

COVID-19 conscience tracing: mapping the moral distances of coronavirus

David Shaw  ^{1,2}

¹Health, Ethics and Society, Care and Public Health Research Institute, Maastricht University Faculty of Health Medicine and Life Sciences, Maastricht, Limburg, The Netherlands
²Institute for Biomedical Ethics, University of Basel, Basel, Switzerland

Correspondence to

Dr David Shaw, Health, Ethics and Society, Maastricht University Faculty of Health Medicine and Life Sciences, Maastricht 6229 ER, Limburg, The Netherlands; d.shaw@maastrichtuniversity.nl

Received 15 February 2021
Accepted 26 May 2021
Published Online First
8 June 2021

ABSTRACT

One of the many problems posed by the collective effort to tackle COVID-19 is non-compliance with restrictions. Some people would like to obey restrictions but cannot due to their job or other life circumstances; others are not good at following rules that restrict their liberty, even if the potential consequences of doing so are repeatedly made very clear to them. Among this group are a minority who simply do not care about the consequences of their actions. But many others fail to accurately perceive the harms that they might be causing. One of the main reasons for this is that the harms done by transmitting COVID-19 to someone else are morally distant from the agent, particularly in cases where infection is asymptomatic. In this paper, I describe seven different aspects of moral distance in the context of COVID-19, explore how they affect (lack of) motivation to obey restrictions, and suggest several ways in which such moral distance can be reduced — primarily through enhanced-contact tracing that makes it clear to individuals and the public precisely who they could be harming and how.

INTRODUCTION

Coronavirus can turn us into killers who do not know they have killed. I might have the virus without knowing it, have a drink with a friend indoors (despite restrictions forbidding that) and inadvertently infect him; he might also be asymptomatic, and then inadvertently infect his grandmother, who then dies. In such a case, it is very unlikely that contact tracing as currently practiced in the UK would ever reveal that my friend had asymptomatic COVID-19. This is because it aims to identify people infected after the index case, rather than before, and because of the time it takes to conduct contact tracing and the target of that tracing: it seeks to identify anyone who spent over 15 min within 2 m of the infected person over the previous 48 hours, in order to identify anyone who might have been infected by that person:

We are interested in 48 hours before you developed symptoms and the time since you developed symptoms. Close contact means:

- ▶ Having face-to-face contact with someone less than 1 m away (this will include times where you have worn a face covering or a face mask).
- ▶ Spending more than 15 min within 2 metres of someone
- ▶ Travelling in a car or other small vehicle with someone (even on a short journey) or close to them on a plane.¹

But by the time my friend's grandmother develops symptoms and becomes the index case, it is quite

possible that more time than that will have passed, meaning he will fall outwith the tracing net; and of course, it is possible, particularly with the new more infectious strain,² that he infected her despite staying over 2 m away, meaning he would definitely not be caught by the net. In any case, the aim of UK contact tracing is not to find who infected the index case, but to find who the index case infected. It is thus extremely improbable that I would also be contact traced and found to have (had) the virus. And in the absence of identification by contact tracing, my friend and I can hardly be blamed for not realising that I was the one who led to his grandmother being infected. Or can we? Perhaps if we understood the science better and tried to exercise our moral imaginations, we would have realised. In this paper, I explore the many types of moral distance involved in thinking about COVID-19, and explore strategies for lessening such distance.

THE MANY MORAL DISTANCES OF COVID-19

There are at least seven different ways in which people are morally distant from the potential effects of COVID-19. Cumulatively, these aspects of the virus go a long way towards explaining why people do not perceive the harm they might be doing, and thus their non-compliance. But to understand this phenomenon, we need to look at each of these moral distances in turn. (It is important to state from the outset that I am not suggesting that everyone who does not obey restrictions is reckless or guilty of moral myopia. Many people have no choice but to go out to work even if they are infected, and the UK government's response to the pandemic is also to blame for the situation in which we continue to find ourselves.)

Moral distance is best understood as the phenomenon whereby people do not consider the consequences of their actions on people who are spatially or temporally distant from them. Spatiotemporal distance also tends to increase emotional distance; we naturally feel emotionally closer to those we know than to those we do not. But despite how we feel intuitively, Peter Singer argues that this distance does not affect our moral obligations to others; as he put it, 'It makes no moral difference whether the person I can help is a neighbour's child 10 yards from me or a Bengali whose name I shall never know, 10 000 miles away.'³

One example of moral distance occurs in organ donation, where families frequently overrule donation by a dead relative. They are upset by a sudden death, and do not want to 'lose' more of their loved one. In such circumstances, the consequences for the patients who would have received those organs were



© Author(s) (or their employer(s)) 2022. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Shaw D. *J Med Ethics* 2022;**48**:530–533.

it not for the ‘family overrule’ seem so distant they are unlikely to be considered at all. Nonetheless, overruling results in deaths of recipients who would otherwise have received organs. In this case, the deaths are of people unknown to the overruling family, who are likely to be in another hospital—indeed, the patients may not have been identified at the time of the decision, further increasing the distance. Nonetheless, preventable deaths result from such moral distance, and strategies have been suggested to address the issue in this context.⁴ In organ donation, the moral distance is primarily a function of the family’s distress and focus on their dead or dying relative, and the spatiotemporal distance from any potential recipients.

However, Kamm has suggested that moral distance from others actually weakens our positive obligations towards them,⁵ so we may not have quite the same obligation to help people on the other side of the planet as we do to help those nearest and dearest to us, or indeed have an obligation to provide organs to strangers who need them. Another important point to bear in mind when discussing moral distance is whether our obligation concerns conferring a benefit or preventing harm to others; despite the disagreement mentioned above, there is general consensus that the obligation to avoid harming others remains despite moral distance from them. In the case of COVID-19, the risk is not depriving someone of a benefit (as in the organ donation example), but of harming them by infecting them with a potentially deadly virus.

There are many factors at play when we consider COVID-19 and moral distance. First, the very nature of the virus means that we are morally distant from it because we cannot perceive it in others. As many have remarked, it is an invisible enemy, and is only detectable to most of us via observable symptoms (and even then, it could be a more common cold).⁶ This might seem obvious, but the fact remains that if we could perceive the virus and see who had it we would be much more morally proximal to it. If my friend’s grandmother had known he had COVID-19, she would not have let him anywhere near her, and he would not have wanted to even if she had.

The second point relates closely to the first: as stated previously, the virus also remains imperceptible to many (or even most) of the people who are themselves infected with it. People who manifest symptoms will at first suspect they have the virus, then have that confirmed by a test. As a result, they will (or ought to) self-isolate and obey all applicable restrictions. But people who remain asymptomatic will remain morally distant from the virus and its effects, and thus remain very likely to not maintain physical distance from others who they could infect; otherwise my friend and I would not have met indoors. All of the following distancing factors are exacerbated by the distance caused by asymptomatic infection.

Third, we have temporal distance from people who we infect. The incubation period for the virus is thought to be on average 5–6 days, but in some cases it can be as much as 2 weeks.⁷ This means that even in symptomatic cases, if someone you know gets the virus a week or more after you last saw them, you will probably assume the source was someone else (unless contact tracing finds a link—and as already stated, it is unlikely to do so unless you meet the criteria mentioned above). In asymptomatic cases, of course, neither the infector nor the infected will know that either of them had the virus, making the temporal distance between them effectively infinite; neither will have any reason to think they infected anyone, because they do not know that they themselves were ever infected. Thus, my friend will be very sad if his grandmother dies of COVID-19, but he probably would not feel any sense of responsibility for it.

The fourth point relates closely to the third. In addition to the temporal distance caused by the incubation period, we must also consider the extra distance added by chains of infection. You might hear that your friend’s grandmother has died, but if you have not spent any time with her then you would not blame yourself even if you have had the virus. The fact that you could give the virus to someone else who then gives it to someone else who then gives it to someone who dies is a difficult one to grasp for many people. Further exacerbating this point is the fact that chains of infection are not linear, but pyramidal. I might only put one person at risk with a minor infraction of restrictions, but if he gets COVID-19 and gives it to two others, and they give it to four who give it to eight, then I am not only morally distant from the harm I did to him; I am morally distant from the harm I may have done to hundreds of people (see next section for a detailed description of this viral spread). Indeed, this could occur if my friend’s grandmother infected dozens of other residents and staff at her care home, who then went on to infect others.⁸ Two caveats here are important, however; first, they might have ended up getting the virus from a different source even if they were not involved in this chain (see below). Second, if the chain continues, then it is possible that others in the chain bear some moral responsibility for that, so I do not bear all the burden. Furthermore, someone must have infected me, though that may be partially my fault as well.

Indeed, another closely related point to this one is the fact that the involvement of various agents in transmission chains diminishes the sense of individual responsibility. In our example, there are three agents, all of whom are potentially at fault. While my friend and I failed to respect the rules, he could be seen as more to blame than I am because he visited his grandmother despite this breach of restrictions; she did not break any rules, but could have chosen to go longer without seeing him. Regardless of the specifics, this diffusion of responsibility can also increase our moral distance from harms in which we play a role; if everyone is to blame to some extent, that might (wrongly) make it seem like I am not really to blame at all.

Sixth, a related point is that young healthy people are at much lower risk of dying from the virus. This can increase their moral distance from other people who are at much higher risk. The risk of COVID-19 is very far from affecting me, which could lead me to overlook risk to others who are more at risk. This distancing factor interacts closely with the fourth point about chains of infection—I might only interact with someone at a similar level of risk, but that neglects the fact that they could act as a carrier to those at much greater risk. Combined with the previous factor, this contributes to a sense of distance from any consequences of minor infractions among those at low risk of harm from COVID-19. For example, having your friend in the house for a beer because it is cold outside seems like it cannot do harm even if it does breach restrictions; it is unlikely my friend will get COVID-19 and even if he does he will probably not be seriously ill. But of course, he might not be affected at all, and give it to his grandmother.

Finally, one potential contributor to moral distance is belief in conspiracy theories.⁹ If someone believes that the government is exaggerating the threat of COVID-19, or that facemasks are bad for your health, or even refuses to believe that the virus exists, it is unlikely that he or she would ever consider that they might be harming others by disobeying COVID-19 restrictions; if you do not believe harm can be caused, you will be morally distant from any harm that you cause. But even mild cases of suspicion and distrust of authority, combined with the inconvenience of restrictions, can contribute to failure to perceive the harm that our actions can do to others.

How can all these moral distancing factors be overcome, or at least counteracted to some extent so that people can perceive the harm that they and others are causing? To answer this question, we need to delve more deeply into the science of contact tracing, and broaden its scope.

COVID-19 CONSCIENCE TRACING

Currently, even if someone who had asymptomatic COVID-19 learns of infection of a contact he will assume the virus came from someone else because of his moral distance from the consequences of his action and the fact that contact tracing will quite possibly not identify him formally. Tracing is designed to identify close contacts of people who have symptoms, not to identify close contacts of people who are not unwell. It is essentially a forward-looking system that seeks to establish who could have caught COVID-19 from my friend's grandmother, rather than who passed it on to her. But one of the ramifications of this limitation of contact tracing is that many people remain at a great remove from the potential consequences of their actions. If I have symptoms of COVID-19, and then someone I have spent time with has symptoms, a causal link appears intuitive; but if neither of us have symptoms, there is no reason to suspect a causal link. And the current estimate is that 40%–45% of people¹⁰ who have the virus exhibit no symptoms, meaning that any plausible causal chain will have many gaps in it.

To illustrate this, consider how infection can spread exponentially through a population. With an R number of 1, one infected person leads to two infections on average, these two to four more, those four to eight and so on. But if we consider that half of these cases are asymptomatic, the scale of the problem affecting perceived causality rapidly becomes apparent. Half of the people at each stage of infection will not develop symptoms, and will thus be picked up by contact tracing only if the person from the previous stage who infected them was symptomatic and the asymptomatic person who was infected falls within the aforementioned contact tracing criteria. But given that there is only a 50% chance that the previous person in the chain had symptoms, half of the people infected would not know it even if contact tracing is working effectively. By the fifth stage, with 16 infected people, there are likely to be 8 asymptomatic spreaders—and by the tenth stage, 512 people who do not know they have COVID-19 (as well as 512 who do). And of course, none of the people in this example would be infected if not for patient zero—who almost certainly has zero awareness of all this harm if he is asymptomatic. (It is possible that one of these people might have been infected by someone else in the population; the point is that if patient zero had not infected anyone, none of these people would have been involved in this chain of infection.) Of course, some asymptomatic people are caught by contact tracing, but the prior contacts of those contacts may not. And the problem about infected cases not falling within contact tracing criteria remains. Thousands of people in each city and town have COVID-19 without knowing it, and thus act as if they do not have it and pose no risk to others. How can this moral distance be overcome?

One potential partial remedy is increasing asymptomatic testing of the population. Currently, though tests are available on demand, asymptomatic people in the UK are normally tested under three conditions: if they are a contact of a known case (see above), if routinely tested in the workplace (eg, National Health Service workers) or to attend school, or if they are involved in a community study that involves asymptomatic testing. Nonetheless, the Office for National Statistics (ONS) Infection Survey

reveals that half of all positive test results are from people who have asymptomatic COVID-19.¹¹ Increasing asymptomatic testing would increase the proportion of the population aware that they are infected, which does make it a lot more likely they will take precautions and not infect others. The ONS survey also revealed that 1 in 50 people in England had the virus at the start of January 2021. But of course, not all these people knew that they had the virus; this figure is extrapolated from the proportion of those tested and the proportion found positive. Around half of those tested were asymptomatic, which means that roughly 1 in 100 people in England had the virus and did not know it (unless they were among the relatively few falling into the categories mentioned above). But more importantly, telling people that they have the virus does not make them understand the harm it can do to those who are morally distant; they know they should not go out and that they are putting people they come into contact with at risk, but they are still unlikely to comprehend the potential magnitude of the harm they are doing to dozens of people further up the infection chain. Putting a number on the personal risk of having COVID-19 is another potentially useful strategy, but 1 in 100 is not very persuasive. This may be why the new slogan in England in 2021 was 'act like you've got it'.¹²

A more promising possibility is facilitation of backward contact tracing (BCT),¹³ where the aim is not to find who the index case gave the virus to, but who gave the virus to the index case. In the opening example, this would mean finding out not who my friend's grandmother gave the virus to, but who gave it to her, who gave it to my friend and possibly even who gave it to me. Japan and South Korea have successfully used BCT as part of their elimination approach to the virus.^{14 15} As such, the rationale is the public health objective of identifying other infected people and further limiting the spread of the virus. The evidence shows that this approach is highly effective; one study found that using BCT as well as typical FCT would prevent two to three times as many cases of COVID-19 as FCT alone.^{16 17} (The number is so high because this approach often identifies a superspreader who would otherwise have gone undetected.)

But BCT would also be a powerful way to construct causal chains of infection that can be used to educate the public about (particularly asymptomatic) transmission, which would in turn increase compliance and further bolster the public health response. Indeed, even if an elimination approach is unrealistic, conducting BCT for only a small minority of cases and publicising them well could help substantially in educating the population and enabling them to act more conscientiously. In effect, this would be backward contact tracing that enables forward conscience tracing: by explaining causal chains and illustrating past harms, BCT would enable people to act more conscientiously in future.

Imagine if the case of my friend, his grandmother and me was featured prominently in the media, with an accurate timeline described for viewers: 'Robert had a drink with a friend. They should not have been mixing indoors due to restrictions, but neither of them had COVID-19 so they did not see any harm in it. A week later, Robert went to see his gran. But Robert's friend did have COVID-19, and gave it to him; less than a month later, his grandmother died because of the virus. Both Robert and his friend were asymptomatic, and we only know about this infection chain because of backward contact tracing'. Viewers would not only see an illustration of the dangers of asymptomatic infection combined with a long incubation period, but also recognise that my friend did what many of them have done; disobeying restrictions in a way that might (wrongly) seem reasonable.

Nonetheless, his actions led to a relative's death. The sad story of his grandmother's death and how it relates to his actions enables him to conscience trace; but it also enables those who learn from it to trace back their own actions and their potential consequences, enabling more conscientious actions in future.

Note that I am not suggesting that backward tracing be implemented primarily for the purpose of educating people further back down the infection chain. While it might be useful and chastening knowledge for my friend and I to discover that it was our actions that led to the death of his grandmother, the main benefit would be to the public at large, by educating them about the potential personal costs of moral distance during a pandemic. (And in any case, having had the virus, we would probably be at less risk of infecting others with it in future.) One question that would need to be answered before implementing such a strategy would be whether to frame such messages morally or pragmatically,¹⁸ as stigmatising those who infect others may be counterproductive. Indeed, one potential downside of BCT is that hitherto unaware asymptomatic spreaders might be blamed (or blame themselves) for infecting others, but this is already the case for many symptomatic spreaders.

One major caveat to the suggestion of implementing BCT is that it is extremely resource intensive, requiring much more time, resources and personnel investment than forwards contact tracing, which already poses a substantial burden. Nonetheless, given the potential benefits, conducting BCT does not seem a disproportionate expense if resources can be spared. As well as identifying two to three times as many cases as forward-looking tracing, it provides information to those who learn what happened in their cases; could provide some certainty to families who lost someone from COVID-19 but do not know where it came from, and as argued above, provides indirect benefit to those who learn about these cases via public health education and the media. While academic case studies about BCT could perhaps be used instead, these are unlikely to provide the level of personal detail and local context that COVID-19 conscience tracing could convey. (Another caveat is that even efficient BCT might not be able to provide fully comprehensive causal chains due to the various potential paths of infection.)

CONCLUSION

This paper has set out the many factors that engender moral distance in people with and without COVID-19. People often cannot perceive if others have COVID-19, or even if they themselves do, and the harms done by transmission are also temporally and causally distant from those who are asymptotically affected. Currently someone could be asymptomatic, break rules and not kill anyone they know, but cause the deaths of several other people without knowing it or knowing them.

The complexity of the science and risk involved in understanding COVID-19 makes it difficult for all of us to bridge the moral distance between us and those we could be harming. While people with fertile moral imaginations might be able to envision the harm they are doing to others, most need more help in recognising these dangers. (It is possible that if we understood the science well we would feel obliged not to have any contact with anyone until we are all vaccinated. That would be sad, but at least it would be a choice made under the fullest understanding under conditions of great uncertainty.)

Only with efficient backward contact tracing can asymptomatic cases and their effects be identified in order to enable individuals and the public to realise the consequences of their actions. As well as providing this valuable education, BCT also

reduces infection spread because it allows identification of more cases, which is also extremely important in public health terms. Using BCT enables moral responsibility to be tracked despite moral distance: tracing the effects of bad actions in a way that may prick the consciences of COVID-19 non-compliers.

Acknowledgements Thanks to Maastricht colleagues who commented on an early version of this paper at a departmental research meeting.

Contributors DS is the sole author.

Funding The author has not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement There are no data in this work.

This article is made freely available for personal use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.

ORCID iD

David Shaw <http://orcid.org/0000-0001-8180-6927>

REFERENCES

- 1 UK Government. Nhs test and trace: how it works. Available: <https://www.gov.uk/guidance/nhs-test-and-trace-how-it-works> [Accessed 10 Feb 2021].
- 2 Gallagher J. New coronavirus variant: what do we know? BBC news. Available: <https://www.bbc.com/news/health-55388846> [Accessed 10 Feb 2021].
- 3 Singer P. *Famine, affluence, and morality*. Philosophy & Public Affairs, 1972: 229–43.
- 4 Shaw D, Gardiner D. Increasing organ donation rates by revealing recipient details to families of potential donors. *J Med Ethics* 2018;44(2):101–3.
- 5 Kamm FM. Does distance matter morally to the duty to rescue? *Law Philos* 2000;19(6):655–81.
- 6 Shaw DM. Invisible enemies: coronavirus and other hidden threats. *J Bioeth Inq* 2020;17(4):531–4.
- 7 World Health Organisation. Transmission of SARS-CoV-2: implications for infection prevention precautions. scientific brief, 9 July 2020. Available: <https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions> [Accessed 10 Feb 2021].
- 8 Robson D. Exponential growth bias: the numerical error behind Covid-19. BBC news. Available: <https://www.bbc.com/future/article/20200812-exponential-growth-bias-the-numerical-error-behind-covid-19> [Accessed 10 Feb 2021].
- 9 Douglas KM. COVID-19 conspiracy theories. *Group Processes & Intergroup Relations* 2020;24(2):270–5.
- 10 Oran DP, Topol EJ. Prevalence of Asymptomatic SARS-CoV-2 Infection : A Narrative Review. *Ann Intern Med* 2020;173(5):362–7.
- 11 Office for National Statistics (UK). Coronavirus (COVID-19) infection survey: characteristics of people testing positive for COVID-19 in England. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19infectionsinthecommunityinengland/characteristicsofpeopletestingpositiveforcovid19inengland27january2021> [Accessed 10 Feb 2021].
- 12 Sky News. Government launches coronavirus ad campaign telling people to 'act like you've got it'. Available: <https://news.sky.com/story/covid-19-government-launches-coronavirus-ad-campaign-telling-people-to-act-like-youve-got-it-12182672> [Accessed 10 Feb 2021].
- 13 Morelle R. Covid test-and-trace: is backwards contact tracing the way forward? BBC news. Available: <https://www.bbc.co.uk/news/health-54648734> [Accessed 10 Feb 2021].
- 14 Jindai K, Furuse Y, Oshitani H. [Novel coronavirus disease cluster intervention] (Japanese). *Infect Agents Surveill Rep* 2020;41:108–10.
- 15 COVID-19 National Emergency Response Center, Epidemiology & Case Management Team, Korea Centers for Disease Control & Prevention. Contact transmission of COVID-19 in South Korea: novel investigation techniques for tracing contacts. *Osong Public Health Res Perspect* 2020;11(1):60–3.
- 16 Endo A, Leclerc QJ, Knight GM, et al. Implication of backward contact tracing in the presence of overdispersed transmission in COVID-19 outbreaks. *Wellcome Open Res* 2021;5.
- 17 Bradshaw WJ, Alley EC, Huggins JH, et al. Bidirectional contact tracing could dramatically improve COVID-19 control. *Nat Commun* 2021;12(1):232.
- 18 Prosser AMB, Judge M, Bolderdijk JW, et al. 'Distancers' and 'non-distancers'? The potential social psychological impact of moralizing COVID-19 mitigating practices on sustained behaviour change. *Br J Soc Psychol* 2020;59(3):653–62.