OBLIGATORY PRECAUTIONS AGAINST INFECTION

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ABSTRACT
If we have a duty not to infect others, how far does it go? This question is often discussed with respect to HIV transmission, but reflection on other diseases like influenza raises a number of interesting theoretical issues. I argue that a duty to avoid infection not only yields requirements for persons who know they carry a disease, but also for persons who know they are at increased risk, and even for those who definitely know they are completely healthy. Given the numerous ways in which human interaction facilitates the spread of communicable diseases, a maximum level of precaution would be very demanding – possibly unreasonably demanding. The 'over-demandingness problem' is mostly invoked as a criticism of utilitarianism, as this theory requires moral agents to always maximise general welfare, even at significant cost for themselves. However, I argue that, with respect to precautions against infectious diseases like influenza, utilitarianism is able to avoid the over-demandingness problem. A contractualist account, on the other hand, whilst able to explain how one’s obligations to avoid infection can be limited, given that other persons have opportunities and responsibilities to protect themselves, in the end requires precautions that raise the over-demandingness problem.

I. INTRODUCTION
Public health ethics and concerns about infectious diseases have shifted attention in bioethics from issues of personal and professional moral responsibility to practical problems on a political level. The most salient forms of public health interventions are quarantine, isolation, and mandatory treatment of infected persons. Such interventions raise conflicts between citizens’ liberties and public health interests. Notwithstanding the importance of these political
issues, questions of personal obligation should not be overlooked. To what extent do individuals have a moral obligation to avoid spreading a disease? Though this issue is primarily relevant on the level of personal morality, it will have implications for public health policies. For example, if citizens have a moral duty to accept vaccination because in this way they will protect others (e.g. the elderly and chronically ill) for whom influenza poses a serious risk, this will give support to a general vaccination policy.

The question whether we have a moral obligation to avoid infecting others was taken up by John Harris and Søren Holm in a short paper, several years ago. Harris and Holm argued that people who know they carry a communicable disease have a strong *prima facie* obligation to prevent further spread of the disease. To fail to act on this obligation is deliberately to harm others. Moral responsibility (and even criminalisation) for forgoing precautions against spreading a disease is mostly discussed with respect to safe sex and HIV prevention. Harris and Holm argued that the mode of transmission is morally neutral, and, moreover, that ‘more trivial’ diseases can be harmful as well. Hence, the duty not to infect others also applies to diseases such as the flu, pertussis, or even the common cold. Persons who carry a communicable disease should avoid infecting others, and this may imply, for example, that they temporarily avoid contact with other persons. On the other hand, it can be argued that these requirements should not be unreasonably demanding: ‘The reasonableness of expecting people to live up to this obligation, however, depends on society reciprocating the obligation in the form of providing protection and compensation.’ For example, unless there is reasonable financial compensation, such as illness allowance, one cannot expect a sick person to stay at home for the sake of her colleagues.

In this paper I explore the foundation and scope of duties not to infect others. I argue that such duties are very broad in scope, and that they might be very demanding of moral agents – maybe unreasonably demanding. Yet the ‘over-demandingness problem’ arises where one would not expect it in the first place. The problem is mostly raised as critique of utilitarianism. I will argue however that, in the context of infectious disease prevention, utilitarianism can largely avoid the over-demandingness critique. On the other hand, while I think that a contractualist moral

2 Ibid. p. 1215.
theory provides a more plausible ground for our obligations to avoid infection, such a theory, contrary to expectation, might yield moral requirements that are very demanding.

II. THE BROAD SCOPE OF A DUTY TO AVOID INFECTION

Harris and Holm focus on duties of persons who know they carry a communicable disease, notably their duty to isolate themselves and avoid contact with others. Yet, if there is a *prima facie* duty to avoid spreading a communicable disease, the implications go far beyond that. Let us focus, for the moment, on influenza. Influenza is a serious disease that can have fatal complications in the elderly and the chronically ill. Influenza viruses are spread primarily by aerosols of virus-laden respiratory secretions that are easily expelled into the air by infected persons during coughing, sneezing, or talking. During average epidemics, approximately 10 to 20 percent of all persons in a community are infected. The attack rate in susceptible populations such as schoolchildren or nursing home residents can be up to 40 or 50 percent. Global pandemics occur when major genetic mutations in the virus lead to a new influenza strain. The morbidity and mortality of such a pandemic are devastating. The upper estimate of the death toll of the 1918 pandemic is that the virus may have killed 8 to 10 percent of all young adults world-wide at the time.

If there is an obligation to avoid infecting others, then the most obvious precaution for persons with influenza symptoms is indeed to avoid contact with others. Harris and Holm emphasise the working place as a place to avoid, but obviously, infected persons have strong moral reasons to avoid all (indoor) places where many people meet. Moreover, precautions should not be confined to persons with influenza symptoms. Infected persons spread the virus as long as the virus is replicating, which occurs from one day prior to the onset of symptoms until five days after the onset. So, at least to some extent, the same obligations to avoid contact might apply for persons who do not (yet) experience symptoms, yet know they have contacted other persons with influenza and might have been infected themselves.

Finally, effective precautions are neither limited to these specific groups, nor are they confined to avoiding contact. Unless

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there is a major antigenic shift in the virus, the most effective prevention against influenza is vaccination. Vaccination protects the person who is immunised, but also prevents that person spreading the virus. For example, vaccination of nursing home staff helps prevent outbreaks within the nursing home, and this supports the claim that health professionals ought to accept vaccination in order to avoid harming their patients. Moreover, given that all non-vaccinated persons can serve as a vehicle for the virus, a general obligation not to infect others might imply that all persons ought to accept influenza vaccination.

So, a duty to avoid infection will apply to persons who know they carry the influenza virus, and to persons who are at increased risk, and even to those who definitely know they are completely healthy. Another clear example concerns HIV transmission. From a public health perspective, it makes little sense to solely emphasise morally responsible sex practices for persons who know they are seropositive. If the latter ought to practise safe sex as a precaution against infecting others, arguably the same requirement holds for persons who know that they are at significantly increased risk but did not (yet) test positive for HIV. Moreover, one could even argue that anyone, either gay or straight, with either many or only few sexual contacts, should practise safe sex in order to prevent further spreading of the virus.

Are all proposed implications of a duty to avoid infection warranted? If we are morally responsible for all avoidable cases of infection, morality would, in Charles Fried’s terms, paralyse us or make us obsessed with all possible (even remote risks of) harm. This seems highly unreasonable. Without limits to our obligations to take precautions against harming others, morality would be over-demanding. Let us call this the problem of excessive precautions. In the remainder of this paper I will discuss a utilitarian and a contractualist account of obligatory precautions, and see if these can adequately deal with the problem. First however, I will briefly discuss one reply to the problem of excessive precautions that seems attractive at first sight, but, upon reflection, will be of little help.

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6 Nursing home staff have specific moral reasons for accepting vaccination, especially if they promote high vaccination among residents; this goal might be difficult to attain if they neglect the importance of vaccinating themselves. See M.A. van den Hoven and M.F. Verweij. Should we promote influenza vaccination of health care workers in nursing homes? *Age & Ageing* 2003; 32: 487–489.

III. THE DISTINCTION BETWEEN DOING AND ALLOWING

One response to the problem of excessive precautions is to deny that all types of precautions are required by one general moral principle. Some forms of preventive care can be considered as instances of non-maleficence, for example an HIV-seropositive person’s decision not to engage in unprotected sex. Other forms might be seen as instances of beneficence, for example a person who seeks vaccination in order to protect the frail elderly against the flu. Beneficence is often conceived as a principle that is less stringent than non-maleficence, and moreover, it covers supererogatory acts as well as imperfect duties. This might help us to see some precautions against infection as strict duties, and others as moral demands that are not strictly obligatory (though they might be morally advisable and praiseworthy). One can also distinguish cases of doing harm, such as intentionally infecting others, from cases of allowing harm to occur, for example forgoing vaccination that would possibly contribute to herd immunity.

These distinctions however do not provide us with a rationale for distinguishing obligatory from non-obligatory precautions. The common sense distinction between doing harm and allowing harm to occur is contested by many authors, but let us assume for the moment that a viable justification is available. Authors who defend the doctrine of doing and allowing normally argue that doing harm is worse than allowing harm. Yet no one holds that this distinction draws a boundary between what is obligatory (refraining from harm) and what is optional (preventing harm from occurring). Obviously, many cases of allowing harm to occur are simply morally wrong. We often have a duty to intervene and help persons who are in pain or at risk of being harmed. Hence, neither the doctrine of doing and allowing, nor a distinction between non-maleficence and beneficence will clarify which precautions against infection are obligatory, and which are not. Such clarification requires a normative theory that offers a coherent and plausible justification of our duties to avoid infection.

10 Neither would it be of help to specify a concept of harm (e.g. Feinberg’s concept of harm as wrongful setback to interests given a specific baseline) in order to see which actions or omissions leading to infection count as harm, and which do not. Such analysis is however relevant for justifying state interventions that force people to take precautions against infection. Cf. T. Dare. Mass Immunization programmes: some philosophical issues. Bioethics 1998; 125–149.
I will discuss two important candidates: utilitarianism and contractualism.

IV. UTILITARIANISM

The doctrine of doing and allowing is rejected by consequentialists. Consequentialism holds that moral agents should always promote intrinsic values such as friendship, health, or welfare, and this implies that whether an action is right or wrong depends on the amount of good and evil, for example, health and illness, that are present in the consequences. Deliberately infecting someone else is not as such morally different from deciding not to protect someone else against this disease. The most prominent consequentialist theory is utilitarianism. Now utilitarianism, given the aggregative nature of utility, is very well able to account for health effects on a population level, and therefore this theory is quite attractive in public health ethics. On the other hand, utilitarianism is vulnerable to the critique that its implications are too demanding for moral agents.\(^\text{11}\) The principle of utility combines aggregation with maximization, requiring individuals to always do the best they can for the common good. Given the importance of health as a condition for welfare, utilitarianism might require anyone to take far-reaching precautions against spreading infectious diseases. Hence, the problem of excessive precautions seems to emerge in a utilitarian framework. Is this true or can utilitarianism make sense of a reasonable duty to avoid infection? I will argue that, with respect to infectious diseases control, utilitarianism’s moral demands might not be excessive. However, I do have reservations about the plausibility of a utilitarian justification for our duty to prevent infection.

Utilitarianism gives a very clear account of how far our obligations concerning avoiding infection go. The theory extrapolates from how a rational individual assesses the necessity to take precautions against specific risks for herself.\(^\text{12}\) In choosing how to act in the face of risk, a rational agent would assess different courses of action (taking the risk, taking limited precautions, avoiding all risks) and seek to maximise her benefits and minimise the costs. Obviously, benefits (avoided harms) and costs need to be multiplied by the probabilities that they will occur. In this way, it is


rational to forgo costly precautions against a fatal infection like smallpox if the chance of acquiring the disease is extremely small. Other precautions, such as influenza vaccination for vulnerable persons, are highly rational, especially if the costs of such precautions are low. Utilitarianism, as a moral theory, requires one to aggregate the risks for all persons, and to weigh these against the expected costs of one’s precautions. If specific precautions will maximise general welfare, then one ought to take them, even if such precautions involve forgoing important benefits. Precautions that are very simple and not demanding are likely to count as obligatory.

We noted above that obligations to avoid infection will apply to infected persons as well as non-infected persons. Moreover, even remote risks are relevant. What is troubling is that this implies that everyone should always be aware of possibilities to prevent transmission of viruses or potentially dangerous microbes, and that individuals should take excessive precautions against contributing to infection. Doesn’t this lead to obligations of precaution that are unreasonably demanding for moral agents? In two important respects I think it does not.

The critique that utilitarianism is over-demanding has several grounds. One is that, if an individual is always to promote general welfare, this will be unreasonably costly for her. A strong interpretation of this critique is given by Liam Murphy. Murphy argues that utilitarianism’s demands are unfair in a non-ideal world. Utilitarianism commits individuals to maximising welfare even if others do not contribute. Arguably, if all persons and institutions in developed countries gave aid in response to world famine – if all would aim to maximise welfare in this respect – then this would not be too costly for any one individual. Yet given that many do not do their share, the demands of welfare maximisation will increase upon those who do comply. In short, utilitarianism requires me to do more if you choose to do less, and that is unfair.

Now interestingly, this problem applies to the issue of giving aid, but it works completely the other way around for obligations to prevent the spread of infectious diseases. For example, if most persons forgo vaccination against influenza, the effects on public health of my choice for vaccination will become negligible. If most persons who feel ill do not stay at home, my choice to isolate myself will become futile. In both cases, many others will get infected anyway, given common neglect of preventive measures.

And this affects the consequences of my precautions: these will be relatively useless and arguably will not maximise welfare. Hence, if non-compliance is common, my obligation to contribute to prevention will weaken or even fade away. In this case, utilitarianism’s demands are not excessively costly to members of the general public. Things are different for individuals who carry a dangerous and contagious disease that is not endemic or epidemic within a population: their preventative efforts will make a huge difference to public health, hence their obligations to avoid further spread of disease might go very far. For example, a person who believes she has just had close contact with a person with SARS has a strong obligation to isolate herself and avoid contacting others, even if there are no public health restrictions in place yet. The fact that others do not (yet) protect themselves only reinforces this specific person’s obligation. Such a conclusion is however neither unfair nor unreasonable.

There is also a second ground for the critique that utilitarianism is over-demanding.\textsuperscript{14} Even if due precautions against infection are not excessively costly for individuals, everyone is still morally required to be aware of the risks of transmission, and to take action if necessary. Now if one is required to look after the possible risks for well being of others all the time, this might strongly delimit one’s possibilities to live a life of one’s own. Utilitarianism is \textit{pervasive}, that is, all facets of life, all one’s possibilities for action become morally relevant. This pervasiveness is reinforced by the easy spread of a number of contagious diseases, such as influenza, the common cold, or pertussis. If we have to take all risks into account all the time, this will preoccupy our deliberation, and this would be paralysing for moral agents. The utilitarian can however rebut this critique by pointing out that calculating risks for public health all the time will not maximise general welfare. If excessive account of risks leads to paralysis, then evidently, this will promote neither public health nor general welfare. Hence, our obligation to take account of risks of

\textsuperscript{14} There is also one specific case where utilitarianism might be extremely demanding to specific individuals – not because precautions involve severe burdens, but because they go against a person’s religious convictions. In some Dutch orthodox protestant communities people refuse vaccination for religious reasons. As a result, vaccination rates in these regions are relatively low, which has led to three polio outbreaks during the last decades. By refusing vaccination these persons accept increased risks for themselves, and for others. Given these facts one might argue that, from a utilitarian point of view, vaccination is morally obligatory. Such obligation would require these persons to violate their religious principles, which is extremely demanding from their point of view. Discussion of this very specific case goes beyond the scope of this paper.
infection is necessarily limited. Those limits are directly justified by appeal to the principle that welfare is to be maximised.\textsuperscript{15}

The belief that one does not have to care about all possible risks fits to some extent with how people actually live. We commonly accept or even ignore various risks in normal life. Accepting risk is part of what life is about, otherwise people could not ride bicycles, have sex, reproduce, or visit their hospitalised relatives. But is not the fact that some risks are accepted by others much more relevant than the utilitarian suggests? If others consent to risky actions, or if they deliberately accept risks that I might be able to prevent, this is reason for me to think I am not obliged to avoid or take away those risks. Take the example of safe sex. Two persons can agree to have unprotected sex and accept the very small chance that one infects the other with a disease like HIV or herpes genitalis. Arguably, utilitarianism would deem such unprotected sex morally wrong. Not only can they, by using condoms, simply avoid the risk of infecting one another; by doing so they also avoid further risks to future sexual contacts. Now the problem is that, in this way, future sexual contacts are solely considered in their capacity as moral patients, not as responsible persons who can and possibly should take care of their own health. If one takes other persons’ responsibilities seriously, and given that they can choose safe sex, one has good reason to consider one’s own responsibility for their health to be limited (which is not to say that one should be indifferent).\textsuperscript{16} This thought however does not fit within a strictly utilitarian approach. From a utilitarian point of view, the salient issue is that one can promote health by opting for safe sex; whether or not others accept the risks of unprotected sex is relatively unimportant. In this way the scope of a person’s responsibility for the health of others will be very broad indeed. But will such responsibilities be excessively demanding? The practical implication is that, apart from ‘safe’ monogamous relationships, people should always practise safe sex. Though many persons might consider this inconvenient, calling the requirement excessively demanding would be a gross exaggeration.

The analysis of utilitarianism leads to a remarkable result. Contrary to what one would expect, a utilitarian explanation of our duties to prevent infection does not directly yield moral requirements that are excessively demanding. The main reason why a


\textsuperscript{16} Obviously, this presupposes that others will be well-informed about risks and preventive measures and this is cannot always be taken for granted.
strict utilitarian account is unsatisfactory is not that it is clearly over-demanding, but that it gives insufficient credit to the idea that other persons are moral agents with responsibility for their own lives.

V. CONTRACTUALISM

The latter problem is reason to explore a different theoretical basis for our obligations with respect to avoiding infection. It is not that one should always take precautions that are necessary for maximising the aggregate good; one should be able to justify the level of precaution one takes to any person who will bear the risks. This idea is best accounted for in Thomas Scanlon’s contractualist theory.17 Scanlon argues that morality involves the justification of our actions to other persons. Treating others as rational beings involves treating them in ways they cannot reasonably reject. There are no a priori principles that specify which acts are morally justified and which are not. Scanlon’s idea is that we can, as it were, construct or find such principles if we reflect on what we owe to each other. Suppose that we both aim to find moral principles that regulate our interaction and that can be accepted by both of us. If you then propose a principle that imposes many risks on me, but none for you, then it would be reasonable if I were to reject it (especially if there are alternative principles that would yield much lower risks). The rejection of the first principle is not just reasonable because I have a complaint about it. The rejection is reasonable because my reasons are not idiosyncratic: if you were in my position, you would have the same reasons. Moreover, given that we both aim at finding a principle that is acceptable to each of us, it makes sense to compare my reasons for rejecting principle A, with your reasons for rejecting a different principle B. In this way, we have reasons to find the principle that would yield the least strong complaint for any of us.

Now, in this contractualist framework, an act is wrong just in case any principle that permitted it would be one that someone could reasonably reject. A principle that allows any of us to forgo whatever precaution against infection would obviously be rejected by many others, notably those who face the risk and will be harmed. Yet, in the example of sexually transmitted disease, the complaints of other persons become much weaker if they are aware of the risks of unprotected sex, and have sufficient possibilities to protect themselves. Hence, my future sexual contacts

cannot simply reject any principle that allows my current partner and me to have unprotected sex today. Naturally, I do have certain obligations towards my sexual partner, but these depend on her evaluation of the risks of infection. If we both accept the risk, we can justify to one another our choice to have unprotected sex. If I can reasonably know that the other person might underestimate the risk (for example, she probably thinks I do not lead an overly risky sexual life, while in fact I do) then I should either disclose the risks, or opt for protected sex. This latter principle is one, I think, no one can reasonably reject.

It is however difficult to generalise this principle to other communicable diseases, such as influenza, pertussis, or even SARS, where infection occurs more easily and through less intimate human interaction. Such diseases are transmitted in situations where persons are unaware of risk, hence a principle that emphasises personal risk assessment, consent, and responsibility, will not be very helpful. Apparently then, different contexts, including spread of risk and modes of transmission, require different principles concerning the level of precaution that persons should take.

Now a fundamental problem is that, for diseases that are easily spread throughout the population, contractualism requires a level of precaution that is extremely demanding. Take the example of influenza again. Persons most vulnerable to the disease do not respond optimally to vaccination themselves and therefore they will be much better protected if everyone were vaccinated, the old and young, the ill and the healthy.

This would create a level of herd protection that, arguably, prevents a number of deaths within high-risk groups. Therefore people at high risk could reasonably reject any moral principle that allows healthy persons to forgo vaccination. Moreover, they might reject any principle that allows healthy persons to forgo any effective precaution (because it leaves them at greater risk). This implies that everyone ought to accept vaccination and that, if there is an outbreak, everyone should take protective measures, for example wearing masks that cover mouth and nose, and certainly refraining from visiting hospitals and nursing homes – even if most residents and family members would be very unhappy if they could not see each other for a couple of weeks. This obviously imposes inconveniences and small burdens upon a very large population, but the complaints by any member of the large

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18 This argument is worked out in detail by Elisabeth Ashford in The demandingness of Scanlon’s contractualism. *Ethics* 2003; 113: 273–302, p. 294ff.
population would be outweighed by the much stronger claim by any of the few persons for whom a less stringent precautionary practice will mean that they will catch an infection that might be fatal. The fact that one cannot know in advance for whom the less stringent policy will be fatal, is no reason for disregarding that particular point of view. On the other hand, the fact that the inconveniences and burdens are borne by almost everyone, hence would yield a significant negative utility if all burdens are taken together, is not important from a contractualist perspective. Moral principles must be justifiable to any individual, and therefore, if one individual has very strong reasons against a principle, these cannot be outweighed by less strong objections held by more (even many) persons. Scanlon’s contractualism bans interpersonal aggregation, and this is one of the central features where his theory is distinguished from utilitarianism.

Now obviously, most people do not take precautions that go that far. For the utilitarian this fact is very relevant, because it deems futile the efforts of individuals who do comply. In this way, the utilitarian can avoid the problem of excessive precautions. I do not think this way of argument is open for the contractualist. Scanlon’s contractualist deliberation does not focus on the consequences of individual acts, but on general principles that regulate how persons ought to act. The fact that others do not comply with a general moral principle of precaution will not help me to justify my non-compliance to persons who will be harmed. In this way, contractualism requires us to take precautions that seem to be excessive. They certainly go far beyond the precautions that are required by utilitarianism. This is not yet a decisive argument against the theory as a whole – after all, it might be that morality simply is extremely demanding in a world like ours. Hence, the problem requires further analysis. Yet I hope to have made clear that the contractualist’s ban on aggregation is appropriate in some cases in public health ethics, but raises problems in others.

VI. CONCLUSION

If people have a duty not to infect others, this will not only apply to persons who know they carry a communicable disease, but also to persons who know they might have been infected, and even to those who know they are completely healthy. This reinforces the need to reflect on the ground and scope of such duties; given the

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manifold possibilities of prevention, obligatory precautions might be excessively demanding. I have argued that both a utilitarian and a contractualist understanding of our duties to take precautions face important theoretical problems. Neither theory is completely satisfactory, but the discussion leads to a somewhat unexpected result. Where one would expect that a maximising principle of utility would lead to a far reaching obligation to prevent spread of infectious diseases, it appears that, at least in some contexts, the requirements of contractualism are much more demanding. This especially holds for infectious diseases where transmission occurs easily throughout daily life, like influenza. On the other hand, the unsatisfactory elements of utilitarianism especially come to the fore in the context of safe sex precautions and sexually transmitted diseases. By focusing on aggregation of health and welfare the utilitarian disregards that other persons are moral agents, who can be aware of risks, who sometimes accept risk, and therefore have a responsibility for their own health as well. The latter claim is good reason for seeing my responsibility for their health as not unlimited.

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