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## Conceptualising the commercial determinants of suicide: broadening the lens on suicide and self-harm prevention

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## **Conceptualising the commercial determinants of suicide: broadening the lens on suicide and self-harm prevention**

Suicide is preventable, yet, in many settings, robust suicide prevention strategies are lacking. While a commercial determinants of health lens is increasingly being applied to industries important to the field of suicide prevention, the interplay between the vested interests of commercial actors and suicide has received limited attention. There is a need to shift attention to the “causes of the causes”, directing more attention to the ways that commercial determinants influence suicide and shape suicide prevention strategies. Such a shift in perspective, with an evidence base and precedents to draw upon, has transformative potential for research and policy agendas dedicated to understanding and addressing upstream modifiable determinants of suicide and self-harm. We propose a framework intended to help guide efforts to conceptualise, research, and address the commercial determinants of suicide and their inequitable distribution. We hope these ideas and lines of inquiry help catalyse the building of more bridges across disciplines and open spaces for further debate and discussion as to how to take such an agenda forward.

## **Suicide and self-harm prevention – recognising the role of powerful but unseen actors**

Over 700,000 people die by suicide annually, while many more engage in self-harm. The majority of self-harm and suicide occur in low-and middle-income countries.<sup>1,2</sup> Suicide is preventable, and many acts of self-harm occur with no or low suicidal intent at times of personal crisis. Most people who self-harm and survive do not go on to die by suicide. The availability of lethal means of self-harm can translate these acts into suicide deaths.<sup>2</sup> Evidence-based, comprehensive suicide prevention strategies, including restricting or limiting access to highly lethal means of suicide (such as firearms, pharmaceuticals, and pesticides) are effective.<sup>1</sup> Yet, in many settings, robust suicide prevention strategies are lacking. While a commercial determinants of health lens is increasingly being applied to industries important to the field of suicide prevention, such as firearms, alcohol, and gambling,<sup>3-9</sup> the interplay between the vested interests of commercial actors and suicide has received limited attention to date.<sup>10</sup> This is remarkable given the scale of suicide and the potential negative implications for particular industries of efforts to promote and implement more comprehensive suicide prevention policies. Here we propose that, as with other public health issues, we need to shift our attention to the “causes of the causes”, directing more attention to the ways that commercial determinants influence suicide and shape suicide prevention. Such a shift in perspective, with an evidence base and precedents to draw upon, has transformative potential for research and policy agendas dedicated to understanding and addressing upstream modifiable determinants of suicide and self-harm.

### **The commercial determinants of health**

The importance of commercial drivers to other health issues has garnered increasing attention, with clear recognition that understanding and countering these drivers is important for the prevention of harm, and for protecting the production of knowledge and policymaking.<sup>11</sup> The most obvious and comprehensive example is the recognition by the WHO and its member states that the tobacco industry is a leading driver of tobacco-related harms, and a formidable obstacle to policies directed at reducing those harms globally. Another important example is the International Code of Marketing of Breast-milk Substitutes, adopted by the 34th session of the World Health Assembly (WHA) in 1981, which “aims to stop the aggressive and inappropriate marketing of breast-milk substitutes”, including restricting the activities of infant formula manufactures and distributors in their interactions with the public, mothers, and health workers.<sup>12</sup> Recognition of the role of commercial entities (particularly large corporations), and

their affiliates, as powerful actors whose products and practices affect health and the determinants of health can thus be instrumental in transforming how problems come to be defined and understood, with implications for what is then done about them. Commercial determinants can have significant impacts on health through a number of ways, from the design, production, sale and marketing of products harmful to health or destructive to the environment to influencing the political and policy environments in which business is conducted. Powerful corporations or entire industries adopt sophisticated corporate political strategies to secure and maintain permissive regulatory environments that allow them to maximise product affordability, availability and accessibility and thus profits, with some pursuing such an agenda despite the harms this poses to public health and environmental sustainability.<sup>11</sup>

Commercial actors can shape the production of knowledge and ignorance (or doubt) by influencing the entire ‘pipeline’ of science, from research agendas and conduct, through to research dissemination, use and understanding of evidence in policymaking and the media, the setting of standards of proof, what is defined as evidence and who is seen as a legitimate ‘expert’.<sup>13,14</sup> Commercial actors seek to shape social norms about the role of government and regulation, and the balance of individual versus collective responsibility for problems that societies are challenged with addressing.<sup>11,15,16</sup> Such actors can influence public health by promoting a particular problem definition over alternative definitions that may threaten business interests, thereby setting the terrain on which responsibility for an issue is assigned and restricting the solutions that come to be seen as necessary and legitimate.<sup>17,18</sup> Corporations whose products and practices are health harming or environmentally destructive often seek to emphasise the benefits they provide through job creation, taxation or through corporate philanthropy, while deflecting from the negative impacts of their practices and products. Indeed, the activities of specific industries and their allies to cast doubt, shift blame and resist regulation, from lead, silica, and asbestos to tobacco, sugar, opioids, highly hazardous pesticides, and fossil fuels, for example, have led to (and indeed are often designed to create) delays in taking action to prevent harm with devastating outcomes for people and the planet.<sup>11,16,19-22</sup>

### **Conceptualising the commercial determinants of suicide**

The power of the commercial sector to influence the products and services available to populations, where and how they are used and in what form, and the policies that govern these,

should not be underestimated and has important implications for suicide prevention. The interplay between suicide and commercial interests and practices is complex and contextual.

First, there are relationships between the use of commercial products and suicide. One way to understand this relationship is the association between the use of some products and an increased risk of suicide, recognising that there remain limitations to what is known about the underlying mechanisms and modifying factors. For example, alcohol use is an established risk factor for suicidal behaviour.<sup>23</sup> Both chronic alcohol use and acute alcohol intoxication have been associated with an increased risk of suicidal behaviours, and alcohol intoxication is associated with use of more lethal means of self-harm and the lethality of some means (e.g. higher dose attempts), increasing the likelihood of fatal outcomes.<sup>24,25</sup> People affected by gambling harm are at increased risk of suicide, likely mediated through processes related to indebtedness and shame.<sup>26</sup> There is increasing recognition of the potential ways in which social media use can influence suicidal behaviour, both positively and negatively, especially in young people.<sup>2,27</sup> Use of particular pharmaceuticals among younger people has also been associated with increased risk of suicidal behaviour.<sup>28</sup>

Another way of conceptualising the relationship is the role played by particular products, some of which are designed to be highly potent, toxic or lethal, as means of suicide. Access to such products increases the likelihood of a self-harm act resulting in death.<sup>29</sup> Important examples are highly hazardous pesticides, firearms, opioids, and other pharmaceuticals when available in certain formulations, packaging designs or larger pack sizes, that are particularly risky. Pesticide ingestion or use of firearms are two of the most common means of suicide globally<sup>1</sup> and restricting access to such lethal products has been shown to be effective in reducing overall suicide rates.<sup>2,30</sup> However, while bans of lethal products are effective forms of suicide prevention compared to initiatives based on promoting 'safe' storage, the latter is preferable to and often support by industry.<sup>31,32</sup> Similarly, use of opioids for self-harm increases the likelihood of death.<sup>33</sup> As the suicide prevention concept acknowledges, "means matter".<sup>33</sup>

Second, these products are predominantly provided by major corporate actors whose profits rely upon maximising their sale and use, and pre-empting regulation that restricts or bans their ability to produce, market and sell certain products. The interests of these corporations can therefore be expected to conflict with the public health goal of preventing suicide where this entails limits to product formulations, access, availability and/or use. The design and marketing strategies

adopted by such industries can influence the extent to which a product and its use in society are normalised, and in some cases glamorised (e.g. firearms and alcohol), thereby shaping the contexts in which suicides associated with these products occur. Aggressive marketing tactics and sophisticated design features open new markets, drive consumption and can promote harmful use, with important examples being observed in the alcohol, gambling, pesticide and opioid industries.<sup>34-38</sup> An analysis of industry documents revealed that US opioid manufacturers funded unbranded campaigns to encourage opioid use among children and women.<sup>39</sup> The industry sought to partner with advocacy groups to “establish instant credibility” and “alleviate regulatory anxiety”.<sup>39</sup> The implications of such activities for suicide risk and prevention warrant further consideration.

Contrastingly, corporations and governments frequently place the burden of responsibility on consumers to use and store these products ‘safely’ and ‘responsibly’, often with limited access to interpretable information about how to protect themselves, safety equipment or support services.<sup>40</sup> Additionally, other major, powerful industries, such as the mainstream media, shape public understandings of suicide, including the drivers of suicide, who is responsible and what needs to be done to prevent suicide.

Third, alongside their role as producers, marketers and sellers, commercial actors can and do engage with the processes through which the problem of suicide comes to be understood and defined and that shapes which policies are seen as effective and subsequently adopted. This can be achieved through influencing the research conducted on suicide and suicide prevention and by engaging with policymakers and independent organisations seeking to prevent suicide. Corporations and industry trade associations tend to support or promote the delivery of industry-favourable programmes instead of initiatives aimed at promoting the adoption of regulations that threaten an industry’s business interests. Commercial entities and their affiliates frequently fund or engage with education and awareness initiatives focused on individual level behaviour change. This may involve the funding and/or forming of organisations with the explicit role of informing and educating the public or by partnering with reputable, independent organisations. These activities can help an industry or corporation to portray themselves as part of the solution and to gain legitimacy.<sup>11,16,41</sup> Industry promotion of education and awareness-based measures has the potential to serve as a form of policy substitution with the aim of pre-empting more restrictive and evidence-informed policy approaches.<sup>6,9,42</sup> The implications of these types of corporate strategies for suicide prevention warrant further scrutiny and future analysis.

For example, in many countries, the gambling industry and those financially dependent on them play a prominent role in the funding and delivery of gambling research, education, and treatment, including educating the public about the risks associated with gambling.<sup>43</sup> Similarly, alcohol industry-funded bodies often assume a role as providers of information about the risks of alcohol use. The problematic nature of these types of industry-funded information and education-based initiatives is well documented, such as distorting the evidence of cancer<sup>44</sup> and other health risks from alcohol consumption including foetal alcohol spectrum disorder,<sup>45</sup> but their approach to informing the public about suicide has not been researched.

In the US, where firearm suicides account for about half of all suicide deaths,<sup>46</sup> a partnership was established in 2016 between a US firearm industry trade association (National Shooting Sports Foundation (NSSF)) and the American Foundation for Suicide Prevention (AFSP) with the goal of educating firearm owners about suicide risk, firearm storage, and the removal of firearms from households with individuals at risk of suicide. A joint press release issued by AFSP and NSSF stated that the partnership was established “to build and implement public education resources for firearms retailers, shooting ranges and the firearms-owning community about suicide prevention and firearms” as part of Project 2025, a project initiated by AFSP dedicated to reducing the annual suicide rate in the US by 20% by 2025.<sup>47-51</sup> In relation to this partnership, the NSSF stated on their website (as late as September 2022) that from their perspective this partnership was timely and that “[i]mportantly to NSSF, its members and our industry” AFSP focuses on saving lives and “is not involved in gun-control politics”.<sup>48</sup> This statement has subsequently been removed from the NSSF website in 2022.

At the international level, the WHO and the International Association for Suicide Prevention (IASP) previously received funding and non-financial support from the pesticide industry for activities with a specific focus on preventing pesticide related suicide and suicide prevention more broadly. This included the provision of an unrestricted grant to support an expert meeting,<sup>52</sup> financial support for the development and production of a WHO intervention guide,<sup>53</sup> and printing of WHO reports.<sup>52-56</sup> Furthermore, major pesticide corporations have provided funding to support primary research and a systematic review on suicide prevention interventions focusing on safe-storage of pesticides and product reformulation.<sup>57-59</sup> Informed by the adoption of WHO’s Framework of Engagement with non-State Actors (FENSA) which regulates WHO’s interactions with the private sector,<sup>60</sup> WHO stopped taking pesticide industry funding for suicide



prevention in 2017.<sup>61</sup> Since then, it has invested in cost-effectiveness modelling on banning pesticides, resulting in this policy option being formally adopted by WHO.<sup>62-64</sup> Similarly, IASP no longer receives pesticide industry funding as of 2019.<sup>65</sup> These forms of engagement have received limited attention in the academic literature and little discussion among the suicide prevention community.<sup>10,31,56</sup> More attention needs to be directed at understanding the impact and governance of these interactions with industry, at characterising and explaining the different types of engagement and the differential mechanisms underpinning their impacts (e.g. funding of research versus the promotion of a campaign or particular intervention), and asking who ultimately benefits. This is particularly the case given the conflicts of interest that may arise and that have the potential to circumscribe efforts to prevent suicide and self-harm.

There are other, less direct ways in which the activities of corporations may shape suicide and what is known about the risk of suicide and for whom. An important example being the role of the pharmaceutical industry, a major funder of medical research and professional and public-facing educational materials.<sup>66</sup> For example, GlaxoSmithKline was required to pay a fraud settlement of \$3bn to the US government for (1) the facilitating publication of a study on the use of Paxil (paroxetine) in under 18s that misleadingly implied efficacy, (2) failing to make available data from two other related studies, and (3) sponsoring “dinner programs, lunch programs, spa programs and similar activities to promote the use of Paxil in children and adolescents”, among other activities.<sup>67,68</sup> Use of paroxetine in under 18s is now contra-indicated due to a potential risk of suicidal behaviour.<sup>67</sup>

Fourth, corporate actors can influence public debate and policy by promoting a dominant policy discourse structured around the notion of personal responsibility. By shifting blame on to individuals, industries can limit understanding as to whose behaviour should be seen as the problem and who should be held responsible for suicide deaths and be the target of suicide prevention policies. Framing suicide as predominantly a ‘mental health issue’ at the individual level is consistent with the interests of industries who produce harmful products, and those that can profit from the provision of pharmacological treatments. Industries can also seek to influence policy that determines what can be accessed by whom, when, and where, including through lobbying to shape international trade agreements and international treaties.

Important insights for suicide prevention strategies can be gained from the substantial body of evidence demonstrating that these types of activities form part of the corporate political

strategies adopted by diverse industries to block, delay or weaken effective public health policies that threaten their interests (e.g. pesticide and firearm bans or restrictions), and to cast themselves as part of the solution to the very problems they in part cause and/or exacerbate.<sup>11,16,20-22</sup> Such insights can also help in identifying the risks posed and in revisiting assumptions about the benefits gained from different forms of industry partnerships.

Finally, from a broader perspective, it is important to build greater understanding of how corporations and entire industries, through their role as powerful political, social and economic actors, influence the wider determinants of health in ways that potentially contribute to the risk of suicide. These influences can be cumulative and indirect, exerting their effects through complex mechanisms. Important examples include the commercial banking sector and its role in the 2007/08 global financial crisis. While understanding of the relationship between economic crises and increased suicide mortality, particularly among the most vulnerable groups, has received much attention in the literature,<sup>69,70</sup> limited attention has been directed at integrating corporate activities and their regulation as structural determinants within our understanding of this complex public health issue. Similarly, climate change is increasingly being recognised as a global risk factor for suicide and self-harm (one that is inequitably distributed within and between countries), working through a number of interrelated mechanisms associated with the diverse impacts of climate change such as extreme climate events, conflict and forced migration.<sup>2</sup> Industries that are major drivers of climate change and environmental degradation and whose activities undermine the adoption of climate policy and the transitioning to sustainability, such as the fossil fuel industry,<sup>22,71</sup> thus represent important challenges to addressing an emerging risk factor for suicide. Corporations and their owners also influence people's lives through their lobbying efforts (directly or indirectly through front groups or think tanks) against or in support of public policies relating to, for example, workers' rights, unemployment and housing benefits, legal aid, healthcare, and regulation of the financial sector.<sup>72,73</sup> These policy areas have profound implications for the type of life stressors that populations experience, and the support structures to which they have access, therefore influencing (directly and indirectly) the lifetime risk of suicide and self-harm.<sup>72,74</sup>

We bring these concepts and mechanisms together as a simple framework, presented in Figure 1, encompassing suicide, products and interconnecting and synergistic corporate strategies. The well-defined 'layers' are for analytical and heuristic purposes. In practice the boundaries between the different strategies and their effects are blurred, the mechanisms through which they

function to impact on suicide and self-harm are diverse and complex, and corporations, or industries collectively, adopt a range of strategies that are adapted to a particular context and problem. The framework is intended to help guide efforts to conceptualise, research, and address the commercial determinants of suicide and their inequitable distribution. Further research is needed to measure and understand the differential effects of these strategies and practices on suicide risk and prevention. The risks posed by different corporate strategies and the linearity of their impact will differ. For example, the effect of lobbying by the firearms industry to influence policymaking differs from that of the funding of research by fossil fuel or pharmaceutical companies in how such activities directly or indirectly impact on suicide prevention, requiring different methods of analysis and different policy and advocacy responses.

### **Redistributing the burden of responsibility**

Applying a wider lens to self-harm and suicide prevention involves thinking through chains of responsibility and influence,<sup>75</sup> countering the ways in which corporations can seek to blame individuals for the impacts associated with certain products and business models and practices.<sup>17</sup> This will include, for example, countering industry-favoured narratives that seek to frame problems as arising from a product's 'misuse' and 'abuse', and, conversely, to promote 'responsible' or 'safe' use and storage.<sup>19,37</sup> These narratives frame individuals and their behaviours or cognitions as the problem, promoting consumer education, behaviour change, and treatment as the logical and sufficient interventions, deflecting attention from the risks inherent in specific products and the ways they are designed, marketed, researched, regulated, and inequitably traded (e.g. the export of highly hazardous pesticides from countries who have adopted bans as a protection measure locally). Similarly, efforts to obscure the role of industry and delay action through the manipulation of concepts like complexity need to be identified and countered.<sup>76</sup> It will also involve scrutiny and transformation of particular public health concepts, framings, and practices that have come to align with or been shaped by industry narratives and that potentially foreclose conceptualising chains or systems of causation and responsibility<sup>77</sup> as opposed to focusing solely on the responsibility of the individual involved in the final act of suicide. This bounded and individualistic way of thinking about suicide often places the greatest burden on the most vulnerable in society and those with the least resources and power to change and control their circumstances.

### **Implications and future directions**

The wider lens that we advocate here has implications for a range of actors, and for research and policy agendas (Panel 1). We have aimed to make the case for greater scrutiny and recognition of the commercial determinants of suicide and their potential impacts, and, based on this, what policies and research agendas are seen as relevant to suicide prevention. For example, a commercial determinants perspective would reveal the need to consider protecting scientific and policymaking processes from influence by industries whose interests are in conflict with the adoption of effective and equitable suicide prevention policies. Considering the role of commercial determinants in suicide prevention also suggests that there may be common interests with other advocacy movements and fields, for example, with those seeking to strengthen alcohol, gambling and firearm control policies or those seeking to protect research and policymaking from fossil fuel, pharmaceutical, or pesticide industry influence. Future research can help in systematically studying the role of commercial determinants as drivers of suicide, as potential obstacles to achieving the changes needed to address suicide, and in considering how to engage with commercial actors without compromising the aims and independence of suicide prevention policy agendas. These ideas and lines of inquiry we hope provide an opportunity to build more bridges across disciplines and to open spaces for further debate and discussion as to how to take such an agenda forward.

**Panel 1:** Ways to promote and build a suicide prevention agenda that recognises and challenges the commercial determinants of suicide – a call to action

**Research:**

- Research the commercial determinants of suicide, including mapping diverse corporate market and political strategies using a range of data and methods, and how these influence and undermine suicide and self-harm prevention strategies and interventions.
- Evaluate the impacts of policies to address the commercial determinants of health and how such policies can inform suicide prevention agendas.
- Build research expertise on the commercial determinants of suicide and how to effectively address their impacts across diverse resource settings.
- Build the evidence base on whether and how to engage with industry and industry-funded organisations without compromising public benefit and the integrity of scientific and policymaking processes.
- Academic institutions, journals, health agencies and international organisations need to strengthen policies to protect the scientific process (from funding and agenda-setting to publication and dissemination) from manipulation by industries, including strengthening the management and reporting of conflicts of interest.

**Advocacy:**

- Promote an agenda that raises awareness of and counters corporate influence on science, policymaking and public understanding and debate, and that supports evidence-based, comprehensive suicide prevention agendas.
- Promote greater understanding among the public, the media, policymakers and research and educational communities of the commercial determinants of health, and of corporate influence on suicide risk and prevention agendas.
- Build support for policies and governance structures at the national and international level that are required to counter corporate influence on suicide prevention agendas.

**Policymaking:**

- Explicitly address the commercial determinants and manage conflicts of interest in international, national, and local suicide policymaking.
- Promote policies that prioritise evidence-informed prevention-oriented interventions that may challenge industry interests and that protect the policymaking process from undue industry influence.

**Practice:**

- Support and implement evidence-informed strategies to prevent suicide, recognising how evidence and initiatives may be distorted or appropriated by commercial interests.
- Adopt robust governance policies to protect suicide prevention policies and other interventions from undue corporate interference.

**Figure 1:** Conceptual framework of the commercial determinants of suicide and self-harm

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## **Declarations:**

NM is a committee member of the UK Harkness Fellows Association and the Society for Social Medicine and Population Health mid-career researcher committee (both non-remunerated). He serves on expert panels for the World Health Organisation on the commercial determinants of health (non-remunerated). He has served as a paid consultant to the WHO on commercial and economic determinants of health (2020-2021). He has an agreement to receive royalty payments for “Commercial Determinants of Health” (2022) an edited book published by Oxford University Press. He has non-remunerated visiting assistant professor positions at the London School of Hygiene and Tropical Medicine, and Boston University School of Public Health. Before moving into public health, he worked as a freelance medical writer from 2014-16 for health communications companies whose clients included the pharmaceutical industry. From 2011-2014, he worked as a medical writer for ApotheCom ScopeMedical, a health communications company whose clients included the pharmaceutical industry. In 2010, for work completed during his PhD in Biomedical Science, he received a Roche young researcher of the year award, which included a small cash prize and funds to attend an award ceremony.

FK works part-time for the Novo Nordisk Foundation which receives funding from a range of life science industries.

MPea has received funding from AFSP on a Young Investigator grant (2018) and salary support on an Investigator Grant. CPSP has provided salary support. MPea is a member of IASP and a Co-Chair of the Special Interest Group Prevention of Intentional Pesticide Poisoning.

LS receives salary support from CPSP.



ME is a WHO member of the FAO/WHO Joint Meeting on Pesticide Management (JMPM). He has received an unrestricted small research grant from Cheminova (2012); he collaborated with Syngenta employees on the first study to assess the toxicity of the Inteon paraquat formulation, receiving travel expenses to attend two meetings (2005–2006) but no personal income. He wrote a scientific expert report on the Paraquat Documents for PublicEye and Unearthed/Greenpeace, for which he was not paid.

ME has received research grants for work on pesticide poisoning from Wellcome Trust, CSO, MRC, AFSP and NIHR.

ME was an expert adviser to WHO's Impact of Pesticides on Health campaign (2004-5) and consultation on cost-effectiveness of suicide prevention interventions, including pesticide regulation (2019). ME also provided technical assistance for the development and publication of a resource tool for suicide prevention, entitled Preventing suicide: a resource for pesticide registrars and regulators (2019).

DK is a member of IASP and has received non-financial awards from them. She has also been awarded a grant from AFSP

DG was an (unpaid) expert adviser to WHO's First Consultation on Best Practices on Community Action for safer access to pesticides (Geneva, 2006). He was an (unpaid) expert adviser to WHO's Consultation on cost-effectiveness of suicide prevention interventions, including pesticide regulation (Geneva, 2019). He provided drafted and provided technical assistance for the development and publication of a WHO resource tool for suicide prevention: a resource guide for pesticide registrars and regulators (WHO, May–June, 2019) and received a small grant for this work.

DG was a member of the scientific advisory group for a Syngenta-funded study to assess the toxicity of a new paraquat formulation (2002-2006); a member of the scientific advisory group for a pesticide storage project funded by Syngenta (2005-2007); and chaired the DMEC for a Syngenta-funded trial of the medical management of paraquat poisoning (2007-2010); he received travel costs to attend research meetings but no other fees.

DG was Former Samaritans trustee (2015-18), member of Samaritans Policy and Research Committee (2015-2021) and Movember's Global Advisory Cttee (2019-2022); member of the Department of Health (England) National Suicide Prevention Strategy Advisory Group and a member of the International Association for Suicide Prevention (all unpaid roles).

We confirm that the paper has not been submitted to another journal, and has not been published in whole or in part elsewhere previously.

MCIvS and DK conceptualized the paper and wrote the first draft of the manuscript. All authors were involved in further revisions and writing of the final version.

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