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# Please wear a mask: a systematic case for mask wearing mandates

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## ABSTRACT

This paper combines considerations from ethics, medicine and public health policy to articulate and defend a systematic case for mask wearing mandates (MWM). The paper argues for two main claims of general interest in favour of MWM. First, MWM provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than policy alternatives such as laissez-faire approaches, mask wearing recommendations and physical distancing measures. And second, the proffered objections against MWM may justify some exemptions for specific categories of individuals, but do not cast doubt on the justifiability of these mandates. Hence, unless some novel decisive objections are put forward against MWM, governments should adopt MWM.

## 1. INTRODUCTION

Over the last 3 years, the ongoing COVID-19 pandemic has forced governments and public health authorities across the world to make challenging decisions involving individuals' health, wealth and freedoms.<sup>1 2</sup> In this context, intense debates have taken place concerning the justifiability of *mask wearing mandates* (henceforth, MWM), that is, public health policies that require individuals to wear medical-grade face masks in indoor settings (eg, hospitals, public transport, supermarkets) where physical distancing is infeasible (<sup>3-7</sup>advocating MWM; <sup>8-12</sup>opposing MWM).

In this paper, I combine considerations from ethics, medicine and public health policy to articulate and defend a systematic case for MWM. I shall argue for two main claims of general interest in favour of MWM. First, MWM provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than policy alternatives such as laissez-faire approaches, mask wearing recommendations and physical distancing measures (eg, 2-metre distancing rules). And second, the proffered objections against MWM may justify some exemptions for specific categories of individuals (eg, primary school children), but do not cast doubt on the justifiability of MWM. Hence, unless some novel decisive objections are put forward against MWM, governments should adopt MWM.

The paper is organised as follows. Section 2 articulates my case for MWM, which aims to demonstrate that MWM: effectively *reduce the harms* deriving from individuals' failure to wear masks in indoor settings where physical distancing is infeasible while minimising constraints on social interactions; *mitigate the moral wrongs* perpetrated by those who impose infection risks on unconsenting others by failing to wear masks; and promote a *fair distribution* of social interactions' expected harms

and benefits by enabling each individual on whom infection risks are imposed by other individuals' failure to wear masks to shift the expected costs deriving from such failure to those individuals. Section 3 defends my case for MWM against a series of objections put forward against MWM, namely: the objection from *autonomy*; the objection from *freedom*; the objection from *indeterminate risk*; the objection from *insufficient risk*; the objection from *overdemandingness*; and the objection from *superior policy alternatives*.

Before proceeding, three preliminary remarks are in order. First, I characterise *risk* as the probability of the occurrence of harm (<sup>13</sup>:263, <sup>14</sup>:369). In particular, I shall say that an agent's action imposes a risk of a given harm (eg, COVID-19 infection) on other agents when the agent's action increases the probability that the other agents suffer such harm compared with otherwise identical situations where the agent does not perform such action (<sup>15</sup>:78, <sup>16</sup>:667). In doing so, I adopt the common conception of *harm* as the 'thwarting, setting back, or defeating of [one's legitimate] interest' (<sup>17</sup>:33; also <sup>18</sup>:971, <sup>19</sup>:695). The idea is that an agent A's action harms an agent B if and only if A's action directly makes B worse off than B would have been in otherwise identical situations where A does not perform such action (<sup>20</sup>:520, <sup>21</sup>:578).<sup>i</sup>

Second, in discussing the *justifiability* of MWM, I shall repeatedly refer to the expected harms and benefits that wearing (or failing to wear) masks typically yields to individuals. In doing so, I shall assume that a given risk-imposing action (or activity) is justifiable if the action (or activity) respects the involved individuals' rights and yields a more favourable balance of overall expected benefits and overall expected harms compared with the other available actions (or activities), without further requiring that this action (or activity) yields a more favourable balance of expected benefits and expected harms

<sup>i</sup>Different baselines for determining the severity of risk imposition and/or harm have been advocated.<sup>111 112</sup> My case for MWM does not directly rest on which baseline one adopts. Also, two accounts of probability are especially prominent in the specialised literature. Objective accounts take the probability of a given event (eg, Adam infecting Eve) to be determined by facts in the physical world that are independent of the involved individuals' beliefs and these individuals' assessment of the available evidence. Conversely, subjective accounts take the probability of a given event to be a measure of individuals' degrees of belief about the likelihood of such event (<sup>18</sup>:972-3, <sup>68</sup>:1439, <sup>57</sup>:77; also <sup>15 97</sup>:ch.2 in ref<sup>22</sup> on the possibility of combining objective and subjective accounts). I do not expand on these accounts since I take my case for MWM to hold irrespective of the comparative merits of those accounts.



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compared with the other available actions (or activities) for each involved individual (22:ch. 5, 23 24:ch.5). I adopt this relatively permissive criterion for assessing the justifiability of risk-imposing actions (or activities) because, other things being equal, focusing on what is justifiable to each individual would make it harder to justify risk-imposing actions (or activities);<sup>25</sup>:40, 26:305, 27:40). Hence, if risk-imposing actions (or activities) such as engaging in maskless indoor social interactions are unjustifiable under the permissive justifiability criterion I adopt, then such actions (or activities) will a fortiori be unjustifiable under more stringent justifiability criteria.<sup>ii</sup>

And third, the MWM advocated in this article target a wide range of indoor settings where physical distancing is infeasible (eg, hospitals, public transport, supermarkets) and involve the imposition of legal sanctions on those who fail to wear a mask (eg, fines). The justifiability of these MWM may be plausibly taken to vary depending on contextual epidemiological factors (eg, population-level infection rates and type of variant prevalent in a given period), medical factors (eg, intensive care units occupancy rates and availability of cheap and effective antiviral drugs for the general public) and public health factors (eg, what other public health measures are adopted to reduce COVID-19 transmission by a given government). I shall expand on some of these contextual factors in Sections 2–3. For now, I note that if my case for MWM is correct, then MWM provide an effective, just and fair way to tackle the ongoing COVID-19 pandemic across a wider range of epidemiological, medical and public health circumstances than currently presupposed by several governments, including the UK, the US and many EU governments. In this perspective, MWM can be seen as a critical complement to public health measures such as improvements in indoor settings' ventilation, vaccination campaigns and effective communication concerning the benefits of mask wearing.<sup>28–30</sup>

## 2. A CASE FOR MWM

In this section, I articulate my case for MWM. I shall argue that MWM: (2.1) effectively *reduce the harms* deriving from individuals' failure to wear masks in indoor settings where physical distancing is infeasible while minimising constraints on social interactions; (2.2) *mitigate the moral wrongs* perpetrated by those who impose infection risks on unconsenting others by failing to wear masks; and (2.3) promote a *fair distribution* of social interactions' expected harms and benefits by enabling each individual on whom infection risks are imposed by other individuals' failure to wear masks to shift the expected costs deriving from such failure to those individuals.

2.1 *MWM effectively reduce harms.* COVID-19 infections can impose severe *health-related harms* on individuals, including damages to multiple organs (<sup>31 32</sup> for quantitative data concerning different populations), several long-lasting

<sup>ii</sup>My reference to expected harms and benefits by no means excludes the possibility of ascribing significant relevance to distributive considerations when assessing such expected harms and benefits (Section 2.3; also <sup>113 114</sup> on how policy makers' assessment of expected harms and benefits may vary depending on how well-off the involved individuals are). In particular, it allows that deontological considerations may bear on the justifiability of risk-imposing actions or activities (Section 2.2; also <sup>27 80</sup> on how the justifiability of risk-imposing actions or activities may vary depending on whether the involved individuals have the right to avoid the relevant risks). That is to say, my case for MWM does not directly rest on the merits of consequentialist cost-benefit analyses (<sup>115–118</sup> for critical discussion of such analyses).

symptoms (<sup>33</sup> for quantitative data concerning long COVID) and death (<sup>34</sup> on distinct COVID-19 variants' mortality rates for different age groups and medical conditions). Taken collectively, these individual harms can significantly hamper health care systems' ability to provide basic care for all individuals in need when many individuals get infected in the same period, as it typically happens during pandemic waves (<sup>35 36</sup> on the lack of sufficient intensive care units experienced across countries during early pandemic waves; <sup>37 38</sup> on the considerable increases in backlogs and waiting times accumulated in the NHS through the pandemic). In this context, MWM can effectively reduce the harms deriving from individuals' failure to wear masks in indoor settings where physical distancing is infeasible by substantially increasing and sustaining high community mask wearing rates.<sup>4 39 40</sup> For as demonstrated by a wide range of experimental and observational studies, community mask wearing can reduce COVID-19 transmission in proportion to mask effectiveness and adoption rates even after controlling for other mitigation measures.<sup>41–49</sup> Community mask wearing is especially effective in reducing transmission of COVID-19 (besides other infectious diseases) given the high proportion of infectious COVID-19 asymptomatic cases<sup>50</sup> and the possibility that mask wearing may reduce infection severity in those cases where it does not prevent infection.<sup>51 iii</sup>

Besides preventing substantial health-related harms, MWM can also prevent significant *socioeconomic costs*. For the substantial increases in community mask wearing rates promoted and sustained by MWM can effectively reduce both the considerable medical expenses required to care for COVID-19 (and long COVID) patients<sup>152</sup> and the risk that policy makers may impose costly constraints on people's social interactions (eg, physical distancing measures) to curb future waves of infections (<sup>53 54</sup> on how the possibility of re-infection and vaccines' waning immunity cast doubt on the prospects of achieving lasting high levels of population immunity by letting the virus rip through the population). To be sure, the excess deaths caused by COVID-19 might lead to reduced retirement expenses and medical benefits. Still, most analyses link the health care costs imposed by recurrent pandemic waves to significant deteriorations in public finances (<sup>55</sup> for quantitative data concerning the UK; <sup>56</sup> for quantitative data concerning the USA).<sup>iv</sup>

<sup>iii</sup>Providing precise randomised controlled trial data about how effective masks are in reducing the number and the severity of COVID-19 infections across populations is complicated. For dynamically varying proportions of people wear different types of masks (eg, surgical masks, N95 masks) in dissimilar settings. And variations in mask wearing rates often covary with policy changes (<sup>119</sup> on various restrictions on gatherings) and behavioural changes (<sup>120</sup> on how mask wearing may affect people's propensity to adopt other precautions such as physical distancing). Still, several reviews and meta-analyses associate mask wearing with substantial and statistically significant reductions in COVID-19 transmission and the infection risks faced by individuals.<sup>40 121–123</sup>

<sup>iv</sup>Calculations of expected harms and benefits may vary depending on what theory of well-being one endorses (<sup>124 125</sup>:part I on the entrenched tripartition between mental state theories, preference satisfaction theories and objective list theories of well-being). Still, there are several reasons to think that MWM yield a favourable balance of overall expected benefits and overall expected harms across different plausible theories of well-being. For instance, as argued in this section, MWM effectively reduce the health-related harms deriving from individuals' failure to wear masks while minimising constraints on social interactions, and most plausible theories of well-being agree that enhancing individuals' health reliably tends to enhance individuals' well-being (<sup>85</sup>:ch.3, <sup>73</sup> on mental state theories, informed/ideal preference satisfaction theories, and objective list theories).

2.2 MWM mitigate moral wrongs. In some situations, individuals may justifiably impose non-negligible risks of severe harm on unconsenting others (<sup>57</sup>:83, <sup>58</sup>:296 on cases of self-defence; also <sup>59</sup>:273–5 on cases where ambulance drivers may justifiably drive more quickly than otherwise justified to save the lives of injured individuals). Still, failing to wear a mask in indoor settings where physical distancing is infeasible typically *wrongs* unconsenting others both because in such settings the expected benefits that maskless (vs masked) interactions yield to individuals typically fade in comparison with the non-negligible risks of severe harm prevented by mask wearing (Section 2.1) and because individuals have no right to impose non-negligible risks of severe harm on unconsenting others when they can avoid imposing such risks at a limited cost to themselves (Section 2.3). In fact, failing to wear a mask in indoor settings where physical distancing is infeasible may wrong unconsenting others not only in cases where the imposed risks result in harm to them (<sup>25</sup>:42, <sup>60</sup>:346), but also in cases where the imposed risks do not result in any harm to them (<sup>61</sup>:82, <sup>62</sup>:216).<sup>v</sup>

There are several reasons why failing to wear a mask in indoor settings where physical distancing is infeasible may wrong unconsenting others. One such reason concerns individuals' *security*. The idea is that to be secure, one must avoid harm not only in the actual world, but also in a range of counterfactual scenarios (<sup>20</sup>:544, <sup>63</sup>:8) and that individuals have a prima facie right to avoid being subject to non-negligible risks of severe harm by others (<sup>26</sup>:291, <sup>64</sup>:ch.4). This right can be occasionally overridden (eg, think of cases of self-defence), but in most situations respecting such right requires individuals to avoid imposing non-negligible risks of severe harm on unconsenting others whenever they can do so at a limited cost to themselves (<sup>14</sup>:367, <sup>58</sup>:302). Another reason why failing to wear a mask in indoor settings where physical distancing is infeasible may wrong unconsenting others relates to the notion of *respect*. The idea is that in failing to wear a mask in indoor settings where physical distancing is infeasible, one implies that the minor inconvenience she experiences in wearing a mask outweighs the importance of protecting unconsenting others from non-negligible risks of severe harm, thereby expressing 'a lack of respect for [each of these individuals'] inherent worth as a human being' (<sup>15</sup>:91; also <sup>13</sup>:262, <sup>63</sup>:1). That is to say, in the ongoing pandemic circumstances, many ordinary actions that would be innocuous in non-pandemic circumstances (eg, engaging in maskless indoor social interactions) impose non-negligible risks of severe harm on unconsenting others.<sup>65</sup> In these circumstances, the substantial increases in community mask wearing rates promoted and sustained by MWM can significantly mitigate the moral wrongs perpetrated by those who impose infection risks on unconsenting others by failing to wear masks.<sup>vi</sup>

<sup>v</sup>In the philosophical literature, different positions have been advocated about the issue whether (and, if so, why) imposing risks on unconsenting others can per se constitute harm irrespective of whether these risks result in the harms they threaten (<sup>18</sup>:970, <sup>77</sup>:356 holding that imposing risks on unconsenting others can per se constitute harm; <sup>19</sup>:694, <sup>20</sup>:517 holding that imposing risks on unconsenting others cannot per se constitute harm). I do not expand on this issue for two main reasons. First, the risks imposed by individuals' failure to wear masks frequently result in the harms they threaten. And second, even those who hold that imposing risks on unconsenting others cannot per se constitute harm commonly grant that imposing risks on unconsenting others 'can itself be wrongful' (<sup>19</sup>:694; also <sup>20</sup>:517).

<sup>vi</sup>A critic of MWM may object that, in a fact-relative sense, an individual's failure to wear a mask in indoor settings where physical distancing is infeasible does not wrong others unless the individual actually has COVID-19. However, the moral justifiability of an individual's choice

2.3 MWM promote a fair distribution of expected harms and benefits. Failing to wear a mask in indoor settings where physical distancing is infeasible imposes non-negligible risks of severe harm on other individuals (Section 2.1). This by no means entails that the individuals on which these risks are imposed can justifiably require that people refrain from indoor social interactions. For prohibiting indoor social interactions would prevent people from enjoying many valuable experiences and engaging in highly beneficial social activities. Even so, the justifiability of one's risk-imposing actions can crucially depend on whether the individuals subject to the risks imposed by her actions are able to *shift* the expected costs deriving from such actions to her.<sup>66</sup><sup>67</sup> In particular, people can justifiably require that one take precautions to reduce the expected costs deriving from her risk-imposing actions by reducing the risks that these actions impose on them.<sup>66</sup><sup>68</sup> In this respect, MWM promote a *fairer distribution* of social interactions' expected harms and benefits compared with otherwise identical situations where MWM are not implemented. For MWM provide an effective means to enable each individual on whom infection risks are imposed by other individuals' failure to wear masks to shift the expected costs deriving from such failure to those individuals.

To illustrate this, consider a hypothetical interaction between maskless Adam and mask wearing Eve. Eve cannot justifiably require that Adam refrain from indoor social interactions. For indoor social interactions yield many valuable benefits to Adam and other individuals (including Eve). Still, Eve can justifiably require that Adam wear a mask in indoor settings where physical distancing is infeasible. For wearing a mask typically involves minor inconvenience for Adam compared with the non-negligible risks of severe harm that Adam's failure to wear a mask imposes on Eve. And in failing to wear a mask, Adam forces Eve to bear the expected harms deriving from his own failure to wear a mask. This, in turn, is unfair to Eve on most accounts of the morality of risk imposition, for individuals have no right to impose non-negligible risks of severe harm on unconsenting others when they can avoid imposing such risks at a limited cost to themselves.<sup>65</sup><sup>66</sup><sup>69</sup> In this respect, undermining the justifiability of MWM would require the critics of MWM to specify why exactly all these accounts would be mistaken or otherwise inadequate. Yet, the critics of MWM have hitherto failed to address this justificatory challenge.

### 3. OBJECTIONS AND REPLIES

In this section, I defend my case for MWM against a series of objections put forward against MWM, namely: (3.1) the objection from *autonomy*; (3.2) the objection from *freedom*; (3.3) the objection from *indeterminate risk*; (3.4) the objection from *insufficient risk*; (3.5) the objection from *overdemandingness*; and (3.6) the objection from *superior policy alternatives*. I shall argue that the proffered objections may justify some exemptions for specific categories of individuals (eg, primary school children), but do not cast doubt on the justifiability of MWM.

to wear or not to wear a mask should be evaluated from the epistemic standpoint that the individual has (or can be reasonably expected to have) at the time of choice rather than from an epistemically privileged standpoint from which all the outcomes of the individual's choice are known (<sup>23</sup>:115; also <sup>97</sup>). And in such evidence-relative sense, an individual's failure to wear a mask in indoor settings where physical distancing is infeasible typically wrongs unconsenting others unless the individual has reliable evidence that she does not have COVID-19 (eg, negative test results).

Hence, unless some novel decisive objections are put forward against MWM, governments should adopt MWM.

3.1 The *objection from autonomy* holds that MWM are unjustified on the alleged ground that MWM involve objectionable violations of individuals' autonomy.<sup>12</sup> The idea is that even if MWM effectively reduce the infection risks faced by individuals, governments cannot justifiably adopt public health mandatory policies such as MWM and should allow individuals to *decide for themselves* whether or not to wear masks when they engage in indoor social interactions.<sup>70 vii</sup>

There are at least three reasons to think that this objection fails to undermine the justifiability of MWM. First, the fact that a public health policy involves some violation of individuals' autonomy constitutes a *pro tanto* reason to oppose this policy, but falls short of constituting a *sufficient* reason to oppose such policy. For public health policies greatly differ in the extent to which they violate the autonomy of the individuals they target.<sup>71 72</sup> And the fact that a public health policy involves some minor violation of autonomy does not per se undermine the justifiability of such policy (<sup>73</sup>, <sup>74</sup>:ch.3–5). Second, the fact that MWM effectively reduce the harms that individuals' failure to wear masks imposes on unconsenting others is a *weighty* (albeit defeasible) reason in favour of MWM. And even radical libertarians concede that governments may rely on mandatory policies to prevent individuals from harming unconsenting others (<sup>75</sup>:81–82; also <sup>76</sup>:39 for a libertarian case supporting vaccine mandates on the alleged ground that 'individuals have [no] right to expose others to dangerous diseases'). And third, on many conceptions of autonomy, MWM are plausibly taken to *promote* (rather than *constrain*) individuals' autonomy compared with otherwise identical situations where MWM are not implemented. To illustrate this, consider choice-based conceptions of autonomy, which figure prominently in debates concerning the morality of risk imposition.<sup>77</sup> On these conceptions, autonomy 'is exercised through choice [and] requires a variety of options to choose from' (<sup>78</sup>:398). Now, those who fail to wear a mask in indoor settings where physical distancing is infeasible impose non-negligible risks of severe harm on unconsenting others. These risks, in turn, significantly constrain the autonomy of the individuals subject to such risks because they 'foreclose [valuable] options that would otherwise be available' to these individuals (<sup>22</sup>:85; eg, the option to engage in indoor social interactions without being subject to non-negligible risks of severe harm). And these constraints on individuals' autonomy are typically more severe than the constraints that having to wear a mask in indoor settings where physical distancing is infeasible imposes on individuals' autonomy.<sup>65 viii</sup>

vii The objection focuses on MWM's putative violations of autonomy (rather than the alleged paternalistic character of MWM) because on most characterisations of paternalism, policies may qualify as 'paternalistic' only if they primarily aim to enhance the well-being of the individuals they target (<sup>71</sup>:461, <sup>126</sup>:65), and MWM primarily aim to reduce harm to third parties rather than enhance the well-being of the individuals they target (Section 2). This point importantly bears on the justifiability of MWM, for one may consistently oppose paternalistic policies and advocate public health mandatory policies such as MWM. In fact, many opponents of paternalistic policies advocate public health mandatory policies (eg, compare <sup>79</sup> who opposes even relatively unintrusive forms of paternalism such as seat belt mandates, and <sup>102</sup> who advocates vaccine mandates by pointing to people's purported right against being infected with contagious illnesses).

viii Analogous remarks hold for other common conceptions of autonomy. By way of illustration, consider the widely held conception according to which autonomy involves being able to deliberate and act in light of considered judgements about one's well-being.<sup>127</sup> A critic of MWM may

A critic of MWM may object that MWM are unjustified on the alleged ground that MWM are implemented without the *explicit consent* of the individuals they target and that mandatory policies implemented without the explicit consent of the individuals they target are *prima facie* unjustified.<sup>79</sup> However, the mere fact that an individual does not explicitly consent to a particular public health policy falls short of implying that this policy is unjustified (eg, the policy may promote or safeguard important values, including individuals' autonomy). Moreover, public health policies such as MWM typically target vast population segments and/or statistical targets, and it is often *infeasible* to obtain the explicit consent of all the individuals targeted by such policies (<sup>80</sup>:923, <sup>81</sup>:269). In this respect, the critics of MWM may well object that many individuals refuse to consent to MWM and that, if all the individuals in a given indoor setting explicitly consent to waiving MWM, then those individuals should be exempted from MWM. Yet, many individuals consent to MWM, or at least would prefer that those who interact with them wear a mask, and in this sense refuse to consent to being subject to the non-negligible risks of severe harm that other individuals' failure to wear masks imposes on them.<sup>82</sup> And although in some situations one may justifiably impose non-negligible risks of severe harm on unconsenting others (Section 2.2), it would be implausible for the critics of MWM to maintain that individuals' consent is a necessary condition for the justifiability of MWM yet is of negligible relevance to the justifiability of activities (such as engaging in maskless indoor social interactions) that impose non-negligible risks of severe harm on individuals.<sup>ix</sup>

3.2 The *objection from freedom* holds that MWM are unjustified on the alleged ground that MWM impose too many constraints on individuals' freedoms.<sup>12</sup> The idea is that the constraints MWM impose on individuals' freedom to interact without wearing a mask restrict a number of *valuable freedoms* such as the freedom to communicate and learn unimpeded in indoor settings,<sup>83</sup> and that the restriction of these valuable freedoms undermines the justifiability of MWM.

There are at least three reasons to think that this objection fails to undermine the justifiability of MWM. First, the justifiability of MWM does not depend merely on the effect MWM have on *specific* freedoms such as the freedom to interact without wearing a mask (and related freedoms), but rather depends on the effect MWM have on individuals' *overall* freedom, which is

hold that individuals should be allowed to autonomously choose whether or not to wear masks when they engage in indoor social interactions. Still, MWM promote many individuals' autonomy by counteracting the effect of actions (eg, engaging in maskless indoor social interactions) that impose non-negligible risks of severe harm on such individuals without their own consent.<sup>128</sup>

ix A critic of MWM may further object that many individuals may be presumed to consent to being subject to infection risks when they engage in indoor social interactions and that these individuals' presumed consent, in turn, can make otherwise wrongful risk impositions justifiable. This objection correctly notes that some individuals may be presumed to consent to being subject to infection risks when they engage in indoor social interactions (eg, think of restaurant customers) and that individuals' presumed consent might occasionally make otherwise wrongful risk impositions justifiable. Still, relatively few individuals may be plausibly presumed to consent to being subject to infection risks when they engage in indoor social interactions (eg, think of individuals who have to earn a living in indoor settings where physical distancing is infeasible). For as noted in the main text, many individuals would prefer that those who interact with them wear a mask, and in this sense refuse to consent to being subject to the non-negligible risks of severe harm that other individuals' failure to wear masks imposes on them.

a function of all the specific freedoms individuals have and how valuable each of these freedoms is (<sup>13, 84</sup>:ch.1). Second, the mere fact that MWM restrict a number of specific freedoms falls short of indicating that MWM *reduce* individuals' overall freedom. For the restrictions that MWM impose on some specific freedoms may be offset by the increase in other specific freedoms made available by MWM (eg, the freedom to engage in indoor social interactions without being subject to non-negligible risks of severe harm). And third, MWM are plausibly taken to *increase* (rather than reduce) individuals' overall freedom compared with otherwise identical situations where MWM are not implemented. To illustrate this, consider the critical importance that individuals' health has as a prerequisite for many valuable activities (<sup>85</sup>:ch. 6, <sup>86</sup>). The significant reduction in infection risks effected by MWM can greatly contribute to increasing many valuable specific freedoms (eg, the freedom to engage in indoor social interactions without being subject to non-negligible risks of severe harm). And in most situations, these freedoms are more valuable (in terms of their impact on overall freedom) than the specific freedom to interact without wearing a mask (and related freedoms;<sup>65</sup>:818–820). Moreover, the significant reduction in infection risks effected by MWM greatly decreases the risk that policy makers may implement public health policies that reduce individuals' overall freedom (eg, physical distancing measures) to curb future waves of infections.<sup>1 52</sup> This further supports the claim that MWM increase (rather than reduce) individuals' overall freedom.<sup>x</sup>

A critic of MWM may object that MWM are unjustified on the alleged ground that public health mandatory policies such as MWM place policy makers on *slippery slopes* leading to problematic restrictions of individuals' freedoms (<sup>87</sup> on intrusive government mandates). The idea is that irrespective of whether MWM themselves appear to be justified, we should oppose MWM because adopting MWM would likely lead policy makers to impose morally impermissible (or otherwise objectionable) restrictions on individuals' freedoms.<sup>12</sup> This objection correctly notes that slippery slopes may (and frequently do) arise in public policy contexts (<sup>88 89</sup> on cases where policy makers' reliance on past legislative or judicial decisions leads them to adopt more controversial policies because they take past decisions to give them reason to adopt such policies). However, policy makers may be able to *avoid* or *resist* slippery slopes (<sup>90 91</sup> on cases where the unacceptability of hypothetical future policies makes it less likely that these policies will be implemented). Moreover, the available evidence indicates that policy makers *can* successfully avoid or resist slippery slopes in the case of MWM (<sup>92</sup> on the Centers for Disease Control and Prevention's relaxation of mask wearing rules after the peak of previous pandemic waves). Hence, generic appeals to the possibility that MWM may place policy makers on slippery slopes do not provide convincing reasons against MWM unless these appeals are supplemented with reliable evidence that adopting MWM will likely lead policy makers to impose morally impermissible (or otherwise objectionable) restrictions on individuals' freedoms. Yet, the critics of MWM have hitherto failed to put forward such evidence.

<sup>x</sup>In some situations, the value that some specific freedoms (eg, the freedom to learn unimpeded in indoor settings) have for particular categories of individuals (eg, primary school children) may justify some exemptions to MWM for such categories of individuals. Still, pointing to the value that some specific freedoms have for particular categories of individuals does not cast doubt on the justifiability of MWM for the general population.

3.3 The *objection from indeterminate risk* holds that MWM are unjustified on the alleged ground that policy makers typically *lack* the information required to determine *what risks* are imposed by maskless (vs masked) interactions and so are unable to assess the justifiability of engaging in maskless (vs masked) interactions.<sup>8 11</sup> The objection proceeds as follows. The justifiability of engaging in maskless interactions in indoor settings where physical distancing is infeasible crucially depends on what risks are imposed by such activity compared with the available alternatives (eg, engaging in masked interactions). However, the risks that maskless (vs masked) interactions impose on the involved individuals plausibly vary depending on what reference class one uses to characterise these individuals (objective accounts of probability) and on those individuals' assessments of such risks (subjective accounts of probability). Moreover, policy makers lack non-arbitrary criteria to identify privileged reference classes and individuals' assessments.<sup>93</sup> Hence, policy makers lack the information required to determine what risks are imposed by maskless (vs masked) interactions. As a result, policy makers are unable to assess the justifiability of engaging in maskless (vs masked) interactions.<sup>8 11</sup>

There are at least three reasons to think that this objection fails to undermine the justifiability of MWM. First, policy makers' determination of what risks are imposed by maskless (vs masked) interactions primarily depends on policy makers' assessments of these risks, rather than what reference class is used to characterise the involved individuals and those individuals' assessments of such risks. Hence, pointing to the alleged fact that policy makers lack non-arbitrary criteria to identify privileged reference classes and individuals' assessments does not per se undermine the justifiability of MWM. Second, policy makers can often identify *some* privileged reference classes and individuals' assessments in the policy contexts they target, which enables them to reliably assess the justifiability of many risk-imposing activities (<sup>18 94</sup> on the justifiability of driving and commercial aviation). And third, policy makers can easily access *publicly available evidence* about the prevalence of COVID-19 infections in a given population, the harms deriving from COVID-19 infections and MWM's effectiveness in reducing infection risks in different settings (Section 2). As a result, policy makers can reliably assess the justifiability of many instances of maskless (vs masked) interactions (<sup>95</sup> on the justifiability of maskless interactions in non-crowded open-air settings). And the available evidence clearly indicates that failing to wear masks in indoor settings where physical distancing is infeasible imposes non-negligible risks of severe harm on others across many determinations of the relevant reference classes and many different individuals' assessments (eg, Section 2 on the health-related harms deriving from COVID-19 infections and on MWM's effectiveness in reducing infection risks even after controlling for other mitigation measures).

A critic of MWM may object that MWM are unjustified on the alleged ground that the publicly available evidence concerning the risks that maskless (vs masked) interactions *generally* impose on individuals does not enable policy makers to determine what risks are imposed by *particular instances* of maskless (vs masked) interactions.<sup>96</sup> The idea is that what risks are imposed by any particular instance of maskless (vs masked) interactions depend on many situational factors, ranging from whether additional mitigation measures are in place (eg, restrictions on gatherings) to the involved individuals' physical and psychological characteristics (eg, age, propensity to engage in risky social interactions). This objection correctly notes the difficulties involved in determining what risks are imposed by particular instances of maskless (vs masked) interactions (<sup>97</sup>:15 holding that policy

makers are often unable to quantify ‘the risk of harm that a particular agent imposes on others by engaging in some activity’). However, the justifiability of public health policies such as MWM does not depend on what risks *particular instances* of maskless (vs masked) interactions impose on specific individuals, but rather depends on what risks maskless (vs masked) interactions *generally* impose on individuals (Section 1). Moreover, the publicly available evidence concerning the risks that maskless (vs masked) interactions generally impose on individuals provides policy makers with a reliable and informative basis to *estimate* the risks imposed by particular instances of maskless (vs masked) interactions. And these estimates frequently suffice to determine the justifiability of individuals’ maskless interactions and of specific constraints on such interactions (<sup>18 94</sup> for similar remarks concerning the justifiability of speed and alcohol consumption limits for driving).

3.4 The *objection from insufficient risk* holds that MWM are unjustified on the alleged ground that the risks of severe harm imposed by maskless (vs masked) interactions are typically *too low* to offset the expected benefits individuals derive from engaging in maskless (vs masked) interactions.<sup>70</sup> The objection proceeds as follows. Given the high vaccination rates and natural immunity levels reached in several populations,<sup>98</sup> engaging in maskless indoor social interactions typically imposes *very small* risks of severe harm on others compared with otherwise identical situations where the same individuals engage in masked indoor social interactions. Moreover, the very small risks of severe harm imposed by maskless (vs masked) interactions are offset by the *expected benefits* individuals derive from engaging in maskless (vs masked) interactions. Hence, it would be unjustified to require that individuals wear masks when they engage in indoor social interactions. To illustrate this, consider risky daily activities that people commonly regard as justified, such as the activity of prudent driving. This activity imposes some risks of severe harm on both drivers and non-drivers, but is widely regarded as justified because the probability of such harms is extremely low, whereas the expected benefits derived from the activity are large (<sup>14</sup>:375, <sup>94</sup>:27).

There are at least two reasons to think that this objection fails to undermine the justifiability of MWM. First, a *systematic comparison* of the overall expected harms and benefits that masked (vs maskless) interactions yield in indoor settings where physical distancing is infeasible provides clear support for MWM. To be sure, one may identify specific situations where maskless interactions would yield a more favourable balance of overall expected benefits and overall expected harms compared with masked interactions (eg, think of situations where population-level infection rates are vanishingly small and cheap and effective antiviral drugs are available for the general public). Still, in the current pandemic circumstances, maskless interactions yield a less favourable balance of overall expected benefits and overall expected harms compared with masked interactions. For in such circumstances, masked (vs maskless) interactions can prevent substantial health-related harms and socioeconomic costs (Section 2.1), and maskless (vs masked) interactions can yield limited benefits (Sections 3.1–3.2). And second, MWM appear to be a *proportionate* public health policy response to the ongoing COVID-19 pandemic. For MWM reduce the infection risks deriving from maskless indoor social interactions (and the associated health-related harms and socioeconomic costs) while preserving most of the benefits deriving from such interactions. In this respect, pointing to risky daily activities that people commonly regard as justified (eg, prudent driving) falls short of casting doubt on the justifiability of MWM. For the

constraints that MWM impose on indoor social interactions are analogous to the constraints imposed by regulations that are widely regarded as justified (eg, speed and alcohol consumption limits for driving) rather than to an outright ban on risky daily activities.

A critic of MWM may object that MWM are unjustified on the alleged ground that MWM presuppose *arbitrary* thresholds for justifiable risk imposition on behalf of the population. The idea is that there is no ‘universal, cross-cultural [...] threshold between acceptable and unacceptable risks’ (<sup>27</sup>:44) and that different individuals frequently disagree as to whether activities such as engaging in maskless indoor social interactions are too risky due to ‘varying thresholds for [justifiable] risks’ (<sup>15</sup>:79). However, pointing to these disagreements falls short of undermining the justifiability of MWM. For policy makers may consistently endorse MWM while advocating *different views* concerning what thresholds for justifiable risk imposition are appropriate for a given population (<sup>99–101</sup> for recent debate concerning how risk-averse policy makers can justifiably be on behalf of the population). Moreover, any public health policy response to the ongoing COVID-19 pandemic (including *laissez-faire* approaches) presupposes *some* (possibly vague) thresholds for justifiable risk imposition. And the variability of individuals’ thresholds for justifiable risk imposition falls short of implying that allowing maskless indoor social interactions is *more* justifiable than adopting MWM. In particular, the justifiability of risk-imposing activities such as maskless indoor social interactions is not plausibly taken to depend *exclusively* on individuals’ thresholds for justifiable risk imposition. That is to say, the individuals who fail to wear masks in indoor settings where physical distancing is infeasible may not realise what risks they impose on unconsenting others or may think that the risks they impose on unconsenting others are justifiable. Still, this by no means justifies imposing non-negligible risks of severe harm on unconsenting others (<sup>102</sup>:8 for similar claims in favour of vaccine mandates). In this respect, MWM perform a valuable *precautionary* function by constraining how much risk individuals are allowed to impose on unconsenting others (<sup>103 104</sup> on several cases where individuals tend to underestimate the health-related risks they face and impose on others).<sup>xi</sup>

3.5 The *objection from overdemandingness* holds that MWM are unjustified on the alleged ground that having to wear a mask in indoor settings where physical distancing is infeasible would impose *overdemanding requirements* on individuals.<sup>9 10</sup> The objection proceeds as follows. Individuals impose a wide variety of risks on each other in their social interactions (<sup>15</sup>:80 on the risks imposed by ‘driving, drinking, eating, walking, and sometimes even talking in certain environments’). In many cases, social life would be impossible if individuals were required to refrain from imposing risks on unconsenting others (<sup>26</sup>:298–300; also <sup>24</sup>:209 conceding that ‘the cost of avoiding all behavior that involves a risk of harm would be unacceptable’). Moreover, MWM impose *significant costs and inconveniences* on individuals (<sup>9 10</sup> on the psychological discomfort and the breathing difficulties associated with prolonged mask wearing). And, taken together, these costs and inconveniences undermine the justifiability of MWM.

<sup>xi</sup>A critic of MWM may further object that the thresholds of justifiable risk imposition presupposed by MWM are frequently vague and that MWM’s specifications of such thresholds often refer to vague qualitative concepts (eg, non-negligible risks of severe harm). Yet, the same remarks could be made concerning many precautionary measures that are widely regarded as justified (<sup>88 129</sup> for several illustrations). And vague concepts may be the most relevant normative categories available to policy makers.<sup>130</sup>

There are at least two reasons to think that this objection fails to undermine the justifiability of MWM. First, the fact that many social activities would be impossible if individuals were required to refrain from imposing risks on unconsenting others is *irrelevant* to the justifiability of MWM. For MWM do not aim to *eliminate* risk imposition altogether, but only aim to *reduce* some of the risks of severe harm that individuals impose on unconsenting others at a limited cost to such individuals. And second, it is *highly dubious* that MWM impose over-demanding requirements on individuals. For in many indoor settings where physical distancing is infeasible, mask wearing does not impose significant costs and inconveniences on individuals. And apart from rare exceptions (<sup>105</sup> on settings where masks impede communication for visually impaired and hearing impaired people), the expected harms that maskless (vs masked) interactions yield in indoor settings where physical distancing is infeasible are far more severe than the costs and inconveniences imposed by masked (vs maskless) interactions. To be sure, one may identify specific circumstances where having to wear a mask does impose costs and inconveniences on individuals (<sup>9 10</sup> on the psychological discomfort and the breathing difficulties associated with prolonged mask wearing). Yet, even in these (relatively rare) circumstances, those costs and inconveniences are typically outweighed by the non-negligible risks of severe harm that failing to wear a mask imposes on unconsenting others (Section 2.1; also <sup>106</sup>:ch. 3 on the anxiety and other psychological harms caused by realising that one is subject to non-negligible risks of severe harm).

A critic of MWM may object that MWM are unjustified on the alleged ground that for *governments* it is over-demanding to monitor or regulate mask wearing in indoor social interactions (<sup>107</sup> holding that MWM are ‘the most unenforceable ordinance’). The idea is that there is a significant cleavage between what we morally owe to each other and what legal requirements we can justifiably adopt to regulate risk-imposing social interactions and that, given the exorbitant number of indoor social interactions (and of resulting infections), it would be very demanding for governments to monitor or regulate putative violations of MWM. However, it is *not* very demanding for governments to monitor or regulate mask wearing in indoor social interactions. For MWM can significantly increase community mask wearing rates compared with otherwise identical situations where MWM are not implemented.<sup>29 104</sup> And, combined with effective communication concerning the benefits of mask wearing, MWM can effectively sustain high community mask wearing rates without excessive monitoring or regulative expenses for governments.<sup>108 109</sup>

3.6 The *objection from superior policy alternatives* holds that MWM are unjustified on the alleged ground that MWM provide a less effective, just and fair way to tackle the ongoing COVID-19 pandemic than various policy alternatives.<sup>92</sup> The objection proceeds as follows. MWM provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than policy alternatives such as *laissez-faire* approaches (Sections 3.1–3.5). However, *laissez-faire* approaches are not the only policy alternative to MWM. In particular, mask wearing recommendations (henceforth, MWR) provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than MWM. For in *primis*, MWR can persuade a significant proportion of the population to wear masks even in the absence of MWM,<sup>110</sup> thereby enabling policy makers to effectively *reduce* the *harms* deriving from individuals’ failure to wear masks without having to implement MWM. Second, MWR *mitigate the*

*moral wrongs* perpetrated by those who impose infection risks on unconsenting others by failing to wear masks through less problematic violations of individuals’ autonomy and consent than MWM. For, contrary to MWM, MWR let people decide for themselves whether to expose each other to infection risks. And third, MWR promote a *fairer distribution* of social interactions’ expected harms and benefits than MWM. For the involved individuals are often better placed than governments to determine whether it is fair to expose each other to infection risks, and many individuals’ reluctance to wear masks in indoor settings where physical distancing is infeasible clearly indicates that they deem it fair to expose each other to infection risks.<sup>xii</sup>

There are at least three reasons to doubt that MWR provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than MWM. First, MWM can *substantially increase* community mask wearing rates compared with MWR.<sup>4 39 40</sup> Moreover, MWM can *effectively sustain* high community mask wearing rates by leading individuals to regard mask wearing as what most people do (and ought to do) to protect themselves and others.<sup>108 109</sup> These findings, in turn, cast doubt on MWR’s alleged ability to effectively reduce the harms deriving from individuals’ failure to wear masks to an extent comparable to MWM. Second, MWR are not *generally* more respectful of individuals’ autonomy and consent than MWM. For on many conceptions of autonomy and consent, the non-negligible risks of severe harm imposed by individuals’ failure to wear masks significantly hamper individuals’ autonomy (Section 3.1), and many individuals refuse to consent to being subject to these risks (footnote no.9). Moreover, even if MWR were more respectful of individuals’ autonomy and consent than MWM, the significantly higher rates of community mask wearing promoted and sustained by MWM compared with MWR cast doubt on MWR’s comparative ability to mitigate the moral wrongs perpetrated by those who impose infection risks on unconsenting others by failing to wear masks. And third, MWM frequently promote a *fairer distribution* of social interactions’ expected harms and benefits than MWR. For whereas MWR allow individuals who engage in maskless indoor social interactions to impose non-negligible risks of severe harm on unconsenting others while being protected by others’ mask wearing, MWM can effectively contrast such instances of free riding. In particular, MWM can significantly reduce the expected harms that individuals’ engaging in maskless indoor social interactions imposes on third parties, thereby functioning as mandatory health insurance schemes that effectively contrast individuals’ moral hazard.<sup>xiii</sup>

<sup>xii</sup>This subsection focuses on less (rather than more) restrictive policies than MWM since many of the authors debating about the merits of different public health policy responses to the ongoing COVID-19 pandemic advocate less (rather than more) restrictive policies than MWM (<sup>131</sup> holding that MWM can yield most of the benefits of lockdowns without the involved costs).

<sup>xiii</sup>A critic of MWM may object that MWR are fairer than MWM since the burdens of MWM (eg, the fines associated with violations of MWM) tend to disproportionately fall on the worse off (<sup>79</sup> for similar remarks against other mandatory policies) and those who fail to abide by MWM may be subject to stigmatisation.<sup>96</sup> However, public health mandatory policies such as MWM frequently benefit the worse off (<sup>132</sup> on various mandatory health insurance schemes). Moreover, MWM can significantly reduce stigmatisation of those who wear masks in indoor settings with the aim to protect others.<sup>133</sup> These considerations further support the claim that MWM promote a fairer distribution of social interactions’ expected harms and benefits than MWR.

A critic of MWM may object that policy makers can effectively tackle the ongoing COVID-19 pandemic by adopting *compensation schemes* that incentivise mask wearing without having to implement MWM (<sup>18</sup> on various compensation schemes for harm and risk imposition). The idea is to regard individuals' engaging in maskless indoor social interactions as a negligent activity, with compensation due to those who suffer harm (or are exposed to a risk of harm) as a result of such interactions. However, these compensation schemes can provide an effective, just and fair way to tackle the ongoing COVID-19 pandemic only if such schemes enable each individual on whom infection risks are imposed by other individuals' failure to wear masks to *effectively shift* the expected costs deriving from such failure to those individuals.<sup>66</sup> Yet, relatively few individuals who are infected as a result of other individuals' failure to wear masks would be able to secure compensation. For apart from the fact that for some harms no suitable compensation is available (<sup>27</sup> on death), severe theoretical and practical difficulties would plague the design and the implementation of the hypothesised compensation schemes. For instance, in many situations it is difficult to identify which individuals are causally responsible for infections, and a rather limited proportion of the individuals infected as a result of other individuals' failure to wear masks may feasibly obtain compensation. Moreover, given that mask wearing does not entirely eliminate the risk of infection, the individuals who are infected as a result of other individuals' failure to wear masks may be unable to demonstrate that they would have not been infected if the individuals who interacted with them had worn masks. These considerations, in turn, cast doubt on the ability of the hypothesised compensation schemes to provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than MWM.

#### 4. CONCLUSION

This paper combined considerations from ethics, medicine and public health policy to articulate and defend a systematic case for MWM. The paper argued for two main claims of general interest in favour of MWM. First, MWM provide a more effective, just and fair way to tackle the ongoing COVID-19 pandemic than policy alternatives such as *laissez-faire* approaches, mask wearing recommendations and physical distancing measures. And second, the proffered objections against MWM may justify some exemptions for specific categories of individuals, but do not cast doubt on the justifiability of MWM. Hence, unless some novel decisive objections are put forward against MWM, governments should adopt MWM.

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