.

Non-exhaustive overview of the side and ripple effects of the pandemic and related lockdown measures, including references.

Physical Health	
Side Effect	Reference
Estimated 100 million casualties in low and middle-income countries, as an indirect effect of the virus, and the lockdown measures (early estimate).	Zetzsche, D. A. (2020). One million or one hundred million casualties? The impact of the COVID-19 crisis on low-and middle-income countries. Available at SSRN 3597657.
138 million people face starvation as economies and livelihoods are interrupted by the pandemic (updated estimate).	Kennedy, F., Luescher, B., Byrs, E., Taravella, S., & Moghraby, S. (2020). <i>New report shows hunger is due to soar as coronavirus obliterates lives and livelihoods</i> . Word Food Program. https://www.wfp.org/news/new-report-shows-hunger-due-soar-coronavirus-obliterates-lives-and-livelihoods
COVID-19 likely to lead to increased maternal and child mortality indirectly, via disrupted healthcare, decreased food access, health system and economic collapse.	Roberton, T., Carter, E. D., Chou, V. B., Stegmuller, A. R., Jackson, B. D., Tam, Y., Sawadogo-Lewis, T., & Walker, N. (2020). Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study. <i>The Lancet Global Health</i> , 8(7), e901–e908. https://doi.org/10.1016/S2214-109X(20)30229-1
Access to other forms of healthcare may be limited, as doctors are redirected, and people fear seeking care, leading to worse health outcomes in the long run. Risk of many deaths from health problems not related to covid-19.	Heath, S. (2020, March 17). <i>How Will Coronavirus Impede Patient Access to Care?</i> Patient Engagement Hit. https://patientengagementhit.com/news/how-will-coronavirus-impede-patient-access-to-care Gorvett, Z. (2020). <i>Why most Covid-19 deaths won't be from the virus</i> . BBC. https://www.bbc.com/future/article/20200528-why-most-covid-19-deaths-wont-be-from-the-virus

There has been a significant increase in the number of major amputations during lockdown as patients wait longer to seek medical care for non-covid-19 illnesses.

Schuijvens, P. M. E., Buijs, M., Boonman-de Winter, L., Veen, E. J., de Groot, H. F. W., Buimer, T. G., Ho, G. H., & van der Laan, L. (2020). Impact of the COVID-19 lock down strategy on vascular surgery practice: more major amputations than usual. *Annals of Vascular Surgery*. <https://doi.org/10.1016/j.avsg.2020.07.025>

Quarantine stress increases the risk of cardiovascular health problems.

Mattioli, A. V., Nasi, M., Cocchi, C., & Farinetti, A. (2020). COVID 19 outbreak: impact of the quarantine-induced stress on cardiovascular disease risk burden. In *Future cardiology*. Various. <https://doi.org/10.2217/fca-2020-0055>

Access to reproductive healthcare during lockdowns is limited which leaves some women without access to care they need.

Quell, M. (2020, April 14). *Dutch Woman Loses Bid for Abortion Pill Without Clinic Visit*. Courthouse News. <https://www.courthousenews.com/dutch-woman-loses-bid-for-abortion-pill-without-clinic-visit/>

Global condom shortage may be looming as manufacturing is shut down, which is likely to result in increase in sexually transmitted infections and unplanned pregnancies, especially in poorer countries.

Kibira, D. (2020). *COVID-19's adverse impact on sexual and reproductive health (SRH)*. Health Action International. <https://haiweb.org/covid-19-srh/>

Chin, K. (2020, April 14). *There may be a shortage of 100 million condoms because of the coronavirus*. Business Insider. <https://www.businessinsider.com/coronavirus-condom-producer-malaysia-karex-berhad-2020-4?international=true&r=US&IR=T>

Mental Health

Side Effect

Reference

The pandemic could lead to a significant rise in suicide mortality in the coming months.

Mark A. Reger, PhD^{1,2}; Ian H. Stanley, MS^{1,3}; Thomas E. Joiner, PhD. (2020). Suicide Mortality and Coronavirus Disease 2019—A Perfect Storm? *JAMA Psychiatry*. Published online April 10, 2020. doi:10.1001/jamapsychiatry.2020.1060

	Lennon, J. C. (2020). What lies ahead: Elevated concerns for the ongoing suicide pandemic. <i>Psychological Trauma: Theory, Research, Practice, and Policy</i> . Advance online publication
Worsening mental health concerns as stress, depression, and anxiety increases.	Fiorillo, A., & Gorwood, P. (2020). The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. In <i>European psychiatry: the journal of the Association of European Psychiatrists</i> (Vol. 63, Issue 1, p. e32). NLM (Medline). https://doi.org/10.1192/j.eurpsy.2020.35
Current decrease in access to mental healthcare may result in worsening mental health of the general population, with people with existing conditions being most at risk.	Torales, J., O'Higgins, M., Castaldelli-Maia, J. M., & Ventriglio, A. (2020). The outbreak of COVID-19 coronavirus and its impact on global mental health. <i>International Journal of Social Psychiatry</i> , 002076402091521. https://doi.org/10.1177/0020764020915212
Those with pre-existing mental health conditions are most at risk of having increased mental health issues due to the pandemic.	Druss, B. G. (2020). Addressing the COVID-19 Pandemic in Populations With Serious Mental Illness. <i>JAMA Psychiatry</i> . https://doi.org/10.1001/jamapsychiatry.2020.0894
Pandemic triples anxiety and depression symptoms in new mothers.	Davenport, M. H., Meyer, S., Meah, V. L., Strynadka, M. C., & Khurana, R. (2020). Moms Are Not OK: COVID-19 and Maternal Mental Health. <i>Frontiers in Global Women's Health</i> , 1. https://doi.org/10.3389/fgwh.2020.00001
A significant increase in rates of insomnia may worsen stress, anxiety, and other existing mental health issues, especially in frontline workers.	Lin, L. yu, Wang, J., Ou-yang, X. yong, Miao, Q., Chen, R., Liang, F. xia, Zhang, Y. pu, Tang, Q., & Wang, T. (2020). The immediate impact of the 2019 novel coronavirus (COVID-19) outbreak on subjective sleep status. <i>Sleep Medicine</i> . https://doi.org/10.1016/j.sleep.2020.05.018
	Morin, C. M., & Carrier, J. (2020). The acute effects of the COVID-19 pandemic on insomnia and psychological symptoms. In <i>Sleep Medicine</i> . Elsevier B.V. https://doi.org/10.1016/j.sleep.2020.06.005
Mandatory lockdowns or quarantines may have an especially large negative effect on individuals suffering from social anxiety.	Zheng, L., Miao, M., Lim, J., Li, M., Nie, S., & Zhang, X. (2020). Is Lockdown Bad for Social Anxiety in COVID-19 Regions?: A National Study in The SOR Perspective. <i>International Journal of Environmental</i>

Research and Public Health, 17(12), 4561.
<https://doi.org/10.3390/ijerph17124561>

Economic Effects

Side Effect	Reference
The total worldwide economic cost of the pandemic could reach \$8.8 trillion.	Takagawa, A. (2020). <i>COVID-19 Economic Impact Could Reach \$8.8 Trillion Globally</i> . Asian Development Bank. https://www.adb.org/news/covid-19-economic-impact-could-reach-8-8-trillion-globally-new-adb-report
The pandemic coupled with government relief packages being put into place could result in a worldwide deficit of \$30 trillion by 2030.	Assi, R., de Calan, M., Kaul, A., & Vincent, A. (2020). <i>Closing the \$30 trillion gap: Acting now to manage fiscal deficits during and beyond the COVID-19 crisis</i> . McKinsey. https://www.mckinsey.com/industries/public-and-social-sector/our-insights/closing-the-30-trillion-gap-acting-now-to-manage-fiscal-deficits-during-and-beyond-the-covid-19-crisis#
Half of world's workers 'at immediate risk of losing livelihood due to coronavirus'.	Inman, P. (2020). <i>Half of world's workers 'at immediate risk of losing livelihood due to coronavirus'</i> . The Guardian. https://www.theguardian.com/world/2020/apr/29/half-of-worlds-workers-at-immediate-risk-of-losing-livelihood-due-to-coronavirus
Despite efforts to minimize layoffs, 60 million EU jobs are at risk, and mass layoffs are predicted for the near future.	Riley, C. (2020). <i>60 million European jobs are at risk from coronavirus</i> . CNN Business. https://edition.cnn.com/2020/04/19/business/europe-jobs-coronavirus-mckinsey/index.html Alderman, L. (2020). Europe Tried to Limit Mass Layoffs, but the Cuts Are Coming Anyway. The New York Times. https://www.nytimes.com/2020/08/24/business/europe-economy-layoffs.html?smtyp=cur&smid=fb-nytimes
Over 54 million Americans have applied for unemployment aid for the first time.	Jones, C. (2020). <i>More Americans file for unemployment as extra \$600 benefit ends and COVID-19 surges</i> . USA Today. https://eu.usatoday.com/story/money/2020/07/30/unemployment-claims-1-4-m-seek-jobless-benefits-covid-19-surges/5535138002/

The lockdown is likely to have a disproportionately large effect on young workers, who make up the majority of industries highly affected by layoffs (service industry etc.).

Kochhar, R. (2020, April 1). *COVID-19: Young workers in the US are likely to be hit the hardest*. World Economic Forum. <https://www.weforum.org/agenda/2020/04/young-workers-covid19-economics-united-states-service-industry-coronavirus>

Social Effects

Side Effect	Reference
The physical and mental health of frontline workers like healthcare workers, and those working in food distribution may be at risk.	<p>Kang, L., Li, Y., Hu, S., Chen, M., Yang, C., Yang, B. X., Wang, Y., Hu, J., Lai, J., Ma, X., Chen, J., Guan, L., Wang, G., Ma, H., & Liu, Z. (2020). The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. In <i>The Lancet Psychiatry</i> (Vol. 7, Issue 3, p. e14). Elsevier Ltd. https://doi.org/10.1016/S2215-0366(20)30047-X</p> <p>Greenberg, N., Docherty, M., Gnanapragasam, S., & Wessely, S. (2020). Managing mental health challenges faced by healthcare workers during covid-19 pandemic. In <i>The BMJ</i> (Vol. 368, p. m1211). BMJ Publishing Group. https://doi.org/10.1136/bmj.m1211</p>
Domestic violence deaths have more than doubled from this period in previous years.	<p>Grierson, J. (2020, April 15). <i>Domestic abuse killings “more than double” amid Covid-19 lockdown</i>. The Guardian. https://www.theguardian.com/society/2020/apr/15/domestic-abuse-killings-more-than-double-amid-covid-19-lockdown</p> <p>Bradbury-Jones, C., & Isham, L. (2020). The pandemic paradox: The consequences of COVID-19 on domestic violence. <i>Journal of Clinical Nursing</i>, jocn.15296. https://doi.org/10.1111/jocn.15296</p>
Homeless and refuge population left at risk as lockdown limits access to help resources, and leaves them unable to shelter in place.	<p>Sharma, G. (2020, March 26). <i>COVID-19 lockdown hits Berlin’s unemployed, homeless and refugees</i>. Al Jazeera. https://www.aljazeera.com/indepth/features/covid-19-lockdown-hits-berlin-unemployed-homeless-refugees-200326195143645.html</p> <p>Limam, A. (2020). <i>Europe’s homeless “more vulnerable under COVID-19 lockdown”</i>. CGTN. https://newseu.cgtn.com/news/2020-03-</p>

24/Europe-s-homeless-more-vulnerable-under-COVID-19-lockdown--P6e0kCSuiY/index.html

Increase in gun purchases and gun violence in the USA since the beginning of the pandemic.

Schleimer, J. P., Mccort, C. D., Pear, V. A., Shev, A., Tomsich, E., Asif-Sattar, R., Buggs, S., Laqueur, H. S., & Wintemute, G. J. (2020). Firearm Purchasing and Firearm Violence in the First Months of the Coronavirus Pandemic in the United States. *MedRxiv*, 2020.07.02.20145508. <https://doi.org/10.1101/2020.07.02.20145508>

The pandemic will likely result in an additional 30 years to close the gender pay gap in Britain.

Hunt, M. (2020). *Coronavirus means women won't earn as much as men for an extra 30 years*. The Telegraph. <https://www.telegraph.co.uk/money/consumer-affairs/coronavirus-means-women-wont-earn-much-men-extra-30-years/>

Effects on Children

Side Effect	Reference
Unicef warns 1.2 million children could die malaria, pneumonia, and diarrhea during the lockdowns in developing countries.	Newey, S. (2020). <i>Unicef warns lockdown could kill more than Covid-19 as model predicts 1.2 million child deaths</i> . Telegraph. https://www.telegraph.co.uk/global-health/science-and-disease/unicef-warns-lockdown-could-kill-covid-19-model-predicts-12/
The pandemic is likely to leave a lasting influence of the mental health of children and adolescents.	Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: A narrative review to highlight clinical and research needs in the acute phase and the long return to normality. In <i>Child and Adolescent Psychiatry and Mental Health</i> (Vol. 14, Issue 1, p. 20). BioMed Central Ltd. https://doi.org/10.1186/s13034-020-00329-3
368 Million children missing out on meals at school and school closures overly affects children from poorer communities.	de Jong, A. (2020). <i>Corona berooft 370 miljoen kinderen van schoolmaaltijden, grote problemen in 30 landen</i> . Microsoft News. https://www.msn.com/nl-nl/nieuws/medical/corona-berooft-370-miljoen-kinderen-van-schoolmaaltijden-grote-problemen-in-30-landen/ar-BB13R5S8

Children from poorer communities likely to suffer the most as education moves online for many communities, and nearly half the world still doesn't have ready access to the internet.

Van Lancker, W., & Parolin, Z. (2020). COVID-19, school closures, and child poverty: a social crisis in the making. In *The Lancet Public Health* (Vol. 5, Issue 5, pp. e243–e244). Elsevier Ltd. [https://doi.org/10.1016/S2468-2667\(20\)30084-0](https://doi.org/10.1016/S2468-2667(20)30084-0)

COVID-19's Devastating Impact on Children. (2020). Human Rights Watch. <https://www.hrw.org/news/2020/04/09/covid-19s-devastating-impact-children>
