2 The impact of social determinants on suicide and how policy settings can help

F. Shand, D. Yip, M. Tye, L. Darwin

Suicidal behaviours are shaped by the social, economic and physical environments in which we live, otherwise known as the social determinants of health and wellbeing. Governments in Australia can change policy to reduce suicide rates. What policies have proven value? What do we need to know in order to prioritise and implement them?

Introduction

Suicidal behaviours are shaped by the social, economic and physical environments in which we live, otherwise known as the social determinants of health and wellbeing. Understanding how social determinants impact suicide is necessary to informing the development of, or improvements to, policy and practices that can redress social inequalities and prevent suicide at a population level.

Suicide rates increased in low socioeconomic areas

Suicide rates decreased in high socioeconomic areas

Highlight evidence to aid policy making

Social determinants across the life course play a critical role in the development of mental illness[1] and have a similar impact on rates of suicide. This is reflected in recent findings that suicide rates in Australia have increased in areas of low socioeconomic status and declined in areas of high socioeconomic status[2]. Here, we provide an overview of the social determinants and associated government policies that have a demonstrable impact on suicide rates. Rather than making specific policy recommendations, we aim to highlight the evidence for a range of policy areas, identify gaps in the evidence, and make recommendations regarding how the evidence can be considered in policymaking and contribute to ongoing policy via the Suicide Prevention Taskforce.

[1]Our focus is on country-level factors, which might affect community, service, and family factors; however, these are not what we are reviewing.

> Understanding how social determinants impact suicide is necessary to informing the development of, or improvements to, policy and practices that can redress social inequalities and prevent suicide at a population level.

Background to suicide prevention in Australia

Recently, there has been significant investment from federal and state governments in evidence-based suicide prevention practices. Specifically, the investment has been in multi-level prevention approaches where regional suicide prevention alliances guide the simultaneous implementation of several evidence-based strategies (e.g. community training, school-based programs, improved media reporting of suicide, means restriction and improved crisis response).

The evidence for these multi-level, multi-sectoral models is derived from the European Alliance Against Depression (EAAD) model. The EAAD has the strongest evidence of effectiveness in reducing suicidal behaviour[3] based on research in Europe, with some evidence to support a multi-level model in Japan (in rural but not urban settings)[4]. The impact of Black Dog Institute's LifeSpan integrated suicide prevention framework and other multi-level models of suicide prevention in Australia are not yet known; however, an international review of all evidence for suicide prevention concluded that '…no single strategy clearly stands above the others. Combinations of evidence-based strategies at the individual level and the population level should be assessed with robust research designs'[5]. In Australia, this work has covered many regions and has resulted in a substantial shift in the way suicide prevention work is planned and carried out. Nevertheless, none of these models purport to prevent all suicides. While each of these models, if implemented well and with enough reach and dose, is likely to prevent a substantial proportion of suicides, more is required if we are to prevent the maximum number of suicides.

'To create a genuinely effective, sustainable approach to suicide prevention, we need to have the hard conversations, to really look at how we live, how we communicate, and how we treat others, especially those who are vulnerable, and how our various systems—health, social, welfare, economic, education, and others—exacerbate or contribute to suicide.'

Black Dog Institute, Crisis and Aftercare Lived Experience Group 2020: Mok et al., Rapid Review for the National Suicide Prevention Task Force

Building on Australia's suicide prevention work

It is a sensible next step to build on the momentum created by the Australian place-based suicide prevention trials. While regional approaches to suicide prevention are an important part of suicide prevention efforts, they have not substantially addressed the role of social determinants in suicide.

These evidence-based practices must be supported by policy settings that focus on improving the social conditions in which people live so that regional, state and national strategies are working hand-in-hand. Understanding what, how, and which features of policy might reduce suicide risk is particularly important in Australia now: the National Suicide Prevention Taskforce (NSPT) is currently advising the government to consider a wide variety of policy responses to suicide and to build mental health and suicide prevention into their policy decisions. This has occurred to some extent already with the response to the COVID-19 pandemic in the form of higher welfare payments, employee payments, and tax relief measures.

There are well established socio-environmental factors that shape suicide risk, such as poverty, unemployment, homelessness and domestic violence[6-10]. The suicide rates among unemployed men are particularly evident[11].

Geographical location is also linked with suicide rates[12]. People living in rural and remote areas have a higher suicide risk compared to those residing in metropolitan areas. Men are at particular risk, which may be explained by cultural factors such as stoicism, social disadvantage, limited access to health services, access to means and capability, and limited access to job opportunities[13,14]. Similarly, homelessness is associated with elevated suicide risk, with the majority of people who are homeless reporting suicidal ideation and attempts[15]. Intimate partner violence is a strong risk factor for suicide attempts and ideation in women[16-18].

> While regional approaches to suicide prevention are … important, they have not substantially addressed the role of social determinants in suicide.

Evidence for the influence of policy on suicide

The social context of these risks means that governments have available to them a range of policy levers that can influence outcomes at a population level by addressing social inequalities. There is evidence that health, economic and social policy areas can impact suicide outcomes.

A search of the scientific literature by the Black Dog Institute has identified several policy areas where there is at least one study demonstrating a link with suicide: unemployment and welfare support policies[19,20], improving access to treatment for mental illness[21,22], alcohol pricing and availability policy[23], reducing access to the means of suicide[24,25], justice and detention policies[26], LGBTQI+ marriage equality legislation[27], and austerity solutions to economic downturn (which put upwards pressure on suicide rates)[28]. Large studies of welfare support and suicide show that countries with more generous welfare payments and active labour market programs experience little or no increase in suicide during economic downturns, whereas countries with less generous welfare see substantial increases in suicide[29,30]. Alcohol policy has a well-established impact on suicide, with lower availability, higher price, and older legal drinking age linked with lower rates of suicide[31].

> Governments have available to them a range of policy levers … there is evidence that health, economic and social policy areas can impact suicide outcomes.

Gaps in the evidence

What is not yet clear is which policies and policy settings are likely to be the most impactful and cost-effective in the context of reducing suicide risk.

This chapter identifies the broad range of policy areas or targets that might be considered. There needs to be consideration of mental health and suicide risk consequences of policy and budget decisions at state and federal government levels. Evidence for each policy area should be systematically reviewed and synthesised and gaps identified. Available evidence can be used to model the impact of different policy settings on suicide outcomes.

While the focus of this chapter is on policies that have demonstrated impact on suicide outcomes, there are other social determinants of mental health and suicide which, while there is no policy research to draw upon, have a relationship with suicide. One clear example of this is geographical location. While this is a social determinant of suicide outcomes, we have not been able to identify studies of policies that might address this.

Current policy in Australia

As discussed earlier in the context of multi-level suicide trials, Australia has already adopted what might broadly be termed, universal prevention strategies, that directly or indirectly target suicide.

Strong media guidelines on reporting suicide is an example of a strategy that has directly targeted suicide prevention. There is a significant evidence base demonstrating that media reporting of suicides is linked to an increase in suicide[32-35], which is frequently referred to as copycat behaviour or as the Werther effect[36]. For instance, following the suicide of comedian and actor Robin Williams in 2014, there was a 10% increase in suicides in the US amongst men slightly younger than Williams (who would have grown up watching him) in the two months after his death[37]. A more recent example is Netflix's '13 Reasons Why'. During the three months after its release in 2017, there was an increase in suicides among 10- to 19-year-old adolescents and young adults, especially amongst young women (22% increase compared to 12% increase in men) whose ages were similar to the character who died by suicide in the series[38].

In Australia, the Mindframe National Media Initiative (Mindframe) engages in various activities, including releasing guidelines, creating resources and running workshops for media and non-media professionals to ensure responsible portrayals and communication about both fictional and non-fictional suicides (see https://mindframe.org.au/).

Other strategies have been directed at reducing other harms but may have indirectly helped to prevent some suicides. This is the case with means restriction; e.g. stronger gun control legislation and the introduction of catalytic converters for pollution control[39], and medication strategies aimed at reducing both intentional and unintentional self-poisoning. Maintenance of strong gun control legislation is sensible, particularly when given the relationship between population rates of gun ownership and gun-related suicides[40].

While these strategies are welcome, a more targeted approach could be adopted by reviewing the existing evidence for the full range of policies with regards to their impact on suicide, investing in new research to evaluate the impact of specific policy changes, investing in impact and economic modelling to determine which policies and policy settings have the greatest potential to reduce suicide risk and under which conditions, and incorporating mental health and suicide risk impacts in policy decision-making processes. National system dynamics modelling in this area is progressing in Australia[41] and internationally[42]. Recommendations have emerged from the modelling work at the Brain and Mind Centre, University of Sydney, to reduce suicide risk resulting from the pandemic: maintain JobKeeper payments to reduce financial uncertainty, provide further education support for young people,

> A more targeted approach could be adopted by reviewing the existing evidence … investing in new research … investing in impact and economic modelling … and incorporating … mental health and suicide risk impacts in policy decision-making processes.

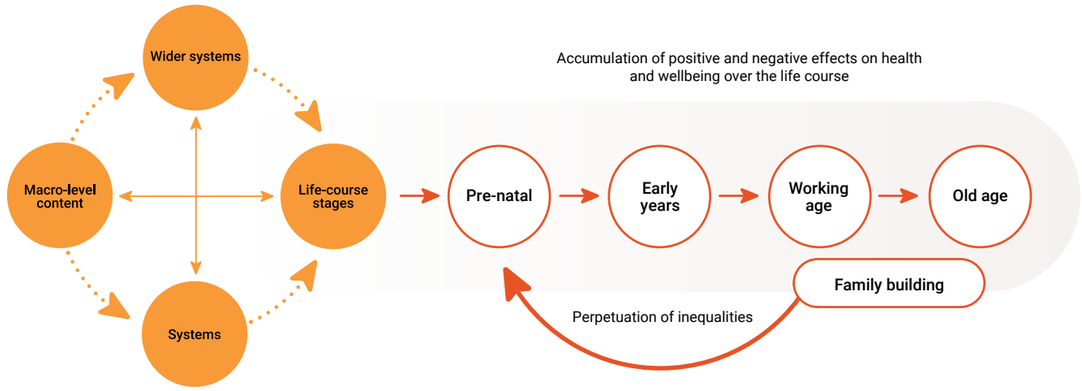

Figure 1: A life course approach to tackling inequalities in health, adapted from WHO European Review of Social Determinants of Health and the Health Divide (1)

reduce social dislocation by minimising the spread of the virus, and increase real health service capacity, especially for those with more complex disorders[41]. This work could be expanded by building a stronger evidence base for policies as suggested above, and guided by the life course framework laid out by the World Health Organisation. This framework allows one to address policies that impact social determinants from the pre-natal phase through to older age (Figure 1), which demonstrates the cumulative effects of social determinants across the life span. What is needed is a process for considering health and suicide impacts of government policies. Research conducted on behalf of Suicide Prevention Australia found that 71% of Australians want all government decisions to consider the risk of suicide and have clear plans in place to mitigate any negative impacts following from those decisions[43]. This could involve changes to cabinet and budget expenditure processes to ensure review of potential impacts and development of mitigation strategies.

Conclusion

Place-based, multi-level models of suicide prevention are likely to reduce suicide rates if implemented at scale and depth; however, they must be supported by policies that address social determinants in order to improve suicide prevention.

Social determinants such as poverty, unemployment, homelessness, alcohol use and domestic violence are risk factors for suicide; their amelioration will lead to decreased suicide rates. A range of federal and state government policies can influence suicide rates, but what is not clear is which policy levers are likely to have the highest impact and to be most cost-effective.

> Place-based, multi-level models of suicide prevention are likely to reduce suicide rates if implemented at scale and depth.

Recommendations

There are substantial barriers to addressing the social determinants of health, including the reality that evidence is only one of many influences on policy decisions. There are gaps in our knowledge about how government policies can influence suicide risk. For evidence to be reflected within government policies, it must be linked to pragmatic solutions, strategies and outcomes that can be delivered within government[44].

1 **Incorporate the reduction of poverty, unemployment, homelessness, alcohol use, rural and remote isolation and domestic violence in all suicide prevention strategies and policies. Suicide prevention should also factor into policy and decisions in these other portfolio areas. Explicitly creating these links means creating appropriate whole-of-government structures, cross-portfolio funding and policy mechanisms and ensuring suicide risk and prevention is considered in non-health contexts.**

2 **Ensure the National Suicide Prevention Taskforce considers and advises on the full policy landscape, including non-health components, in its final recommendations to the Prime Minister. We support an ongoing commitment by governments to explore the social determinants of suicide risk from a whole-of-government perspective. Further, we encourage investment in research to identify gaps in the evidence and evaluate the impact of all social and economic policy settings on suicide.**

3 **Invest in data-driven, independently reviewed impact and economic modelling to determine the most impactful and cost-effective policies that can reduce suicide risk at the population level.**

4 **Consider mental health and suicide risk vis-a-vis all policy, regulatory and budget decision-making processes.**

“There are substantial barriers to addressing the social determinants of health, including the reality that evidence is only one of many influences on policy decisions.”

References

1. Foundation, W.H.O.a.C.G., *Social determinants of mental health.* 2014, World Health Organization: Geneva.
2. Too LS, et al., Widening socioeconomic inequalities in Australian suicide, despite recent declines in suicide rates. *Soc Psychiatry Psychiatr Epidemiol.* 2018;53(9):969-976.
3. Hegerl U, et al., The ‘European Alliance Against Depression (EAAD)’: a multifaceted, community-based action programme against depression and suicidality. *World J Biol Psychiatry.* 2008;9(1):51-8.
4. Ono Y, et al., A community intervention trial of multimodal suicide prevention program in Japan: a novel multimodal community intervention program to prevent suicide and suicide attempt in Japan, NOCOMIT-J. *BMC Public Health.* 2008;8:315-315.
5. Zalsman G, et al., Suicide prevention strategies revisited: 10-year systematic review. *The Lancet Psychiatry.* 2016;3(7):646-659.
6. Page A, et al., Divergent trends in suicide by socio-economic status in Australia. *Social Psychiatry and Psychiatric Epidemiology*. 2006;41(11): p. 911-917.
7. Taylor R, et al., Socio-economic differentials in mental disorders and suicide attempts in Australia. *British Journal of Psychiatry*. 2004;185(6):486-493.
8. Oyesanya M, Lopez-Morinigo J, Dutta, R. *Systematic review of suicide in economic recession. World Journal of Psychiatry*. 2015;5(2):243-254.
9. Qi, X., et al., *Socio-environmental drivers and suicide in Australia: Bayesian spatial analysis*. BMC Public Health, 2014;14(1):681.
10. Lemmi V, et al., *Suicide and poverty in low-income and middle-income countries: a systematic review*. Lancet Psychiatry, 2016;3(8):774-83.
11. Milner A, Page A, LaMontagne AD. Duration of unemployment and suicide in Australia over the period 1985–2006: an ecological investigation by sex and age during rising versus declining national unemployment rates. *Journal of Epidemiology and Community Health*. 2013;67(3): 237.
12. Torok M, et al., Data-informed targets for suicide prevention: a small-area analysis of high-risk suicide regions in Australia. *Soc Psychiatry Psychiatr Epidemiol.* 2019;54(10):1209-1218.
13. Cheung YTD, et al., Spatial analysis of suicide mortality in Australia: Investigation of metropolitan-rural-remote differentials of suicide risk across states/territories. *Social Science & Medicine.* 2012;75(8):1460-1468.
14. Caldwell TM, Jorm AF, Dear KBG. Suicide and mental health in rural, remote and metropolitan areas in Australia. *Medical Journal of Australia.* 2004;181(S7):S10-S14.
15. Desai RA, et al., Suicidal ideation and suicide attempts in a sample of homeless people with mental illness. *The Journal of Nervous and Mental Disease.* 2003;191(6):365-71.
16. Devries K, et al., Violence against women is strongly associated with suicide attempts: evidence from the WHO multi-country study on women’s health and domestic violence against women. *Social Science & Medicine.* 2011;73(1):79-86.
17. Devries K, et al., Intimate partner violence and incident depressive symptoms and suicide attempts: a systematic review of longitudinal studies. *PLOS Med.* 2013;10(5):e1001439.
18. Pico-Alfonso MA, et al., The Impact of Physical, Psychological, and Sexual Intimate Male Partner Violence on Women’s Mental Health: Depressive Symptoms, Posttraumatic Stress Disorder, State Anxiety, and Suicide. *Journal of Women’s Health.* 2006;15(5):599-611.
19. Classen TJ, Dunn RA. The effect of job loss and unemployment duration on suicide risk in the United States: a new look using mass-layoffs and unemployment duration. *Health Economics*. 2012;21(3):338-350.
20. Zimmerman SL. States’ spending for public welfare and their suicide rates, 1960 to 1995: what is the problem? *The Journal of Nervous and Mental Disease*. 2002;190(6):349-60.
21. While D, et al., Implementation of mental health service recommendations in England and Wales and suicide rates, 1997–2006: a cross-sectional and before-and-after observational study. *The Lancet*. 2012;379(9820):1005-1012.
22. Pirkola S, et al., Community mental-health services and suicide rate in Finland: a nationwide small-area analysis. *Lancet*. 2009;373:147-53.
23. Markowitz S, Chatterji P, Kaestner K. Estimating the impact of alcohol policies on youth suicides. *The Journal of Mental Health Policy and Economics*. 2003;6(1):37-46.
24. Leenaars A, et al., Controlling the environment to prevent suicide: international perspectives. *The Canadian Journal of Psychiatry*. 2000;45(7):639-44.
25. Knipe DW, et al., Suicide prevention through means restriction: Impact of the 2008-2011 pesticide restrictions on suicide in Sri Lanka. *PLOS One*. 2017;12(3):e0172893.

26. Dudley M. Contradictory Australian national policies on self-harm and suicide: The case of asylum seekers in mandatory detention. *Australasian Psychiatry* 2003;11(sup1):S102-S108.
27. Raifman J, et al., Difference-in-Differences Analysis of the Association Between State Same-Sex Marriage Policies and Adolescent Suicide Attempts. *JAMA Pediatrics*. 2017;171(4):350-356.
28. Antonakakis N, Collins A. The impact of fiscal austerity on suicide mortality: Evidence across the 'Eurozone periphery'. *Social Science & Medicine*. 2015;145:63-78.
29. Norström T, Grönqvist H. The great recession, unemployment and suicide. *Journal of Epidemiology and Community Health*. 2015;69(2):110-116.
30. Reeves A, et al., Economic shocks, resilience, and male suicides in the Great Recession: cross-national analysis of 20 EU countries. *European Journal of Public Health*. 2015;25(3):404-9.
31. Xuan Z, et al., Alcohol Policies and Suicide: A Review of the Literature. *Alcoholism, Clinical and Experimental Research*. 2016;40(10):2043-2055.
32. Gould M, Jamieson P, Romer D. Media Contagion and Suicide Among the Young. *American Behavioral Scientist*. 2003;46(9):1269-1284.
33. Gould MS, et al., Youth suicide risk and preventive interventions: a review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2003;42(4):386-405.
34. Gould MS, Kramer RA. Youth Suicide Prevention. *Suicide and Life-Threatening Behavior*. 2001; 31(s1):6-31.
35. Gould MS, et al., Suicide clusters: an examination of age-specific effects. *American Journal of Public Health*. 1990;80(2):211-212.
36. Phillips DP. The influence of suggestion on suicide: Substantive and theoretical implications of the Werther effect, in *American Sociological Review*. 1974, American Sociological Assn: US. 340-354.
37. Fink DS, J. Santaella-Tenorio J, Keyes KM. Increase in suicides the months after the death of Robin Williams in the US. *PLOS One*. 2018;3(2):e0191405.
38. Niederkrotenthaler T, et al., Association of increased youth suicides in the United States with the release of 13 Reasons Why. *JAMA Psychiatry*. 2019;76(9):933-940.
39. Spittal MJ, et al., Declines in the lethality of suicide attempts explain the decline in suicide deaths in Australia. *PLOS One*. 2012;7(9):e44565.
40. Miller M, et al., Firearms and suicide in the United States: Is risk independent of underlying suicidal behavior? *American Journal of Epidemiology*. 2013;178(6):946-955.
41. Atkinson J, et al., *Road to Recovery: Restoring Australia's mental wealth*. 2020. Brain and Mind Centre, University of Sydney: Sydney.
42. Whiteford H, Ferrari A, Degenhardt L. *Global Burden Of Disease Studies: Implications For Mental And Substance Use Disorders*. Health Aff (Millwood). 2016;35(6):1114-20.
43. Suicide Prevention Australia, *Turning Points: Imagine a world without suicide*. 2019. Suicide Prevention Australia: Australia.
44. Fitzpatrick SJ, et al., Rethinking Suicide in Rural Australia: A study Protocol for Examining and Applying Knowledge of the Social Determinants to Improve Prevention in Non-Indigenous Populations. *International Journal of Environmental Research and Public Health*. 2019;16(16).