

Suicide and the COVID-19 pandemic

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As many countries face new stay-at-home restrictions to curb the spread of COVID-19, there are concerns that the pandemic will increase, or has already increased, suicide rates [1,2]. There is some evidence that previous epidemics such as SARS (2003) were associated with increases in suicide [3]. Several factors have underpinned current concerns about suicide including a measured deterioration in population mental health [4], a reported elevated prevalence of self-harm thoughts/behaviours in people diagnosed with COVID-19 (potentially related to heightened psychological risk during infection or alternatively increased risk of exposure in those who self-harm) and issues accessing services [5].

Publication of a number of widely reported studies which modelled the impact of the pandemic on suicide rates also influenced these concerns [6]. Predictions ranged from a 1% to a 145% increase, largely reflecting their varied underlying assumptions. Particular emphasis has been given to the effect of the pandemic on children and young people. Numerous surveys have highlighted that their mental health has been disproportionately affected during the pandemic compared to that of older adults [4] and some point to an increase in self harm and suicidal thoughts [7, 8].

Supposition, however, is no replacement for evidence. It is vital to have actual timely suicide data. We have been reviewing suicide studies on an almost daily basis through a living systematic review [6]. The first version of this review showed that at the beginning of June 2020 no robust epidemiological studies had considered suicide as an outcome. Since then a number of publications on recent suicide trends have emerged. This literature on the impact of COVID-19 on suicide needs to be interpreted with caution. Much of it comes from pre-prints, letters (i.e. is not yet peer reviewed) [9, 10, 11], or commentaries using news reports of suicide deaths as the source of data [12]. Nevertheless, a reasonably consistent picture is beginning to emerge from high income countries. Early reports suggest either the absence of a rise in suicide (Massachusetts, USA [11]; Victoria, Australia [13]; England, UK [14]) or a fall

in some countries in the early months of the pandemic (Japan [9], Norway [15]). The picture is much less clear in low income countries, where the safety nets available in more well-resourced settings may be lacking. News reports of police data from Nepal suggest a rise in suicides [12], whereas an analysis of data from Peru suggests the opposite [10].

Any risk of suicide associated with COVID-19 is likely to be dynamic. The 20% falls in Japanese suicides early in the pandemic, appeared to reverse in August, when a 7.7% rise was reported [9]. Evidence from previous epidemics suggest a short-term decrease in suicide in the immediate aftermath– the "honeymoon period" or a "pulling together" phenomenon [3]. Trends in certain groups may be hidden when looking at overall rates. A recent report identified a concerning signal that child suicide deaths may have increased during the first phase of lockdown in the UK [16].

Of critical importance going forward is mitigation of the risks for suicide. We must remain alert to emerging risk factors but also recognise how existing trends, inequalities and known risk factors may be exacerbated and entrenched by the pandemic. In 2019, suicide rates for men were the highest in England and Wales since 2000 and although suicide in young people is rare, with lower rates than in other age groups, rates have been rising in 10-24 year olds since 2010 [17]. Addressing known risk factors for suicide, likely to have been impacted by the pandemic, is crucial. These include depression, posttraumatic stress disorder, hopelessness, feelings of entrapment and burdensomeness, substance misuse, loneliness, domestic violence, child neglect/abuse, unemployment and financial insecurity [1, 3]. Appropriate services must be made available for people in crisis and those facing mental health problems [1, 5]. The unfolding economic consequences of the pandemic on suicide are the most concerning. Chang et al. [6] found that after the 2008 economic crisis, rates of suicide increased in two thirds of the 54 countries studied, especially in men and countries with higher levels of job loss. We need to continue to ensure appropriate safety nets and active labour markets are in place for people facing financial hardship. Responsible media reporting also plays a part. Promoting the importance of support, raising awareness of sources of help, and focusing on stories of hope and recovery have been shown to be protective against subsequent suicide [19, 20].

It is still too early to say what the ultimate impact of the pandemic will be on suicide rates. Although data so far provide some reassurance, this is complex. The pandemic has had a differential effect around the world and within countries, so it is unlikely there will be a single universal effect on suicide rates. It will vary by countries' income status, in the young and old, by individuals' socioeconomic situations, ethnicity, mental health status and over time. What is certain is that suicide is preventable, and we need to take action now, remaining vigilant and responsive, sharing evidence early and internationally (as demonstrated by the International COVID-19 Suicide Prevention Research Collaboration) in these evolving uncertain times.

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References

1. Gunnell D, Appleby L, Arensman E, Hawton K, John A, Kapur N et al. Suicide risk and prevention during the COVID-19 pandemic. *Lancet Psychiatry* 2020. 7(6): 468-71.
2. Reger M, Stanley I, Joiner T. Suicide mortality and coronavirus disease 2019: A perfect storm? *JAMA Psychiatry* 2020. doi: 10.1001/jamapsychiatry.2020.1060. Epub ahead of print. PMID: 32275300.
3. Zortea, TC, Brenna CTA, Joyce M, McClelland H, Tippett M, Tran MM et al. The impact of infectious disease-related public health emergencies on suicide, suicidal behavior, and suicidal thoughts: A systematic review. *Crisis: The Journal of Crisis Intervention and Suicide Prevention* 2020. Advance online publication. <http://dx.doi.org/10.1027/0227-5910/a000753>
4. Pierce M, Hope H, Ford T, Hatch S, Hotopf M, John A, et al. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population *The Lancet Psychiatry* 2020. 7(10): 883-892.
5. Iob E, Steptoe A, Farncourt D. Abuse, self-harm and suicidal ideation in the UK during the COVID-19 pandemic. *The British Journal of Psychiatry*, 2020. 217 (4), 543-546.
6. John A, Okolie C, Eyles E, Webb RT, Schmidt L, McGuinness L et al. The impact of the COVID-19 pandemic on self-harm and suicidal behaviour: A living systematic review *F1000Research* 2020. 9: 1097.

7. O'Connor R, Wetherall K, Cleare S, McClelland H, Melson A, Niedzwiedz C et al. Mental health and Well-being during the COVID-19 pandemic. Longitudinal analysis of adults in the UK COVID-19 Mental Health & Wellbeing study. *The British Journal of Psychiatry*, 2020 Oct. 1-17. Doi:10.1192/bjp.2020.212
8. Zhang L, Zhang D, Fang J, Wan Y, Tao F, Sun Y. Assessment of Mental Health of Chinese Primary School Students Before and After School Closing and Opening During the COVID-19 Pandemic. *JAMA Netw Open*.2020;3(9):e2021482. doi:10.1001/jamanetworkopen.2020.21482
9. Ueda M, Nordström R, Matsubayashi T. Suicide and mental health during the COVID-19 pandemic in Japan. medRxiv preprint 2020 doi: <https://doi.org/10.1101/2020.10.06.20207530>; this version posted October 12, 2020.
10. Calderon-Anyosa R, Kaufman J. Impact of COVID-19 lockdown policy on homicide, suicide, and motor vehicle deaths in Peru. medRxiv preprint 2020. <https://doi.org/10.1101/2020.07.11.20150193>; this version posted July 14, 2020
11. Faust J, Shah S, Du C, Li S, Lin Z, Krumholz H. Suicide deaths during the stay-at-home advisory in Massachusetts. medRxiv preprint 2020. <https://doi.org/10.1101/2020.10.20.20215343>; this version posted Oct 20, 2020
12. Pokhrel S, Sedhai Y, Atreya A. An increase in suicides amidst the coronavirus disease 2019 pandemic in Nepal. *Medicine, Science, and the Law* 2020 Oct. doi:[10.1177/0025802420966501](https://doi.org/10.1177/0025802420966501)
13. Coroners Court of Victoria. Coroners Court Monthly Suicide Data Report. Report 2. Available at: <https://www.coronerscourt.vic.gov.au/sites/default/files/2020-10/Coroners%20Court%20Suicide%20Data%20Report%20-%20Report%20%20-%2005102020.pdf>
Accessed November 5th 2020
14. Louis data
15. Qin P, Mehlum L. National observation of death by suicide in the first 3 months under COVID-19 pandemic. *Acta Psychiatrica Scandinavica* 2020. Accepted Author Manuscript. <https://doi.org/10.1111/acps.13246>
16. National Child Mortality Database 2020 Child Suicide Rates during the COVID-19 pandemic in England: Real-time surveillance. Available at: <https://www.ncmd.info/wp-content/uploads/2020/07/REF253-2020-NCMD-Summary-Report-on-Child-Suicide-July-2020.pdf>
17. Suicide rates to rise in England and Wales *BMJ* 2020; 370 doi: <https://doi.org/10.1136/bmj.m3431>
18. Chang S S, Stuckler D, Yip P and Gunnell D. Impact of 2008 global economic crisis on suicide: Time trend study in 54 countries, *BMJ* 2013(347): f5239.
19. Niederkrotenthaler T, Voracek M, Herberth A, Till B, Etzersdorfer E, Eisenwort B et al. Role of media reports in completed and prevented suicide: Werther v. Papageno effects. *Br J Psychiatry* 2010. 197:234-43. doi:10.1192/bjp.bp.109.074633 pmid:20807970

20. Hawton K, Marzano L, Fraser L, Hawley M, Harris E, Lainez Y. 2020. Reporting on suicidal behaviour and COVID-19- need for caution *Lancet Psychiatry* 2020 [https://doi.org/10.1016/S2215-0366\(20\)30484-3](https://doi.org/10.1016/S2215-0366(20)30484-3)