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Cover:

Digital illustration of hiv-virus in color background (Renjith Krishnan/123RF)

People outside swine flu department in a hospital (yandscreators/123RF)

Not to be sneezed at

On the possibility of justifying infectious disease control by appealing to a mid-level harm principle

Vrij besmettelijk

Over de mogelijkheid om infectieziektebestrijding te rechtvaardigen
met een beroep op een mid-level schadebeginsel

(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit Utrecht
op gezag van de rector magnificus, prof.dr. G.J. van der Zwaan,
ingevolge het besluit van het college voor promoties

in het openbaar te verdedigen op 9 januari 2014 des middags te 12:45 uur

door

André Krom

geboren op 26 mei 1974

te Haarlem

Promotoren: Prof.dr. M.F. Verweij

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Voorwoord

Ik heb een ander proefschrift geschreven dan ik aanvankelijk voor ogen had. En daar ben ik blij om. Dat de studie er anders uitziet dan verwacht, is mede te danken aan mijn twee promotoren, Marcel Verweij en Marcus Düwell. Als je promotoren er onderling een toch wat andere benadering van (toegepaste) ethiek op nahouden, word je voordurend blootgesteld aan krachten die je in verschillende richtingen trekken. Terwijl Marcus me steeds dieper de theorie in trok, stimuleerde Marcel me (ook) om aansluiting te vinden bij de praktijk van infectieziektebestrijding. Dat laatste moest ook wel; een belangrijk doel van het project "Infectious Disease Control and the Harm Principle" was namelijk om een bijdrage te leveren aan ethische reflectie in de *praktijk*. Mijn insteek – het verkennen van een brug tussen theorie en praktijk – zal deels terug te voeren zijn op de confrontatie met genoemde krachten. Ook mijn eerdere opleiding door Govert den Hartogh is er debet aan.

Het is aan de lezer om te bepalen in hoeverre het is gelukt om een (niet al te wankele) brug te slaan tussen theoretische reflecties op het schadebeginsel, enerzijds, en de rechtvaardiging van concrete maatregelen tegen infectierisico's, anderzijds. De gekozen methode brengt overigens zelf ook risico's met zich mee. Het resultaat van een poging om theorie en praktijk te verbinden zou weleens kunnen zijn dat practici de studie te theoretisch vinden, terwijl het voor theoretici misschien juist te praktisch is. Er valt ongetwijfeld nog het nodige te zeggen om de voorgestelde verbinding tussen theorie en praktijk verder te verhelderen en te verstevigen. Ik ben tot hier gekomen.

Ik wil om te beginnen Marcel en Marcus heel hartelijk danken voor hun inspirerende begeleiding. Marcus stelde me meestal één of twee vragen die – het zal de kenners niet verbazen – vaak de volgende vorm hadden: 'Als je *x* zegt [vul hier een willekeurige stelling uit mijn proefschrift in], dan veronderstel je toch noodzakelijk *y* en *z*… Hoe rechtvaardig je die keuze?' En had je eenmaal een aanzet tot een antwoord gevonden, dan begon het circus weer van voor af aan. In de gesprekken met Marcus ging het er soms stevig aan toe. Enig temperament kan Marcus Düwell niet ontzegd worden, en laat hij nou net geen voorstander zijn van een mid-level benadering in de toegepaste ethiek. Maar de gesprekken waren altijd respectvol – en dat is essentieel. Marcus' vragen zijn van groot belang geweest voor de ontwikkeling van deze studie, vooral voor het uiteenzetten en onderbouwen van de methodologie (hoofdstuk 2). Ik ben hem

daarvoor zeer dankbaar. Het siert Marcus dat hij in het eindstadium van mijn promotieonderzoek heeft voorgesteld dat Marcel eerste promotor zou worden (toen ik Marcus er met een knipoog naar vroeg, bleek dat niet vanwege zijn weerstand tegen een mid-level benadering te zijn).

Zette Marcus soms stevig in, de aanpak van Marcel was altijd heel voorzichtig. Dat ik even nodig had om mijn draai te vinden in onze gesprekken, zegt vermoedelijk vooral iets over mij (ik ben ook voorzichtig). Ik heb grote bewondering voor de manier waarop Marcel commentaar op de grote lijn van conceptversies van deze studie heeft weten te combineren met commentaar op detailniveau. Zijn commentaar was altijd opbouwend en *to the point* en heeft me enorm geholpen bij het nadenken over hoe theoretische reflectie op een constructieve manier verbonden zou kunnen worden met het onderbouwen van morele keuzes in de praktijk van infectieziektebestrijding. Ik ben Marcel daarvoor zeer dankbaar. Ik heb het ook als heel leerzaam en inspirerend ervaren om theoretisch onderzoek te kunnen combineren met een reeks casusbesprekingen met artsen en verpleegkundigen infectieziektebestrijding.

Je hoort weleens dat promotieonderzoek een eenzaam traject is. Ik heb dat zelf niet (altijd) zo ervaren. Dat het project een praktisch deel had, heeft daar zeker aan bijgedragen. Alleen al de casusbesprekingen betekende samenwerking met 22 anderen. Ik ben iedereen die aan de besprekingen heeft meegedaan zeer dankbaar voor de mogelijkheid om (enig) inzicht te krijgen in de praktijk van infectieziektebestrijding en voor de mogelijkheid om onderdelen uit deze studie aan de praktijk te toetsen. Van deze groep wil ik graag twee mensen in het bijzonder bedanken. Allereerst Jim van Steenbergen (Centrum Infectieziektebestrijding, RIVM), die vanuit de samenwerking tussen het RIVM en het Ethiek Instituut bij alle casusbesprekingen was, en die met prikkelende stellingen elke discussie wist te verrijken. Ik ben hem ook zeer dankbaar voor zijn gedetailleerde commentaar op het medisch-technische deel van deze studie (hoofdstuk 1). Ook Babette Rump (GGD Midden-Nederland) wil ik hartelijk danken. Haar expertise op het gebied van infectieziekten, haar goede gevoel voor de ethische aspecten van infectieziektebestrijding, en haar enthousiasme over het project en mijn onderzoek waren inspirerend en een grote steun in de rug.

Mijn promotieonderzoek had ook een sociaal karakter vanwege de inbedding in het Ethiek Instituut/ het departement wijsbegeerte van de Universiteit Utrecht. Ja, waar moet je dan beginnen? Ik begin bij de voordeur van het historische pand op Janskerkhof 13 en wil enkele

mensen noemen die in de afgelopen jaren praktisch en/of inhoudelijk hebben bijgedragen aan mijn onderzoek: Biene Meijerman (dank!), *links de trap op*, Maarten van Houte, Mariëtte van den Hoven, Ineke Bolt, Carla Kessler, Franck Meijboom, Bernice Bovenkerk, Frans Stafleu, Robert Heeger, Suzanne van Vliet, Judith Zijm, Jan Vorstenbosch, Jos Philips, Micha Werner, Rob van Gerwen, Bert van den Brink, Joel Anderson, Dascha During (dank!), *naar mijn oud-kamergenoten op de "onderzoekszolder" (je vraagt je af wat er in de rest van het gebouw gebeurt)*, Jos Kole, Gerhard Bos, Caroline Harnacke, Thomas Fossen, Frederike Kaldewaij, Annemarie Kalis, Katrien Schaubroeck, Nina van Heeswijk, Kirsten Pols, Clemens Driessen, Karianne Kalshoven, Teng Fei (Sally), Tom Wang, Liesbeth Feikema, Tatjana Visak en Jeroen Goudsmid. Laat ik uit een eerdere periode Niels Nijsingh, Paul Sollie en Bart Walhout niet vergeten (toen het Ethiek Instituut nog op de Uithof zat). Ik heb het altijd heel prettig en leerzaam gevonden om omringd te worden door zoveel aardige en slimme collega's. Velen van jullie hebben de afgelopen jaren meerdere keren commentaar geleverd op onderdelen van mijn proefschrift, vaak tijdens de bespreking van een concepthoofdstuk in het colloquium praktische filosofie (in dat kader ook veel dank aan Ton van den Beld en Antoine Mooij). Ik heb de goedbezochte bijeenkomsten altijd als warm en waardevol ervaren. Velen van jullie hebben daarnaast de moeite genomen om schriftelijk te reageren op conceptstukken. Hartelijk dank voor al jullie vragen, tegenwerpingen en suggesties, en natuurlijk voor de gezelligheid! Sociaal promoveren betekent ook vaak samen lunchen, koffie drinken en/of borrelen.

Concepten van de meeste hoofdstukken uit deze studie zijn gepresenteerd en bediscussieerd tijdens verschillende workshops en conferenties: zoals de jaarconferenties van de Onderzoekschool Ethiek (2009, 2011, 2012), workshops van de ethiek instituten uit Münster, Utrecht, Nijmegen, Tübingen en Zürich (Tübingen, 2010; Münster 2010), het World Congress of Bioethics (Singapore, 2010), een bijeenkomst van de onderzoeksgroep "Theoretische Grundfragen der Normenbegründung in Medizinethik und Biopolitik" (Münster, 2012), en de workshop "Time, Harm and Uncertainty – themes in the Ethics of Infectious Disease" die werd georganiseerd rond een verblijf in Londen als *visiting scholar* aan het Centre for Philosophy, Justice and Health (UCL, 2012). Ik dank een ieder die actief heeft deelgenomen aan deze bijeenkomsten hartelijk voor zijn/haar vragen en opmerkingen. Bijzondere dank gaat uit naar de volgende mensen: Govert den Hartogh voor een uitgebreide reactie op een artikel uit 2011 waarin ik enkele problemen bespreek rond een mid-level schadebeginsel in de infectieziektebestrijding

(zie hoofdstuk 5); Thomas Gutmann voor de uitnodiging om twee concepthoofdstukken te presenteren in Münster (2012); Joel Anderson voor zijn gastvrijheid, de discussies en de gezelligheid tijdens mijn verblijf in Münster (2012); James Wilson voor het organiseren van een workshop en voor de goede zorgen en discussies tijdens mijn verblijf in Londen (2012); en tot slot Jasper Littmann en Michael Millar voor de discussies in diezelfde periode.

Zoals gebruikelijk heb ik naast mijn promotieonderzoek onderwijs gegeven. Dat is in het algemeen al heel leerzaam, maar ik had het geluk dat er in verschillende cursussen ook ruimte was om met studenten van gedachten te wisselen over ethiek in de infectieziektebestrijding. Ik dank alle studenten uit de cursussen *New research in applied ethics* (2009), Infectieziektebestrijding bij dieren (2009), Ethiek voor biomedisch wetenschappers (2010), *Applied ethics* (2011-2012), en *Medical humanities* (2009-2011) hartelijk voor deze gelegenheid.

Naast mijn promotieonderzoek heb ik me altijd met veel plezier ingezet in de redactie van het *Podium voor Bio-ethiek* (voorheen *NVBe-Nieuwsbrief*) en in de promovendiraad van de Onderzoekschool Ethiek (OZSE). Toen ik nog iets meer dan een jaar te gaan had om mijn proefschrift af te ronden ben ik met de promovendiraad gestopt en heb ik het redactiewerk tijdelijk op een laag pitje gezet. Ik dank de collega-promovendi (Boukje van der Zee, Cristian Timmermann, Eline Bunnik, Marleen Moors, Pieter Dronkers en Sven Diekmann) voor hun begrip, en de mederedacteuren van *Podium* (Boukje van der Zee, Carla Bal, Clemens Driessen, Dorine Bauduin, Frans Stafleu, Heleen van Luijn, Lieke van der Scheer, Marianne Boenink en Niels Nijsingh) tevens voor hun geduld.

Ik heb wel eens gekscherend gezegd dat je als promovendus in Utrecht prima vier jaar kan vullen met alle geboden ondersteuning; van schrijfcursussen tot antistress bijeenkomsten. Over één van de onderdelen – intervisie – wil ik hier graag iets zeggen. Gedurende vrijwel het hele promotietraject ben ik in een intervisiegroep opgetrokken met mede-promovendi Qijun Han (Cynthia), Daria Bahtina, Liv Persson, Marko Simonovic, Mulusew Wondem, Rob Zwitserlood, Rogier Kraf en Tom Wang; op Tom na allemaal taalwetenschappers. Ik heb onze maandelijkse sessies meestal als heel zinvol en gezellig ervaren. Het was ook heel prettig om af en toe even stoom af te kunnen blazen. Dank daarvoor!

Ik wil ook Jan Staman en Frans Brom (Rathenau Instituut) bedanken. Ik ben medio januari 2013 voor een tweede keer bij het instituut gaan werken. De eerste keer was begin 2003,

ik moest toen alleen mijn scriptie nog schrijven. Dat heeft even geduurd. Op een zeker moment ging zelfs het gerucht dat ik op mijn scriptie zou promoveren (Gert van Dijk). Ik dank Jan en Frans hartelijk dat zij het avontuur nog een keer aan wilden gaan. Nu ik het toch over Rathenau heb, wil ik meteen mijn (op)nieuwe collega's bedanken voor hun interesse en steun in het afgelopen jaar, toen het manuscript tussen de bedrijven door klaar moest worden gemaakt om naar de beoordelingscommissie te kunnen worden gestuurd.

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Vrienden en familie hebben wellicht meer onder mijn promotieonderzoek geleden dan ik. Vanwege de vele keren dat ik geen tijd had om af te spreken, of omdat ze – als ik wel tijd had – regelmatig van die abstracte verhalen over de mogelijkheid en het belang van "convergentie tussen normatieve theorieën" moesten aanhoren. Van de mensen die nog niet genoemd zijn, wil ik hier vooral Akke Boere, Angela van Dijk, Chantal Steegers, Daniël "paranimf" Majoor en Viola Laan, Frederike Ambagtsheer, Jan-Gerrit Schuurman, Marijke Jansen, Marjan Slob, Marjanne van Zwol, Marjolein Akkerman, Monique Speelman, Nora de Vree, Thea en Peter de Graaf, Yvette Raam en Mark van der Wurff, mijn broer (Michel Krom), mijn moeder (Adrie Hoekstra) en mijn twee schoonzussen Rana Saddal en Patricia Krom nog noemen. Besmettelijke ziektes, vrijheidsbeperking en abstracte ethiek zijn misschien interessante, maar zeker niet de vrolijkste onderwerpen. Bedankt voor jullie steun, geduld, tips en uithoudingsvermogen!

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mijn promotietraject zijn we ook getrouwd. Dat is misschien niet de beste garantie voor een snelle afronding van een proefschrift, maar ik zou het zo weer doen.

A.K.

Amsterdam, november 2013

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Introduction

'Coughs and sneezes spread diseases'. There is much truth in this catchy rhyme. Several contagious diseases can indeed spread via coughing and sneezing. But there is more. Diseases can also spread in other ways. Indeed, nearly every situation that an individual can encounter in our complex and globalised social world involves risks of contracting and spreading contagious diseases. Some diseases require intimate contact to spread, such as sexually transmitted diseases (STDs). But specific diseases may e.g. also spread via animals, objects, water, and food, or through the air – possibly even over long distances. On top of that, many diseases can spread when persons do not have any symptoms of disease (yet) – hence someone may not be aware that contact with specific others entails infection risks. Such risks may involve relatively mild diseases, but could entail highly contagious and very serious diseases that could cause not just temporary discomfort, but serious lasting effects (e.g. paralysis) as well, or even death. If left unchecked, (some) contagious diseases can affect whole communities – from relatively small communities such as our families and friends to e.g. whole companies and care facilities. Indeed, if many health care workers, policemen and women, and members of the fire brigade fall ill, the vital structure of a society may be at stake. In response to this possibility, most countries worldwide have installed public health officials,[1] and have established systems of infectious disease control that range from very elaborate to less so.

Whether we choose to prevent specific infection risks or choose not to, both decisions entail a *value judgement*. The decision to intervene presupposes, for example, that infectious diseases are to be avoided and that their spread should be countered. The decision not to intervene, on the other hand, presupposes that any negative effects that an infectious disease may have are acceptable, all things considered. Value judgements are contestable by nature. Even the basic claim underlying infectious disease control policies – that infectious diseases are problematic and should be countered – is not self-evident. One may agree that infectious diseases are problematic, but strongly oppose the prevention of infection risks nonetheless. For instance, one may believe that negative effects accruing to oneself are the just punishment by a deity for

[1] Unless indicated otherwise the terms "public health officials", "public health professionals", and "infectious disease professionals" refer to *state-employed* public health professionals.

one's wrongful behaviour.[2] Or this may also be true if one holds an anthroposophic view of childhood diseases – according to which diseases can have a significant meaning in the development of children and make them stronger.[3] In any case, whoever intervenes or does not intervene to prevent infection risks should be able to support the implied value judgement by providing normative argumentation, especially since our choices regarding contagious diseases almost automatically have implications for *others*, whose values may support a different attitude towards contagious diseases.[4] In this study I shall presuppose that at least some infections (e.g. of dangerous diseases) are to be avoided.

Typically, the state is considered to have both a moral and a legal responsibility to at least protect population health. In the Netherlands, interventions and policies in infectious disease control especially focus on (evidence-based) risk assessment and management. However, policies do not only have to be based on that; the reduction of risks should be weighed against other values as well. Ethical dimensions of infectious disease control often remain implicit, both in case deliberations in public health practice and in national (CIb/LCI) guidelines and action plans.[5] Given the moral issues inherent in infectious disease control, there is still remarkably little sustained *ethical* debate within the profession or in the profession's literature.

Infectious disease control is typically embedded in a legal structure. For instance, in the Netherlands the Public Health Act provides legal ground ("legitimacy") for a range of measures to prevent infection risks, including liberty restrictions such as (mandatory) isolation, quarantine, and medical examination.[6] Additionally, there is a range of more practical professional guidelines for dealing with specific diseases and/or infection risks in particular institutional contexts.[7] Even

[2] For example, in the Netherlands vaccination rates are relatively low (< 90%) in municipalities with a high concentration of protestant Christians (the "bible belt") (van Lier et al. 2012, 21ff). For many diseases a vaccination rate ≥ 90% is necessary to achieve "herd protection" (this concept is explained in §1.3.3).

[3] See e.g. (Steiner 1920). Anthroposophist are not necessarily opposed to vaccination against *all* childhood diseases. (Verbrugh 2004, 315) mentions that from an anthroposophic perspective some infections can be so serious that it would be irresponsible to let the human body tackle the infection all by itself.

[4] Cf. (Nuffield Council on Bioethics 2007, xvi).

[5] This claim is based on a review of several hundred cases in CRIos, the digital case register of the Centre for Infectious Disease Control (CIb/LCI) at the National Institute for Public Health and the Environment (RIVM), and on a series of interdisciplinary case discussions with public health officials.

[6] (Wet publieke gezondheid).

[7] Guidelines for specific diseases are issued by the Centre for Infectious Disease Control (CIb/LCI) at the National Institute for Public Health and the Environment (RIVM). Guidelines specifically for the health care context are

more specific guidance is provided through step-by-step instructions for nurses involved in infectious disease control.[8] Now while "legitimacy" can surely be part of the moral justification of infectious disease control, especially concerning liberty restrictions,[9] it is not sufficient. First, to the extent that statutes and guidelines are action-guiding (that is, prescribe who should do what or omit what in which circumstances), they *presuppose* specific moral considerations and commitments, e.g. concerning the responsibilities of those involved. Second, to the extent that statutes and guidelines leave open what exactly may or must be done or omitted vis-à-vis specific infection risks, *additional* ethical reflection is required to determine what courses of action can be justified – perhaps with the aid of any side-constraints that may have been formulated.

Focusing on the justification of *coercive* preventive measures, several lines of argumentation have been put forward in the public health ethics literature. To start with, there is the "harm principle" justification. Very roughly, the harm principle entails that it is justified to restrict the liberty of some to prevent harm/risk to others. Other arguments focus e.g. on the protection of incompetent persons such as children ("best interests") or on coercively preventing harm/risk to persons who are competent ("paternalism").[10] Still other lines of argumentation focus on promoting "the common good"[11] or on "overriding rights" (considered to be justified if enough good can be achieved). Finally, coercion may be conceptualised as a remedy for "collective action problems" (recognising that individual action can produce collectively bad results) or be regarded as justified "self-defence" (assuming that people do not have rights against compulsion when it is needed to defend other people's rights against being infected).[12]

This study focuses on the *harm principle* as a possible justification of common measures in infectious disease control.[13] By "common measures" I mean measures that are typically legally

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issued by the Working group Infection Prevention (Werkgroep Infectie Preventie, WIP), a collaboration of several scientific association for infection prevention and hospital hygiene (www.wip.nl).

[8] In Dutch: "Verpleegkundige Stappenplannen".

[9] (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 47ff).

[10] (Gostin 2008, 47ff).

[11] (Paul 2009).

[12] (Wilkinson 2009) focusing on infectious disease control.

[13] It is not always clear that the lines of argumentation mentioned are truly different or mutually exclusive. For instance, overriding the rights of individuals if *enough good* can be achieved by that, bears resemblance to "the common good" argument. Also, as we will see in §§3.4.2 (on communitarianism) and 3.5.1 (on utilitarianism), protecting or promoting the common good may also play a role in giving content to the harm principle. Finally, since

allowed to prevent or reduce infection risks – including restrictions of liberty. One reason for focusing on the harm principle is that the harm principle is the central argument in Dutch infectious disease control policy,[14] and this project involved close cooperation with Dutch public health officials, with the aim of promoting ethical reflection and responsible decision-making in infectious disease control. This involved a series of interdisciplinary case discussions that were subsequently published in *Infectieziekten Bulletin*, the journal for Dutch infectious disease professionals.[15] The main reason for focusing on the harm principle, however, is that it is relatively unreflected in infectious disease control.

There are several versions of the harm principle. Nils Holtug has discussed six different versions which have different scopes and which are justified differently.[16] But if there are different versions of the harm principle, the first question we should ask in applying the harm principle to infectious disease control is: *which version*? Whatever our answer to that question, it would not be sufficient to say: the "liberal" version, and to leave it at that. Liberalism is a rather broad term behind which we find much diversity. For example, many authors are considered to be liberals, but employ different versions of the harm principle.[17] But even if liberals were all to think alike and employ the same version of the harm principle, we might ask: why should we accept a *liberal* framework for infectious disease control? This is in fact a central question in the

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what individuals do to protect themselves regarding contagious diseases nearly automatically has implications for other persons, preventing harm to self may be inherently implied by the aim to prevent harm to others. Several authors have argued that since paternalism is not necessarily what drives public health activities, we should not worry so much about paternalism in health policy. See e.g. (Wilson 2011); (Beauchamp 1985, 57ff). I am not sure that this is indeed enough reason to stop worrying about paternalism in health policy altogether, but at least it puts such concerns in perspective.

[14] The harm principle became the central argument in Dutch infectious disease control policy in 1998, with the introduction of the Infectious Disease Act (In Dutch: "Infectieziektenwet"). Before that, preventing the spread of contagious diseases was the foundation for state interventions. (Dute 1994) introduced the harm principle in connection to infectious disease control in the Netherlands, followed by (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 45ff), of which Dute was also a member (Jos Dute, personal communication). Although the Health Council report focuses on the control of *tuberculosis*, the proposed framework applies to infectious disease control in general. See e.g. the opening letter by the chair of the Health Council included in the report; (Kamerstukken II 1996/97, 25 336, nr. 3, 8); (Kamerstukken II 2002/03, 28 868, nr. 3, 2); and (Kamerstukken II 2007/08, 31 316, nr. 3, 36).

[15] See Annex 1: Case discussions and Annex 2: Case selection – methodology.

[16] (Holtug 2002).

[17] See e.g. (Mill 2003); (Feinberg 1984); (Raz 1986).

literature of public health ethics: many authors think that a liberal framework imposes constraints on public health practice that are too strong.[18]

This is not the place to take sides in these debates (yet). But the questions raised in these and similar discussions are enough to conclude that employing 'the' harm principle in infectious disease control as a moral justification requires much more reflection: reflection on the concept of "harming others" specifically, on which version of the harm principle we should employ, and on how this version of the harm principle itself can be morally justified. Without such reflection it is unclear (i) how 'the' harm principle – the central argument in Dutch infectious disease control – should be able to provide any normative guidance whatsoever to infectious disease professionals, and (ii) how we are to determine whether specific infectious disease control measures that are justified by appealing to the harm principle are in fact morally justified.

The foregoing suggests that ethical decision-making in infectious disease control somehow has to be connected to ethical/philosophical reflection. But how? It was once suggested to me that this study can be understood as aiming to *protect* public health professionals from ethicists/philosophers, on the assumption that the latter typically disagree about everything.[19] There is some truth to this; ethicists/philosophers are experts in explicating perspectives from which any given moral justification of our actions can be *challenged*. This is an important task. Public health professionals have an important task to do as well, including the prevention of at least some infection risks. Potentially this creates a tension between public health officials (in search of what can morally justify intended preventive measures) and ethicists/philosophers (experts in challenging any given moral justification). This opposition is helpful for formulating the aim of this study more precisely. The aim is not so much to protect public health professionals from ethicists/philosophers, but to explore a model of moral justification in which *involving* ethicists/philosophers can be constructive, i.e. add to the strength of the moral justification of preventive measures in infectious disease control.

For that reason, this study examines the possibility of treating the harm principle as a *mid-level principle* in the context of infectious disease control. Roughly speaking, such a principle would provide a way of connecting practical ethical decision-making in infectious disease control

[18] See e.g. (Jennings 2007, 35–38); (Battin et al. 2009, 77–92); (Dawson 2011a).

[19] I thank Joel Anderson for raising this point.

to normative theoretical justification in a constructive way.[20] For, as it happens, one of the functions of a mid-level principle is to express or enable "convergence" between different normative theories. The idea to be explored in this study is whether public health professionals can take such "convergence" as a foundation for the moral justification of specific measures to prevent infection risks without being burdened by further normative theoretical disagreement. The main body of this study entails discussing some of the presuppositions of such an endeavour and defending the possibility of employing a mid-level harm principle in infectious disease control.[21]

Outline of this study

In Chapter 1 the context of infectious disease control is connected to the harm principle. This includes explaining the ways in which infectious diseases can spread and what roles individuals can play in spreading diseases, and discussing a range of common measures that can be used to prevent this. The aim is to determine what a version of the harm principle must look like for common measures in infectious disease control to be justifiable by appealing to that principle.

Chapter 2 explains and defends the core methodology of this study: a mid-level approach in applied ethics. After specifying what functions a mid-level moral principle is supposed to fulfil, several conditions are discussed that are required to form a version of the harm principle that is able to function as a mid-level principle in infectious disease control. The chapter also defends the selection of normative theories to be discussed in this study, and discusses some of the implications of this selection on qualifying the main conclusions.

A central assumption of appealing to the harm principle in infectious disease control is that it may be necessary to make trade-offs between the value of individual liberty and the value of population health. Chapter 3 focuses on the "population side" of such trade-offs and examines whether our selection of normative theories can conceptualise infectious disease control as preventing harm to population health and can support preventive measures on harm principle grounds in at least some cases of infectious disease control ("yes").

[20] The connection to normative ethical *theories* is defended in Chapter 2.

[21] While this study examines the feasibility of a specific mid-level principle (the harm principle), the methodology explained and defended in Chapter 2 is relevant to applied ethics more generally.

Chapter 4, in turn, focuses on the "liberty side" of potential trade-offs in infectious disease control between the value of liberty and the value of population health. Several accounts of liberty and theories of coercion are discussed, and an examination is made of whether our selection of normative theories employing different accounts of liberty and different theories of coercion necessarily poses problems for the possibility of regarding the harm principle as a mid-level principle in infectious disease control ("no").

Chapters 3 and 4 yield rather general and optimistic conclusions. Chapter 5, in turn, discusses three problems for the feasibility of a mid-level harm principle when considering a broad range of concrete cases of infectious disease control. All three problems have to do with a tension between the need for moral justifications to provide enough guidance for action, on the one hand, and maintaining convergence between normative theories, on the other hand. It will be argued that all problems can be adequately dealt with by accepting a model in which the "normative labour" of justifying preventive measures is divided between public health officials and applied ethicists/philosophers. The harm principle can function as a mid-level principle in such a model.

The proposed "division of normative labour" is consistent with the way that infectious disease control is organised in the Netherlands. This is not to suggest, however, that returning to business as usual would be satisfactory. Chapter 6 discusses some of the implications of the main outcomes of this study both for the practice of infectious disease control and for conducting applied ethics. Finally, the possibility of a mid-level harm principle in infectious disease control is briefly defended against a potentially devastating criticism that has been raised of the harm principle in general, namely that it is *obsolete*.

To close, a brief comment about terminology

In the course of this study several concepts will be discussed, such as "harm", "causation", and "coercion". In relation to all these concepts a distinction will be made between so-called moralised and non-moralised accounts. The general difference lies in whether any conclusion we may draw that involves these concepts rests on a prior moral judgement or not. To give an example, Joel Feinberg employs a moralised concept of harm. He analyses harm in terms of setbacks to our interests, and holds that only those setbacks to our interests that constitute a

wrong are harms relevant for the purposes of the harm principle (i.e. subject to potential liberty restriction).[22] Conclusions about whether someone is harmed in the relevant sense, then, rest on a prior moral judgement – namely that some setbacks to our interests constitute a "wrong".[23]

We should be careful not to make too much of these distinctions. If we were to employ a *non-moralised* concept of harm, we would still need to provide normative reasons for deciding whether or not harm to others should be prevented by coercive means.[24] A moralised concept of harm has such normative reasons built into it. But let us first examine what is needed to connect infectious disease control to the harm principle at all.

[22] (Feinberg 1984, 34ff).

[23] The distinction between moralised and non-moralised accounts of "causation" (of harm) is introduced in §1.4.2. See §4.3 for the distinction between moralised and non-moralised accounts of "coercion".

[24] Perhaps this is why Feinberg thinks that "harm" must bear a kind of normative sense in any plausible formulation of the harm principle (Feinberg 1984, 34).

1. Connecting infectious disease control to the harm principle

Many everyday situations entail the possibility of contracting an infectious disease. Diseases may negatively influence our health (ranging from mild to fatal consequences), our personal and social life (by precluding activities we consider worthwhile), or even population health and public life (e.g. if enough people are infected).[25] There is a broad range of measures that can be taken to prevent diseases from spreading. Such measures can have serious negative consequences as well. To prevent the outbreak of an infectious disease it may, for instance, be necessary to restrict contact between individuals.

Several normative arguments have been put forward in support of infectious disease control policy.[26] One such argument is the *harm principle*, roughly the idea that the state may limit the liberty of individuals to prevent harm to others. The harm principle is the central argument in, for example, Dutch infectious disease control policy.[27] However, as was indicated in the general introduction to this study, the harm principle is relatively unreflected in the context of infectious disease control. There are different versions of the principle, which have different scopes and which are justified differently. To determine which version we should choose – if any – and why, requires conceptual and normative analysis.

This chapter focuses on *conceptual* analysis. For common measures in infectious disease control to be morally justifiable by appealing to the harm principle, it must be possible to connect infectious diseases, the ways in which they can spread, and their effects on health to concepts from the literature on the harm principle. The main aim of this chapter is to examine the feasibility of that connection. Unsurprisingly, "harm" and "harming" are among the central concepts in the harm literature. "Harm" refers to a *state of affairs*: someone is either in a harmed state or not. "Harming", on the other hand, refers to *agency*, i.e. to one party playing a role in the (potential) coming about in others of a state of affairs regarded as "harm".[28] My strategy in this chapter will be to examine parallels to these concepts in the context of infectious disease control.

[25] See §3.1.2 for additional senses in which population health can be affected by infectious diseases.

[26] See Introduction.

[27] See §1.4.

[28] (Feinberg 1984, 31).

Outline

First, I will explain what conditions need to be met for an infection to occur (§1.1). Then I will argue that individuals can play roughly five roles in fulfilling these conditions (§1.2), and will discuss common measures to prevent this from happening (§1.3). Subsequently, I will explore the notion of "harm" as a parallel to "infection" (both are states of affairs) and the notion of "harming" as a parallel to the roles that individuals can play in spreading contagious diseases (both referring to agency). In this way it can be determined what a version of the harm principle must look like in order to be able to morally justify common measures in infectious disease control by appealing to 'the' harm principle (§1.4). The harm principle is a liberty-limiting principle – it can be used to justify coercion.[29] Now while liberty restrictions may sometimes be necessary to protect or promote population health, there is more to infectious disease ethics than using coercion. To put the focus on coercion in perspective, I will introduce several other ethical issues in infectious disease control via a number of case discussions, some of which will be explored in more detail in the course of this study (§1.5). This chapter's main conclusions are summed up in §1.6.

1.1. The Chain of Infection

Consider a range of typical human activities: eating and drinking (at home, in a restaurant, from a market stall); sharing a confined space (a conference room, public transport); having face-to-face conversations (with strangers, friends, or loved ones); having physical contact (shaking hands, kissing, having sex); touching surfaces and objects that others have touched (a table in a public vehicle, doorknobs, computer keyboards, drinking from the same glass); being in the vicinity of someone who coughs, sneezes, or spits; tending to others (changing nappies, tending to wounds); hanging our coats in a public place (at school or a concert); visiting a sauna or a swimming pool; cycling in the countryside;[30] petting animals (cats, dogs, farm animals); manipulating our bodies for decorative purposes (tattooing, piercing); and receiving or performing invasive medical

[29] Different theories of coercion are discussed in Chapter 4.

[30] I am referring here to, for example, the possibility of contracting Q-fever by being in the vicinity of a farm with goats that are contagious.

treatment (surgery, blood transfusion, organ/tissue transplantation). These are just some of the circumstances in which a person can contract an infectious disease.

Human beings are colonised by tens of trillions of microorganisms, both internally and on our surfaces. Many of these microorganisms can easily move from one human being to another. Generally, the encounter with microorganisms is beneficial. For instance, many of the bacteria in our digestive tracts are necessary for our survival. However, there are also many microorganisms that are capable of causing damage in a host. These are called *pathogens*.[31] If a host acquires a microbe, this is called "colonisation". If this is followed by a measurable immune response, the term "infection" applies.[32] The term infectious *disease* applies 'when an interaction with a microbe causes damage to the host, and the associated damage ... results in clinical signs and symptoms of disease'.[33] Generally, the likelihood that an infection will result in disease depends on the characteristics of the host (e.g. the state of his/her immune system), but also on the features of the pathogen, such as its ability to enter tissue[34] and its capacity to cause damage in a host.[35]

Infectious diseases can have mild but also serious consequences that are of a temporary or a permanent nature. They may affect our health but also (other aspects of) our personal and social life, for example not being able to engage in certain activities because we are ill. One contagious person can sometimes spread the disease to several others. The so-called reproduction number is the average number of people that a contagious person will spread the disease to in "normal circumstances". The number differs per disease and per population.[36] If it is higher than 1, a

[31] (Casadevall and Pirofski 1999, 3704) and (Casadevall and Pirofski 2000, 6514) argue that the literature on infectious disease control is rife with diverging definitions of basic concepts. To attain a conceptual apparatus that is consistent with the diversity of possible outcomes of the interaction between a host and a pathogen (e.g. resulting in damage in some hosts but not in others) the authors have proposed a range of redefinitions which they claim are consistent with most definitions offered in the literature.

[32] Cf. (Casadevall and Pirofski 2000, 6414, 6416). The authors suggest that host damage is often a requirement for the induction of a pathogen-specific immune response.

[33] (Relman and Falkow 2010, 3); (Casadevall and Pirofski 2000, 6516).

[34] This is called the "invasiveness" of a pathogen.

[35] The capacity of a pathogen to cause damage in a host is called "pathogenicity", or "virulence" when compared to other pathogens (Casadevall and Pirofski 1999, 3704).

[36] See e.g. (Diekmann, Heesterbeek, and Metz 1990, 365–366). Differences per population relate, for example, to behaviour (crowding, kissing, shaking hands, et cetera) and to whether people are already immune to a pathogen (through vaccination or by having been in contact with the pathogen).

disease can spread in a population. For common influenza, for example, the reproduction number is 1,5–2 under normal circumstances.[37] For some diseases it is much higher.[38] Suppose a contagious person can spread a disease to two others on average. The number of infected people may subsequently rise rapidly: 1, 3, 7, 15, 31, 63, 127, 255, 511, 1,023, et cetera. Although exceptional, at a certain point this can have important implications for population health,[39] but also for public life, for instance if individuals in key societal functions – such as health care workers, the police and/or the fire brigade – fall ill.[40]

For an infection to occur, several conditions must be met. This is commonly referred to as the Chain of Infection.[41] In short, a pathogen must exit its reservoir or source and be transmitted to and enter a susceptible host.

Pathogens exiting their reservoir or source

There are over 1,400 pathogens. They range in size and complexity, and include prions, viruses, bacteria, fungi, and parasites. Examples include "mad cow disease"[42] (prion), hepatitis B, rabies (viruses), MRSA,[43] Legionellosis (bacteria), Candida (fungus), and tapeworm (parasite).[44] To sustain themselves, pathogens must have a place in which they normally reside. This is called a "reservoir". Reservoirs can be inanimate (objects, environments) or living (animals, humans). To give some examples, both humans and animals (e.g. cats and dogs) can be reservoirs for MRSA.[45]

[37] The reproduction number may be higher in very crowded circumstances. It can also be lower if, for instance, people are vaccinated. As indicated in the main text, the reproduction number is a mean; often, some people are highly infectious while others are hardly infectious.

[38] For instance, the reproduction number of measles is 12–18 (LCI 2010a).

[39] The impact of a disease on a population is commonly expressed in terms of *morbidity* (the incidence of the disease), *mortality* (the number of deaths due to the disease), and *case fatality* (the proportion of cases that result in death) (Battin et al. 2009, 24). See §3.1.2 for a more elaborate discussion of the potential impact of infectious diseases on different dimensions of population health.

[40] Surely, contagious diseases can have other consequences as well such as socio-economic consequences resulting from trade restrictions.

[41] (Osterholm and Hedberg 2010, 185–188); (Landelijk Centrum Hygiëne en Veiligheid 2009, 3–4).

[42] Bovine Spongiform Encephalopathy (BSE) or Creutzfeldt-Jakob disease.

[43] MRSA (Methicillin-resistant Staphylococcus aureus) is a well-known hospital bacterium.

[44] (Battin et al. 2009, 14–20).

[45] (LCI 2009).

Physical *objects* or environments (e.g. whirlpools and artificial respiration equipment) can harbour e.g. Legionellosis, the pathogen that causes Legionnaires disease.[46]

Reservoirs can be distinguished from "sources". A pathogen resides in a reservoir, but if a person transmits a pathogen to others, they are referred to as a source, regardless of whether they also served as a reservoir.[47]

For the next step in the Chain of Infection, enough pathogenic material must be able to exit the reservoir or source and be transmitted to a potential host via the correct route or "mode of transmission". The way out of a reservoir or source is called "portal of exit". Most bodily openings can serve as a portal of exit for at least some diseases. To give some examples, for hepatitis B these include open wounds, the penis (sperm), the vagina (vaginal fluids), and body tissues.[48] For MRSA these include the mouth, nose, anus, and skin (e.g. armpits).[49]

Modes of transmission

The ways in which diseases can be transmitted are called "modes of transmission". Modes of transmission can be categorised in different ways, but this is mainly a terminological issue. A common distinction is that between direct and indirect transmission.[50] Direct transmission can occur through direct physical contact with bodily fluids that contain a pathogen (e.g. blood,[51] sperm, saliva, mucous, faeces) and through "drops" containing a pathogen.[52] Transmission through *direct physical contact* may, for instance, occur through pregnancy and delivery,[53] in the course of organ/tissue transplantation and blood transfusion,[54] through sharing needles, and via

[46] (LCI 2007).

[47] Reservoirs and sources are not always distinguished. See e.g. (Dute 1994, 19).

[48] (LCI 2008).

[49] (LCI 2009).

[50] See e.g. (Osterholm and Hedberg 2010, 187–188). Cf. (Dute 1994, 15–16).

[51] Blood-borne diseases cover viruses (HIV), parasites (e.g. malaria), bacteria (e.g. the potentially deadly Yersina enterocolitica), and prions (e.g. "mad cow disease") (Bridges 2006).

[52] (Osterholm and Hedberg 2010, 187) regard transplacental transmission as a third and separate form of direct transmission.

[53] E.g. maternal rubella, syphilis, and HIV. Transmission during pregnancy or delivery is called "mother-to-child" transmission or vertical transmission. Other forms of transmission are horizontal (Battin et al. 2009, 47, 184–199).

[54] E.g. (Dute 1994, 15–16); (Battin et al. 2009, 20–22).

sexual contact. Transmission of a pathogen through oro–anal sex (e.g. hepatitis A) is an example of direct contact where the pathogen takes the so-called faecal–oral route: someone swallows a pathogen contained in the faeces or anal secretions of an infected person. Other examples of transmission through direct contact involve contact with body lesions, kissing, and hand-to-hand contact.[55] *Droplet spread*, a second form of direct transmission, refers to pathogens that can contaminate nearby air only (within a distance of a few feet). Sprays of drops containing pathogens can be produced, e.g. by talking, singing, shouting, sneezing, coughing, and spitting, and can enter the body of others through, e.g. the eyes, the nose, or the mouth. Examples include smallpox and influenza.

Pathogens can also be transmitted to a person indirectly in various ways: through the air, a vehicle, or a vector. *Airborne* transmission is similar to droplet spread in that pathogens are transferred through sprays of droplets. The crucial difference is that airborne pathogens can spread over a much wider area. Examples include Q-fever, influenza, and tuberculosis.[56] *Vehicle-borne* transmission can occur through food[57] and water,[58] and through objects – such as clothes, hospital equipment, computer keyboards, toilet seats, and doorknobs.[59] Indirect transmission too can take the faecal–oral route. Examples of this are if someone does not wash his/her hands (properly) after using the toilet, and subsequently touches food, drinks or cutlery that others use (e.g. typhoid fever), defecates directly into water that others drink from (e.g. a river), or spreads disease through the sewer. The last method often occurs in underdeveloped regions of the world and/or in crisis situations (e.g. waterborne cholera transmission). *Vector-borne* transmission is a term that is commonly used to refer to certain animate intermediaries, typically arthropods such as mosquitoes (e.g. malaria), fleas (e.g. the plague), mites (e.g. scabies), and ticks (e.g. Lyme

[55] For example, when a contagious person sneezes in his/her hand, then shakes the hands of another person, and the pathogen subsequently finds its way to the latter person's mucous membranes.

[56] (Lippmann 2006).

[57] Foodborne illnesses cover viruses (e.g. hepatitis A), parasites (e.g. tapeworms), bacteria (e.g. salmonella), prions (e.g. "mad cow disease"), natural toxins (e.g. produced by algae), and chemical poisoning (e.g. by inappropriate use of pesticides) (Sockett 2006).

[58] See e.g. (Last 2006) on waterborne diseases.

[59] Inanimate intermediaries are also known as "fomites" (Battin et al. 2009, 21); (Dute 1994, 16).

disease).[60] Sometimes the term is used more broadly to cover, for instance, vertebrate animals such as goats and sheep (e.g. Q-fever) as well.[61]

A pathogen entering a susceptible host

The final step in the Chain of Infection involves a pathogen entering a susceptible host.[62] The way into a host is called the "portal of entry". Pathogens can enter the human body through a range of portals, such as mucous membranes (nose, mouth, eyes, penis, vagina, and anus) and damaged skin (think of grazes and wounds, or punctures as a result of invasive procedures such as the use of needles, intravenous therapy, or catheters). But even if a pathogen actually enters a host, infection – i.e. establishment of the pathogen in the host – will not occur unless the individual person or animal is *susceptible* to the pathogen. Individuals may differ in the degree to which they are susceptible to specific pathogens. This may result, e.g. from general differences in people's innate immune systems or from previous exposure to a pathogen that created at least some acquired immunity.[63]

Just as transmission does not necessarily result in infection, being infected does not necessarily mean that a person will become ill. Often, hosts and microorganisms – including pathogens – live in a dynamic balance, and disease only occurs when the balance is upset. This may be because of changes in the host (stress, lower resistance) or changes in the pathogen (maladjusted) resulting from altered environmental factors.[64] For instance, while most people are infected with the herpes simplex virus,[65] a cold sore typically only appears when our resistance is low. Note, however, that while person A may not become ill after being infected by person B, this does not preclude the possibility that person A infects others who *will* become ill.

[60] (Osterholm and Hedberg 2010, 187–188).

[61] (LCI 2011c). Pathogens that are transmitted to humans by animals are called "zoonoses". (Battin et al. 2009) also use the term "vector" for *human beings*. The authors argue that patients are always at the same time both victims and vectors of pathogens. I think this overstretches the term "vector". Humans either spread a pathogen to others directly or indirectly (*via* an intermediary).

[62] If a pathogen has not entered a host (yet) but is present on the skin, clothes or an object, this is called "contamination". See e.g. (Dute 1994, 12).

[63] Other relevant factors include age (infants and elderly are generally at greater risk), nutritional status, stress, and pre-existing conditions in hosts. See e.g. (Battin et al. 2009, 22).

[64] (Dute 1994, 13–14); (Battin et al. 2009, 80–81).

[65] For instance, the prevalence of herpes simplex virus type 1 (HSV-1) is approximately 90% worldwide (LCI 2011a).

This concludes our examination of the Chain of Infection. In the next section there will be a discussion of the different roles that individuals can play in connecting elements of the Chain of Infection. I will define situations in which individuals play such a role as "Situations of Contagion" (SoCs).

1.2. Situations of Contagion

Defining the roles that individuals can play in connecting elements of the Chain of Infection is a matter of combining characteristics of pathogens (such as known transmission modes) with aspects of people's behaviour (acting such that certain elements in the chain are connected). In a sense, this is a negative endeavour, because the idea of defining Situations of Contagion (SoCs) is that specific elements of the Chain of Infection are not prevented from connecting. The SoCs will be formulated as morally neutral as possible. Whether something *ought* to be done in a specific SoC, and if so by whom, requires normative argumentation.

Preventing infections requires certain knowledge, e.g. knowledge that someone or something is contagious and can transmit a pathogen to others. All infectious diseases have an "incubation period", a period between becoming infected and developing clinical symptoms of disease, which may vary widely according to each disease.[66] Transmission can thus occur without the contagious person and others even being aware that s/he is contagious. This is an example of transmission by a "carrier", someone who, at the time of transmission, does not have clinical symptoms of disease. Another example is having a sexual relationship or encounter with a partner who is an "asymptomatic carrier" of hepatitis B.[67]

Suppose that one *does* have clinical symptoms of disease. This is still not sufficient for knowing that one is potentially contagious. The latter requires that one recognises the symptoms *as* symptoms of a contagious disease. And it is perfectly possible that this epistemic condition is

[66] For instance, New Influenza A (H1N1) has a relatively short incubation period: 1–5 days (usually 3–4 days), but for hepatitis B this is 4–6 months (usually 2–3 months) (LCI 2010c); (LCI 2008). The incubation period of a disease cannot always be specified. For example, a person can be a carrier for MRSA for a short time as well as for a long time before developing clinical symptoms (LCI 2009).

[67] In addition to "carriers in the incubation period" there are "asymptomatic carriers" (with no clinical symptoms at all during the time that they carry a pathogen), "carriers after disease" (who no longer have clinical symptoms), and "chronic carriers" (who may carry a pathogen with them their whole life). See e.g. (Battin et al. 2009, 20–22). The term "carrier" can also be used more strictly as referring to someone who remains contagious after a fixed period of time (Jim van Steenbergen, personal communication).

not met. A person may e.g. not know that having diarrhoea is a clinical symptom of many contagious diseases that can be transmitted via the faecal–oral route either directly (e.g. via oro–anal sex) or indirectly (e.g. via food).

But even if one knows that one is contagious (regardless of whether one has clinical symptoms of disease), it seems that a person can still play at least two different roles in the spread of disease. For instance, one may actively try to connect some of the elements of the Chain of Infection, such as deliberately sneezing or coughing in others' faces while one is aware of having the flu or engaging in acts of bioterrorism such as actively spreading anthrax. But one may also forget to take precautions (e.g. to take antivirals)[68] or otherwise act carelessly (e.g. not taking one's medication as prescribed, not washing one's hands after sneezing or coughing).

All options discussed so far start from the premise that a person is *contagious*. Considering that one must contract a contagious disease first before one can become contagious, a categorisation of SoCs would not be complete without incorporating preventive measures that can be taken by non-contagious individuals. That too requires knowledge, e.g. about transmission modes and which preventive measures are effective.

In summary, there seem to be five Situations of Contagion or roles that individuals can play in spreading diseases – depending on whether or not a person is contagious and what helps explain the person not taking precautions against (further) infection risks. Call the situation in which a person is not contagious SoC_1. SoC_2 to SoC_5, then, refer to situations in which a person *is* contagious. But the explanation for not taking precautions is different in each case. In two situations a person may not even realise that s/he is contagious, either because s/he is a "carrier" (SoC_2) or because s/he one does not realise that his/her symptoms are signs of a contagious disease (SoC_3). In the remaining SoCs, a person *knows* that s/he is contagious, but what helps explain precautions not being taken again differs: forgetfulness or otherwise being careless (SoC_4), and wanting to infect others (SoC_5).[69]

[68] Antivirals can reduce the risk of transmission by reducing the symptoms of a disease and by shortening the period during which a person is contagious.

[69] This description of SoCs differs from (Krom 2011a) in several respects. To start with, the order is reversed (SoC_1 is now SoC_5, SoC_2 is now SoC_4 et cetera). This is prompted by considerations of chronology: not spreading contagious diseases could start with taking preventive measures when we are not contagious (as in SoC_1). Also, it is now made explicit that SoC_5 applies both to severe diseases and to willingly and knowingly infecting others with a relatively mild disease such as the flu. Finally, SoC_3 and SoC_4 are defined somewhat differently. SoC_3 is now

This classification of Situations of Contagion captures all individuals on the planet. Every one of us – the reader included – is always in one of the SoCs with regard to at least some infectious disease. To give some examples, we are all in SoC_1 with regard to at least some (hopefully most) diseases, i.e. not contagious but potentially in a position to prevent infectious diseases from spreading (starting by taking actions to prevent contracting a disease ourselves). Perhaps the reader has never been in SoC_5 with regard to any contagious disease – i.e. has never infected others willingly and knowingly. But many of us will at least have been in SoC_2 with regard to some infectious diseases (e.g. the flu) – i.e. actually having transmitted disease to others without being aware of this (because we were asymptomatic at the time).

Responsibility for infection risks

Our categorisation of Situations of Contagion proceeds in a way that is as morally neutral as possible. Still, it is sensitive to considerations that are potentially relevant from a moral perspective, such as whether individuals are *responsible* for spreading a contagious disease and, if so, in what sense and to what degree.[70]

Individuals can be responsible for spreading contagious diseases in different ways. To begin with, they can be *causally* responsible, a sense that applies to all Situations of Contagion.[71] In every SoC an individual plays a causal role in connecting elements of the Chain of Infection. Causal responsibility is not limited to human beings. Indeed, causal responsibility for spreading contagious diseases can be attributed to a wide variety of 'things', including animals (that could potentially spread zoonoses) and pathogens.[72]

Individuals can also be responsible in a *moral* sense. Moral responsibility starts from the premise that causal responsibility is established, and turns on whether praise of blame is considered to be in order. Clearly, moral responsibility cannot intelligently be attributed as

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formulated in a more general way as applying to all forms of transmission by a "carrier" (not just to carriers in the incubation period). Regarding SoC_4, while transmission resulting from negligence still has a place in SoC_4 it is no longer part of its definition. This way the SoCs are defined as morally neutral as possible. For example, unlike "negligence" the term "carelessness" does not necessarily have a connotation of behavior that is *reproachable*.

[70] Different normative theories may give different answers to whether someone is responsible for something. Cf. §3.5. The current section focuses on some *general* conditions for responsibility like knowledge and control.

[71] See also §1.4.2.

[72] See e.g. (Yoder 2002, 24).

widely as causal responsibility. It makes no sense, for instance, to blame or praise a pathogen for playing a role in the occurrence of infection or to blame a goat for spreading Q-fever. Moral responsibility is restricted to moral agents.[73] Praising or blaming individuals for what they do or omit to do may be a way of influencing their behaviour.[74] Being praised for specific behaviour may motivate a person to perform similar behaviour in the future. Conversely, being blamed may motivate us to not repeat the behaviour for which we were blamed. While causal responsibility applies to all Situations of Contagion, it is not clear that a person is morally responsible for the role s/he plays in spreading contagious diseases in all SoCs. I take it to be uncontroversial that a person is morally responsible in SoC_5, that is, blameworthy for willingly and knowingly spreading a contagious disease to others – especially if it involves a serious disease.[75] A clear example would be the HIV case in Groningen, the Netherlands, in 2007; this was a case in which homosexual men were deliberately and unbeknownst to them injected with HIV-positive blood.[76] Underlying a judgement of blameworthiness may be a duty of individuals to not infect others, a duty which – if existent – would be clearly violated in SoC_5. But does this also apply, for instance, to persons in SoC_1, who may be perfectly healthy? Can we blame them for not taking specific measures to prevent contracting a contagious disease? It is not clear that we can, or at least it is doubtful that we would be prepared to do so. Usually we hold people morally responsible only for actions that can be attributed to them *as agents*, i.e. for actions that they perform voluntarily.[77] But this seems to require at least some knowledge, for instance knowledge about being contagious and about the connection between certain symptoms and being contagious, et cetera – knowledge that is, by definition, lacking in certain SoCs. Individuals may have a responsibility to prevent (at least some) infections in others connected to their relationship to them. For instance, health professionals may be expected, based on their professional duties, to take at least some

[73] (Yoder 2002, 24).

[74] Cf. §4.3.

[75] This may also be considered irresponsible from a perspective that is generally critical towards activities aimed at preventing the spread of contagious diseases, such as anthroposophy. Cf. Introduction .

[76] See e.g. PHR 27 maart 2012, ECLI:NL:PHR:2012:BT6397; HR 27 maart 2012, ECLI:NL:HR:2012:BT6397; PHR 27 maart 2012, ECLI:NL:PHR:2012:BT6362; HR 27 maart 2012, ECLI:NL:HR:2012:BT6362 and references. Another example is (Gostin 2008, xix–xx), discussing a wilful lawyer with tuberculosis risking the health of people on several airplanes and two continents.

[77] (Yoder 2002, 26).

measures to protect their patients against infections.[78] Note, however, that taking every possible precaution to contract any and all contagious diseases would require completely transforming the way we live and interact with others – suggesting that there may be good reason to set at least *some* limits to our moral responsibility in the context of infectious disease control.[79]

A third sense in which a person can be said to be responsible is connected to social policies, and may be called *social liability*. Social liability for health entails that we implement social policies to reduce or make people bear the burden of behaviour that involves health risks.[80] Social liability presupposes causal responsibility. After all, for social policies to be effective in reducing health risks, it must be the case that (at least some of) those who are confronted with these policies play a causal role in the occurrence of those health risks.[81] Social liability can be based on moral responsibility, but does not require it. It is not required that we have reason to blame persons for playing a causal role in the occurrence of infection risks in order to implement social policies to reduce those risks. All that is needed are good reasons for wanting to prevent the infection risks. Also, responsibility as social liability need not imply that persons who pose certain health risks and who are confronted with restrictions aimed at reducing or preventing those risks are *punished* for posing those risks, even if enduring negative effects of such policies may of course feel like one is being punished – e.g. if one gets lower priority for a liver transplantation if one has a history of alcohol abuse.[82] In principle, social policies to reduce or make people bear the burden of behaviour that involves health risks can be applied in all Situations of Contagion. An example would be making the distribution of antivirals to known infected individuals conditional on them observing home isolation during the contagious period of the disease. The assumption is that, generally, people will be motivated to do what is in their

[78] Role-based responsibilities are also known as "substantive" responsibilities. See e.g. (Scanlon 1998, 248–249). There may be reasons to restrict such responsibilities of health care professionals as well. For example, (Millar 2012a) claims that individuals should not be the 'presumptive targets for the ascription of responsibility for outbreaks of infection'. Instead, we should focus on 'the obligations of public health providers as the primary agents with responsibility for assuring the ... actions required to protect population health.'

[79] Potential duties to not infect others are discussed in more detail in §3.5.

[80] (Yoder 2002, 24).

[81] (Yoder 2002) on responsibilities of individuals for their *own* health. This study focuses on the potential effects of what we do regarding infectious diseases for the health of *others*. Social liability applies here as well.

[82] A strategy to justify such a policy without relying on notions such as blameworthiness would be to argue, for example, that (post mortem) organ transplantation is a system of mutually assured benefits. Alcohol abuse, it could be argued, plays a causal role in creating scarcity (by increasing the need for transplantable livers). See e.g. (Hartogh 2008, 50–51).

interest (taking the antivirals),[83] as a result of which the health of others will be protected as well (because home isolation is required to obtain the antivirals).

In sum, there are roughly three types of responsibility: causal responsibility, moral responsibility, and social liability. Causal responsibility and social liability seem to apply in all Situations of Contagion. Whether moral responsibility applies in all SoCs as well will depend, among other things, on reasons we may have for accepting at least some infection risks – for instance, being able to live our lives in a certain way. Hence, it is a normative issue.

1.3. Breaking the Chain of Infection

If all elements discussed in the previous sections are required for an infection to occur, then effective infectious disease control consists in preventing these elements from connecting, i.e. in 'breaking the Chain of Infection'.[84] This can be done by focusing on containing or eliminating *reservoirs* or sources (including blocking potential portals of exit), on interrupting *modes of transmission*, and on protecting *susceptible hosts* (including shielding off potential portals of entry).[85] In this section I will discuss common measures to break the Chain of Infection.[86]

1.3.1. Hygienic measures

Well-known hygienic measures that can help break the Chain of Infection include removing potential breeding grounds for microorganisms (cleaning), killing or inactivating microorganisms (disinfection, decontamination, sterilisation), personal hygiene (e.g. washing, toilet hygiene) and wearing personal protective equipment (PPE) such as masks, gloves, gowns, eye protection, and biohazard suits.[87] *Sterilisation* goes furthest in reducing the presence of harmful microorganisms:

[83] Individuals do not always benefit from antivirals in a direct way. Most often, antivirals have the effect of reducing the contagious period. To the extent that reducing the contagious period implies that a person can engage in certain activities sooner, taking antivirals could still benefit individuals *indirectly*.

[84] See e.g. (Cozzi 2004).

[85] (Dute 1994, 19).

[86] I will give a *general* description of common measures in infectious disease control, without trying to indicate at which points the measures aim to break the Chain of Infection, exactly. It can, for example, be debated whether personal protective equipment (PPE) blocks transmission modes or protects a potentially susceptible host.

[87] See e.g. (Gostin 2008, 446).

to a chance of a less than one in a million per sterilised unit.[88] This is relevant in cases where instruments and textiles are used that breach the barriers of the skin or the mucous membranes (e.g. needles, wound bandages). Hand-washing is regarded as the most important means of reducing the risk of transferring microorganisms from one person to another or from one part of our body to the other (e.g. hand to mouth).

1.3.2. Culling animals

Instead of killing or inactivating *microorganisms* (disinfection, sterilisation) or removing potential *inanimate* breeding grounds (cleaning), another option to use to try to break the Chain of Infection is the culling of animals that serve as a reservoir or source of pathogens that they can transmit to others (humans and/or animals). Recent examples of the large-scale culling of animals relate to mad cow disease (cattle), hoof and mouth disease (sheep and cattle), swine flu (pigs), avian flu (e.g. chicken) and Q-fever (goats and sheep).[89]

1.3.3. Immunisation

Whether people or animals are susceptible to a pathogen depends at least in part on the status of their immune system. A way of breaking the Chain of Infection is to immunise them through vaccination. Immunisation generally protects those who participate in vaccination programmes, but can indirectly protect others as well.[90] Being immune is normally a condition through which one cannot infect others. One can be protected *indirectly* by being surrounded by enough people who are immune to a pathogen ("herd protection") and through the secondary spread in the environment of pathogens used in an immunisation programme.[91]

Many countries offer immunisation for a range of diseases on a mass scale through, e.g. child immunisation programmes. As of 1 October 2011, twelve diseases have been included in

[88] (LCI 2003, 9).

[89] (Battin et al. 2009, 20, 365); (Klaassen et al. 2009).

[90] Vaccines also *carry* risks of side-effects. Side-effects may be regarded as acceptable on a population scale (if the benefits outweigh the risks) but at the same time be unacceptable to individuals who are offered a vaccine (e.g. to parents who have to take into account that *their children* run a certain risk). Cf. (Krom 2011b).

[91] For instance, through defecation and urination. Raising immunity in general including in people who did not participate in immunisation programmes, is part of "herd immunity" (Dawson 2007, 162 and references).

the Dutch National Immunisation Programme.[92] Immunisation can also be offered to specific subgroups, such as travellers or at-risk groups within the country's borders.[93] An example involving animals is vaccination of sheep and goats against Q-fever, which can be transmitted to humans.[94]

1.3.4. Social distancing

If human contact is a potential source of infection, then the Chain of Infection can be broken by limiting those forms of human contact that pose a risk of transmission. "Social distancing" applies to every situation in which physical barriers are created between people to block transmission modes. Examples include staying at home or being banned from school or work during the contagious period of a disease;[95] suspension of public gatherings (e.g. public transportation, parades); border closures; temporarily closing schools or businesses (e.g. factories, hotels, swimming pools);[96] quarantine; and isolation.[97] Isolation is the confinement of individuals known to be infected, while quarantine is the confinement of individuals who have been exposed, or potentially exposed, to an infectious disease; waiting occurs until the potential contagious period is over.[98] The terms are sometimes used to refer to *mandated* social distancing,[99] but this connection is not necessary.[100] Quarantine is often combined with medical oversight to establish whether a person develops symptoms of disease. Isolation may be combined with treatment, when available.

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[92] In Dutch: Rijksvaccinatieprogramma (RVP).

[93] "Ring vaccination" is the immunisation of susceptible individuals in a geographical area around an outbreak.

[94] (Hogerwerf et al. 2011).

[95] "Self-shielding" is when people voluntarily stay at home to avoid exposure to pathogens (Battin et al. 2009, 375).

[96] See e.g. (Battin et al. 2009, 351).

[97] Social distancing is sometimes regarded as an *alternative* to quarantine or isolation. See e.g. (Nuffield Council on Bioethics 2007, 72); (Gostin 2008, 445–446); (Battin et al. 2009, 351–358).

[98] There are many forms of isolation and quarantine, depending on where (groups of) individuals are confined. See (Gostin 2008, 429–436) and (Last 2002) for examples.

[99] Cf. (Gostin 2008, 432); (Nuffield Council on Bioethics 2007, 72).

[100] See Chapters 4 and 5 for an example in which (mandatory) home isolation was considered.

1.3.5. Treatment

If a person is infected and/or ill, s/he may need medical treatment. Treatment may also prevent further infection. Examples of treatment include antibiotics (e.g. for tuberculosis) and antiviral therapy (e.g. for influenza).[101] The number of effective medical options may differ per infectious disease, if they are available at all. For some diseases the efficacy of medical treatment may decline as a result of drug resistance (e.g. MRSA, XDR-tuberculosis).[102]

1.3.6. Surveillance

Effective infectious disease control requires accurate knowledge about potential health threats. Options to acquire such knowledge can be grouped as either entailing broad surveillance or case-specific surveillance.[103]

Broad surveillance is an integral part of the protection of population health. It involves the systematic collection, analysis, and interpretation of anonymous aggregate data about the incidence and prevalence of infectious diseases. This information can be used to map trends and identify emerging strains and novel pathogens, to identify groups who are at risk of specific infections, and to devise strategies for preventing and controlling outbreaks.

The aim of *case-specific* surveillance is to detect cases of potential infection that may require intervention. Examples include notification of individual cases to the relevant authorities; tracing sources and their contacts; screening and testing; and outbreak investigations. A key element of surveillance is the notification of individual cases to the relevant authorities. For instance, in the Netherlands doctors are obliged – in many cases of confirmed or suspected infection – to provide the Municipal Health Service (MHS) within 24 hours with the following information about a person: name, address, sex, date of birth, social security number, place of residence, first sick day, vaccination status, the use of chemoprophylaxis, and whether the person or someone in his/her direct environment is involved professionally in preparing food or drinks,

[101] Medical treatment is not always needed. Healthy people may recover on their own from an infectious disease, e.g. the common cold. This is different for immune-compromised persons who may need treatment to recover from diseases which are otherwise relatively mild.

[102] XDR-tuberculosis is extensively drug-resistant. For MRSA see note 43.

[103] (Nuffield Council on Bioethics 2007, 63–66). Cf. (Gostin 2008, 290); (Verweij 2011, 103).

or in treating, nursing or caring for other persons.[104] *Source-* and *contact-tracing* involve determining who or what the source in a series of transmissions is and mapping all contacts of someone who has a confirmed infection.[105] Contact-tracing may involve mobilising whole communities to test family members, neighbours, colleagues or classmates, or warning the public that everyone who has been at a specific place at a specific time should report to the health authorities and have themselves tested.[106] *Screening* involves the systematic application of a (medical) test to a defined population and is undertaken for public health purposes, such as identifying previously unknown or unrecognised conditions in apparently healthy or asymptomatic persons.[107] Screening can be offered incidentally or on a routine basis,[108] and can in principle take place anywhere, at any time, including at airports and sea ports for the screening of travellers.[109] Screening should be distinguished from testing. *Testing* refers to a medical procedure that determines the presence or absence of disease, or its precursor, in an individual patient. Individuals are often selected for testing because of a history of risk or clinical symptoms. Typically, medical testing is administered for diagnostic or clinical purposes.

If occurrence of a disease exceeds what would normally be expected in a specific community, geographical area, and time (season), this is called an "outbreak". Outbreaks may extend over several countries, or even large parts of the world. Epidemics are outbreaks that are widely disseminated in time and space, such as the cholera epidemic in London during the mid-1800s and the 2003 SARS outbreak in Southeast Asia.[110] Pandemics spread globally and may persist for months, years, or even decades.[111] Examples include the bubonic plague in the Middle

[104] (Wet publieke gezondheid, sections 21–29).

[105] "Partner notification" is the informing of sexual contacts, and can be done by infected patients themselves ("patient referral") or by trained public health personnel who can also offer counselling and treatment ("provider referral") (Gostin 2008, 302–304).

[106] (Verweij 2011, 104). See (Krom 2013) for a discussion of the use of Facebook for contact-tracing.

[107] (Gostin 2008, 396).

[108] For instance, in the Netherlands and many other countries pregnant women are tested for HIV and hepatitis B on a routine basis. Similar practices exist for other diseases, including tuberculosis (Verweij 2011, 103).

[109] During the SARS outbreak in 2003, countries required inbound and outbound airport passengers to have their bodily temperature taken, with the aim of detecting those infected and to stop further spread of the disease (Verweij 2011, 103–104).

[110] When SARS also spread to Germany and Canada the epidemic turned into a pandemic. See note 111.

[111] Member States of the World Health Organization (WHO) are grouped into six WHO regions: the African Region, the Region of the Americas, the Eastern Mediterranean Region, the European Region, the South-East Asia Region and the Western Pacific Region. The WHO distinguishes six phases concerning the spread of a disease. A "pandemic"

Ages, influenza in 1918-1919, AIDS in the 20th and 21st centuries,[112] and Mexican Flu in 2009.[113] Investigations of outbreaks may involve all of the measures discussed in this section, applied on a global scale.

To summarise, we have discussed the ways in which infectious diseases can spread (§1.1), the roles that individuals can play in spreading disease (§1.2), and common measures to prevent this from happening (§1.3). After discussing some general issues concerning the harm principle in the next section, we will be able to determine more precisely what a version of the harm principle must look like in order for it to be possible to morally justify common measures in infectious disease control on harm principle grounds (§1.4). The discussion so far shows that infectious diseases, as well as measures to *control* infectious diseases, may drastically affect and restrict communal and private life. Such interventions require well-founded moral arguments. Can the harm principle provide the required justification?

1.4. The harm principle

Roughly, the harm principle entails that it is justified to restrict the liberty of individuals to prevent harm to others. One of the functions of the harm principle, then, is to justify coercion – the harm principle is commonly regarded as a liberty-restricting principle. However, in liberal theories the primary function of the harm principle is to *protect* liberty – coercion's counterpart.[114] The idea is that, other things being equal, individuals are free to do as they please *except* when this results in harm to others. It was indicated in the Introduction that there are several versions of the harm principle, which have different scopes and which are justified differently. The idea of employing 'the' harm principle as a moral justification of infectious disease control, then, requires additional reflection. Reflection is required on the concept of

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entails sustained community-level outbreaks in at least two countries in one WHO region, and at least one country in another WHO region (WHO 2009, 25–26).

[112] (Lescano, Montgomery, and Blazes 2010, 193).

[113] There has been discussion about the WHO's role in the 2009 pandemic of the Mexican Flu, especially about the WHO supposedly removing references to the severity of a pathogen from the definition of a pandemic (high morbidity and high mortality) to lower the standard for producing vaccines, thereby succumbing to pressure from pharmaceutical companies (the disease turned out to be relatively mild). According to the WHO the severity of diseases was never part of the formal definition of a pandemic. See e.g. (Doshi 2011).

[114] For example, (Mill 2003, 81) talks about the Liberty Principle.

"harming others" specifically, on which version of the harm principle we should employ, and on how this version of the harm itself can be morally justified. Without such reflection it is unclear (i) how 'the' harm principle – the central argument in Dutch infectious disease control policy – should be able to provide normative guidance to infectious disease professionals, and (ii) how we are to determine whether specific infectious disease control measures that are justified by referring to the harm principle are in fact justified.

Some versions of the harm principle have a function that is additional to protecting liberty and justifying coercion, namely to limit what counts as a legitimate reason for coercion to begin with.[115] For instance, the "extreme liberal position" (libertarianism) entails that preventing harm to others is the *only* legitimate reason for coercion. Other positions allow for a broader range of reasons. An example of this is the "liberal position", according to which (preventing) offence to others is a legitimate reason for coercion as well.[116] Note that if a preventive measure in infectious disease control cannot be justified on harm principle grounds, it may still be supported by other liberty-limiting principles.

If one of the functions of the harm principle is to justify coercion, does this mean that the principle is *irrelevant* for the justification of public health measures that do not restrict liberty?[117] Not necessarily. Public health activities are commonly initiated by health professionals.[118] We could, then, distinguish between offering public health measures and executing them. Even if the *execution* of measures that do not restrict liberty can be morally justified by, for example, principles pertaining to autonomy or self-determination (however conceived), this leaves open the possibility that these measures are *offered*, not primarily because of some good this may do for those to whom these measures are offered, but in order to prevent harm to others.

Let us now turn from the functions of the harm principle to the main elements of the principle itself – particularly to whom or what these elements could apply. This will give us our first indication of the potential scope of the harm principle.

[115] I presented this as a function of the harm principle *in general* in (Krom 2011a, 438).

[116] See e.g. (Feinberg 1984, 26–27).

[117] What constitutes a liberty restriction is discussed in Chapter 4.

[118] Cf. §3.2.

Appealing to the harm principle always involves a relationship between three or four parties: someone coercing another party (A), someone who may be coerced (B), someone displaying harmful agency (C), and someone who may be harmed (D).[119] It is not necessarily required that the party who may be coerced to prevent harm to others (B) is identical to the party displaying harmful agency (C). This is only required by an *agent-centred* version of the harm principle. On an *agent-neutral* version of the harm principle, it can be justified to coerce someone who does not display harmful agency to prevent the harmful agency of others.[120] Here, B and C refer to different parties. Let us briefly examine the scope of the different placeholders.

It is generally held that if anyone is allowed to use coercion (A), it is the state. This is connected to, for example, thoughts about the state's monopoly to use violence or force. Some formulations of the harm principle, however, leave room for a broader interpretation of who may coerce individuals to prevent harm to others. For instance, in *On Liberty* John Stuart Mill writes that:

> The object of this Essay is to assert one very simple principle, as entitled to govern absolutely the dealings of society with the individual in the way of compulsion and control, whether the means used be physical force in the form of legal penalties, or the moral coercion of public opinion ... the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number is self-protection. That the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. [121]

Clearly, 'moral coercion of *public opinion*' entails a broader interpretation of who may coerce individuals to prevent harm to others than just 'the state'. The same holds for the statement that '*mankind* are warranted, individually or collectively, in interfering with the liberty of action of any of their number' for self-protection and for Mill's claim that his proposed principle is to 'govern absolutely the dealings of *society* with the individual in the way of compulsion and control'.

[119] Placeholders A–D can refer to several individuals.

[120] (Holtug 2002, 360).

[121] (Mill 2003, 80). Mill employed an agent-centred version of the harm principle: 'the conduct from which it is desired to deter him, must be calculated to produce evil to some one else.'

This study focuses on potential liberty restrictions by *public health officials*, who are typically representatives of the state. For these purposes, a narrow understanding of who may coerce individuals to prevent harm to others suffices.[122] However, we can imagine that when there is a pandemic, 'the public' will exercise moral pressure on those who pose a risk of infecting others. To the extent that such moral pressure is coercive,[123] a broader understanding of (A) would be required to justify such pressure by appealing to the harm principle.

Typically, the harm principle is used vis-à-vis *persons* (placeholders B and C).[124] Obviously, for the harm principle to be applicable to the context of infectious disease control as a public health issue, our concept of harm must be such that *human beings* suffering the consequences of contracting a contagious disease constitutes harm in the relevant sense (D). This need not just involve impersonal relations between human beings that do not know each other. I have argued elsewhere that, for example, the relationship between parents and children can be conceptualised along the lines of the harm principle as well.[125]

We should not forget *animals*, however. Theoretically, animals can appear in harm to others arguments in several ways, for instance as harming others when spreading disease to fellow animals or human beings (C) or as being harmed by fellow animals when infected by them (D). Another option would be to hold that animal-keepers harm others if diseases are spread from the kept animals to fellow animals or to human beings.

This brief discussion provides a first indication of the possible scope of the harm principle. We have seen which conditions must be fulfilled for an infection to occur (the Chain of Infection) and what roles individuals can play in spreading infectious diseases (the Situations of Contagion). In the next paragraphs, I will examine how this connects to ideas about "harm" and "harming". These connections are necessary for the justification of common measures to break the Chain of Infection by appealing to the harm principle to work. I will explore "harm" as a parallel to

[122] In the Netherlands non-state actors too, such as general practitioners and employers, are (legally) required to take measures aimed at preventing infectious diseases from spreading. For that to be justifiable by appealing to the harm principle our interpretation of A (i.e. of who is justified in coercing individuals to prevent harm to others) should be broader than 'the state'.

[123] Different theories of coercion are discussed in Chapter 4.

[124] Sometimes this is because of the limitations set by the specific context of examination. This is, for instance, the case in Feinberg's four-volume discussion of the moral limits of the criminal law (pertaining to *human beings*).

[125] This does not necessarily imply that the state should force parents to have their children vaccinated, especially if vaccination itself may involve risks of severe side-effects (Krom 2011b).

"infection" (both refer to states of affairs) and "harming" as a parallel to the Situations of Contagion (both involve agency).

1.4.1. Harm as a parallel to infection

It is generally acknowledged that bodily injuries are covered by the harm principle.[126] A straightforward way of connecting infectious diseases to the harm principle, then, would be to focus on bodily injuries that contagious diseases can cause. The physical damage that infectious diseases may cause is one of the reasons why the harm principle is relevant for infectious disease control. But our concept of harm must at least be broader than *actual* bodily injury in order to successfully justify all common measures in infectious disease control by appealing to the harm principle. This is because while transmission of a pathogen to a susceptible host will necessarily result in an infection, infection does not necessarily equal disease. Indeed, the more we move back in the Chain of Infection,[127] the less certain it is that actual bodily harm will actually occur – since at each previous 'moment' in the Chain of Infection more conditions have to be met for an infection to occur. At each stage, there is *risk* of bodily harm, but no actual bodily harm yet. This has implications for the type of harm principle required to justify common measures to break the Chain of Infection. In the harm literature a distinction is made between "ex ante" versions of the harm principle and "ex post" versions of the harm principle. The main difference seems to be whether the harm principle allows for a level of uncertainty regarding the occurrence of actual harm.[128] An ex post version requires that actual harm to others would have been prevented or that certain harm to others will be prevented. But on an ex ante version of the harm principle, coercion may be justified to prevent or reduce *risk* to others. This means we need an ex ante version of the harm principle to be able to morally justify measures that aim to break the Chain of Infection.

[126] See e.g. (Ten 1980, 52 and references).

[127] See §1.1.

[128] Ex ante literally means 'before the fact', ex post 'after the fact'. These terms, then, are somewhat misleading in connection to the harm principle. This is because both ex post and ex ante versions of the harm principle allow for coercive interventions to *prevent* harm to others, i.e. *before the fact* of harm to others. Cf. (Holtug 2002, 359–360).

1.4.2. Harming as a parallel to Situations of Contagion

Harming refers to harmful agency. Joel Feinberg, at the very start of his book-length analysis of the harm principle, discusses the meaning of the term "harming" as referring to an act which causes harm to people or has the tendency to cause harmed states in people.[129] The latter is consistent with an ex ante version of the harm principle, revolving around the prevention of risk to others.[130] If we bracket the issue of causation for the moment (more on this below), we can establish that there is a clear parallel between the concept of harming as involving agency and our Situations of Contagion. By referring to the different roles that individuals can play in spreading infectious diseases, the Situations of Contagion involve agency as well.

To justify preventive measures in all Situations of Contagion (SoCs) by appealing to the harm principle, the SoCs must fall within the scope of the harm principle. What must the harm principle look like for this to be the case? I will discuss two versions of the harm principle: Harm Principle 1 (HP_1) and Harm Principle 2 (HP_2). I will argue that justifying all common measures in *all* SoCs on harm principle grounds would require appealing to HP_2.

HP_1 reads:

> It is justified to restrict the liberty of person A to prevent A from *causing* harm to B.

HP_2, in turn, reads:

> It is justified to restrict the liberty of person A to prevent harm to B.[131]

In both formulations of the harm principle, "person A" refers to an identifiable member of the public. It is he or she whose liberty may be restricted. In both cases, too, "B" refers to anyone who may be infected. This *could* involve identifiable persons, for instance if the contagious disease can only be transferred sexually. But it can also involve unidentifiable members in a

[129] (Feinberg 1984, 31). Note that this definition of "harming" still leaves open the question of what constitutes "harm". At this point I am not concerned with Feinberg's concept of "harm".

[130] It might also rule out one way in which animals can appear in harm principle arguments – namely as harming others *themselves*. This is ruled out insofar as the concept of agency does not apply to animals. Cf. §1.4.

[131] Both versions of the harm principle are discussed in (Verweij 2011).

population, for instance in cases involving diseases that can spread easily via different modes of transmission.

The key difference between our two versions of the harm principle is whether the person from whom the threatened harm originates must be *identical* to the person whose liberty is restricted. Let me explain. HP_1 entails that it is person A who causes harm to B, and that it is justified to restrict the liberty of person A to prevent this from happening. HP_1, then, requires that the person from whom the threatened harm originates and the person whose liberty is restricted are identical: both must refer to person A. Such a version of the harm principle is "origin-centred" (person A being the origin of the threatened harm) and aims to prevent "harmful conduct" (person A causing harm to B).[132] HP_2, on the other hand, entails that it is justified to restrict the liberty of person A to prevent harm to B. HP_2 does not specify that person A must be the origin of the threatened harm to B for the restriction of A's liberty to be justified. All that is required by HP_2 is that restricting A's liberty can prevent harm to B. This *may* involve A being the origin of the threatened harm to B. But HP_2 also leaves open the possibility that person A is forced to prevent the harmful conduct of others to prevent harm to B. An example of this would be forcing parents to prevent the conduct of their children that threatens to harm B. In this example, the children's conduct is the *origin* of the threatened harm to B. By allowing that the liberty of the parents (A) is restricted to prevent harm to B, HP_2 is "origin-neutral". Contrary to HP_1, it aims not (just) to prevent harmful conduct, but at "general harm prevention".[133]

Several authors have argued that the harm principle cannot justify *liberty-restrictive* interventions in specific SoCs.[134] For instance, it has been argued that the harm principle cannot generally justify restricting the liberty of people who are not contagious yet (SoC_1),[135] and that it does not support specific interventions such as tacit consent for vaccination policies in nursing homes.[136] This may be correct. My main aim in this section, however, is not so much to determine whether *specific* preventive measures can be justified on harm principle grounds in different

[132] See e.g. (Holtug 2002, 360); (Lyons 1997, 120). Cf. §1.4.

[133] Ibid.

[134] Mentioned authors do not all refer to the exact same version of the harm principle.

[135] See e.g. (Jennings 2007, 34).

[136] See e.g. (Verweij 2001, 540–541).

SoCs. The aim is to establish whether the different Situations of Contagion fall within the scope of HP_1 or require an appeal to HP_2.

In examining the scope of HP_1, we must distinguish between moralised and non-moralised accounts of "causing harm". HP_1 requires that person A *causes* harm to B for the restriction of A's liberty to be justified. But "causing harm" can be understood both in a moralised and a non-moralised way. Moralised accounts of causing harm make the question of whether *x* is a (relevant) causal factor dependent on prior normative judgements. This involves "attributive judgements" that highlight specific causal factors as 'the' cause.[137] On a non-moralised account of causation, we just look at what factors contribute to an infection risk *empirically*, regardless of any normative reasons a person may have to take precautions.[138]

A non-moralised account of causing harm

Does a non-moralised HP_1 cover all SoCs? A crucial difference between SoC_1 and $SoC_{2\text{-}5}$ is that a person in SoC_1 is not contagious. $SoC_{2\text{-}5}$ all involve persons who are contagious. At least in $SoC_{2\text{-}5}$, then, it is not difficult to argue that person A causes harm/risk to others. By not taking precautions against infection risks, person A can play a causal role in connecting elements from the Chain of Infection. It is true that even deliberately sneezing in another person's face while being contagious does not necessarily result in an infection. For an infection to occur, the other person must be *susceptible* to the pathogen involved. Whether person B is susceptible to the pathogen is contingent. Indeed, the entire Chain of Infection contains contingencies: each of the elements represents a condition that must be fulfilled for an infection to occur. Hence, whether or not the role we play in connecting some of the elements of the Chain of Infection will actually result in an infection is contingent. Still, on an ex ante version of the harm principle – one that revolves around preventing or reducing risk to others – it could be said that by playing a causal role in connecting elements from the Chain of Infection, we do increase the *chance* that harm of a certain magnitude will actually occur. Hence, $SoC_{2\text{-}5}$ are within the scope of a non-moralised HP_1.

[137] See e.g. (Feinberg 1984, 124) on the concept of attributive judgements. Cf. (Yoder 2002). In arguing that causal responsibility is a *decision*, not just a discovery, Yoder seems to employ a moralised account of causation.

[138] Cf. (Hart and Honoré 2002, 69).

What about SoC_1? Again, the key difference between $SoC_{2\text{-}5}$ and SoC_1 is that a person in SoC_1 is *not contagious*. Hence, by not being contagious, a person who does not take precautions against infection risks at least does not pose a direct threat to others. Not having taken preventive measures, person A may of course *contract* a disease himself and – once contagious – s/he could pose a direct threat to others.[139] At best, then, a person in SoC_1 can play an *indirect* role in connecting elements from the Chain of Infection. Contracting a disease does involve connecting elements from the Chain of Infection. In the first instance this constitutes potential harm to *self*. At the same time, however, it increases the chance that, in the end, others are infected as well. For this reason, SoC_1 is arguably covered by a non-moralised HP_1 as well.

This does not necessarily mean, however, that all common measures in SoC_1 can by justified by appealing to a non-moralised HP_1. Consider another contingency involved in whether an infection occurs – the dependency on what others do. Mass vaccination programmes are illustrative. Whether HP_1 can justify participation in vaccination programmes depends, among other things, on how we should interpret so-called cooperation requirements. The success of mass vaccination programmes depends on the number of people that cooperate (get vaccinated). Individuals who get vaccinated generally benefit from a vaccine themselves. But even people who are not vaccinated might benefit; if enough people who are vaccinated surround them, the chance of them contracting the disease is greatly reduced. This is called "herd protection".[140] In sum, to attain herd protection mass vaccination programmes require collective cooperation.[141] It has been argued that cooperation requirements are excluded by versions of the harm principle that aim to prevent harmful *conduct* (like HP_1). This is because in these cases the prevention of harm is 'more a function of the requirements themselves or the patterns of behaviour they create'. The required acts 'would not normally be credited, at least not in [a] direct way, with preventing harm'.[142] I think this is correct. On this view, cooperation requirements call for a principle aimed at *general* harm prevention, like HP_2: 'It is justified to restrict the liberty of person A to prevent harm to others.'

[139] If that were to happen we would no longer be in SoC_1 but in one of the other SoCs. Which SoC depends on what helps explain that the person does not take (further) preventive measures against infection risks

[140] (Dawson 2007, 162 note 24).

[141] Dawson argues that at least with regard to some infectious diseases we have an obligation to get vaccinated to attain herd protection. This *may* justify legal compulsion (Dawson 2007, 170–171, 167 note 14).

[142] (Lyons 1997, 120–121).

Of course, HP_1 not being able to justify liberty-restrictive interventions in all SoCs is only problematic if we think that such interventions *should* be allowed and if we expect that such justification can only come from the harm principle.[143] Many countries do not allow mandatory (mass) vaccination. But most, if not all, countries accept another cooperation requirement in SoC_1: mandatory collection of (non-anonymous) health information about individuals.[144] This has implications for informational privacy – hence raises liberty concerns – and may serve as a basis for further interventions to protect population health. I submit that refusing to provide such information *as such* cannot adequately be interpreted as *causing* harm to others. This is not to say that requiring the information cannot play a role in preventing harm to others. The point is that commanding the information cannot be justified by an appeal to a principle aimed at preventing harmful conduct (like HP_1), but requires an appeal to HP_2, which aims at general harm prevention.

Contrary to HP_1, HP_2 does not require that the person from whom the threatened harm originates is identical to the person whose liberty is restricted. Because of this, HP_2 can support just about every compulsory measure, including interventions aimed at healthy people (SoC_1), such as mandatory child vaccination against seasonal influenza to reduce mortality among the elderly, and mandatory collection of (non-anonymous) health information about individuals. An origin-neutral harm principle would also allow the state to coerce a person to prevent the harmful conduct of *others*.[145] This would allow the state to interfere with a person's conduct even when the conduct does not cause harm to others, if such interference will prevent harm to others.[146]

In sum: a non-moralised version of HP_1 covers all Situations of Contagion, but cannot support all common measures in all SoCs. What about a *moralised* version of HP_1?

[143] Cf. Introduction.

[144] Notification duties are an important part of the International Health Regulations (IHR) of the World Health Organization (WHO 2005, section 6). The 2009 Dutch Public Health Act was drafted mainly to comply with the IHR (Kamerstukken II 2007/08, 31 316, nr. 3, 1).

[145] (Holtug 2002, 360).

[146] Cf. (Ten 1980, 61). (Beauchamp and Steinbock 1999, 99) might thus have a general harm prevention principle in mind when they state that communitarianism justifies liberty-limiting interventions on harm principle grounds. Cf. §3.4.2.

A moralised account of causing harm

Often there will be many other causal factors involved in certain negative effects that ensue, besides what one specific individual does or omits to do. Moralised accounts of causing harm make the question of whether *x* is a (relevant) causal factor dependent on prior normative judgements. To stay within the scope of a harmful conduct-prevention principle (like HP_1) we must highlight *human* causality. On a moralised account of causing harm we need normative arguments for this.[147] I will argue that this may result in HP_1 having a different scope, depending on whether we employ a moralised or a non-moralised account of causing harm. What follows will explain why. For an infection to occur, several necessary conditions must be met. Even if we play a causal role in fulfilling one of these conditions, it is still contingent whether the remaining necessary conditions will be fulfilled. Highlighting human causality as 'the' cause in such a constellation of causal factors is an "attributive judgement": it is attributed that the person is 'the' cause.

Attributive judgements might not be problematic if the harm to others is relatively immediate, such as in intentionally infecting others with a contagious disease (SoC_5). However, attributive judgements become more controversial the more *remote* the harm in question is. "Remote harms" refer to risks that involve certain kinds of contingencies,[148] such as the ones involved in the Chain of Infection. Generally, then, while SoC_5 may be a clear case of causing harm to others on a moralised account of causing harm as well,[149] attributive judgements may become more controversial the closer we get to SoC_1. Recall that the difference between $SoC_{2\text{-}5}$ lies in what helps to explain why the contagious person does not take precautions against further infection risks: not having any symptoms (SoC_2), not realising that one's symptoms are signs of a contagious disease (SoC_3), forgetfulness or otherwise acting carelessly (SoC_4), or wanting to infect others (SoC_5). For all intents and purposes, these differences could be taken as potentially

[147] (Feinberg 1984, esp. 176–179).

[148] (Hirsch 1996, esp. 263–269).

[149] Admittedly, it is possible for a normative theory to support the position that there are strong moral reasons to willingly and knowingly infect others with a serious contagious disease ("bioterrorism"). I do not discuss such theories in this study (cf. §2.3). But suppose that normative theories that can support bioterrorism are at least minimally plausible, implying that in principle we should reckon with these theories in moral deliberation (see §2.3.3). In that case the mid-level approach examined and defended in this study, would still be able to filter out such normative conclusions – if it can be shown that a selection of normative theories that are (also) at least minimally plausible cannot converge on such normative conclusions. This point is made more generally in §5.3.

providing normative reasons for not highlighting human causality. We could, for instance, hold that forgetting to take precautions while we know we are contagious (SoC_4) is *only* properly regarded as causing harm/risk to others if we have reason to hold that we should have taken precautions in that situation.[150] Or we could hold that it is problematic to consider a person in SoC_1 as 'the' cause (or even *a* cause) of risk/harm to others before s/he is contagious.[151]

The above examination shows that HP_1 may have a different scope, depending on whether we employ a moralised or a non-moralised account of causing harm. If we were to employ a moralised account of harm, an additional reason might be given for why not participating in vaccination programmes should not be regarded as *causing* harm/risk to others.[152] Suppose that person A and B are both in SoC_1, that both have the option of taking a vaccine, and that both choose to forego vaccination. Suppose further that person A contracts a disease and spreads it to person B. Now, if we allow normative reasons into our concept of causing harm, we could ask, why should B contracting a disease via A be conceptualised as person A *causing* harm to B, when B chose to forego vaccination (or someone else did on his behalf)?[153] This is not to deny that there are several reasons for putting the possibility of people voluntarily choosing to get vaccinated or not in perspective. For instance, even if all parents would choose to have their children vaccinated, child immunisation typically starts when a child is a couple of months old (in the meantime children may be at risk). Moreover, not everyone *can* be vaccinated (for instance for medical reasons), vaccines generally do not provide 100% protection, and may in some individual cases even fail completely. Surely, those who, for whatever reason, cannot be vaccinated can be harmed by contagious diseases.[154] Still, requiring that people participate in vaccination programmes requires a version of the harm principle that is aimed at general harm prevention (such as HP2).

[150] Cf. §1.2 on moral responsibility and §3.5 on potential duties to not infect others.

[151] Note that SoC_1 adds yet another contingency to those already entailed in the Chain of Infection: *if* and *only if* person A in SoC_1 contracts a disease, *and* the pathogen is able to exit the relevant portal of exit, *and* the pathogen is transmitted in the required way, *and* the pathogen enters the relevant portal of entry of person B, *and* person B is susceptible to the pathogen, *only then* will person B be infected.

[152] The other reason is that in these cases the prevention of harm is more a function of the requirements themselves or the patterns of behaviour they create, than a matter of preventing *harmful conduct*.

[153] Cf. the brief discussion of the Volenti principle in §3.4.1.

[154] Cf. (Dawson 2007).

In conclusion, whether HP_1 covers all Situations of Contagion if we were to employ a moralised account of causation (where something or someone being a cause or not depends on prior normative considerations) depends on whether we can provide normative reasons for why individuals ought to take certain precautions in these SoCs. HP_1 employing a non-moralised account of causation (where something or someone being a cause or not does not depend on prior normative considerations) seems to cover all Situations of Causation, but it may be doubted that justifying certain cooperation requirements, such as (mandatory) participation in mass vaccination programmes and the mandatory collection of (non-anonymous) health information about individuals, falls within the scope of HP_1. Morally justifying such measures on harm principle grounds requires appealing to a broader version of the harm principle, such as HP_2, which aims at general harm prevention.

1.5. Putting the use of coercion in perspective

This study focuses on the justification of liberty restrictions in infectious disease control. But an ethical analysis of infectious disease control is not just about the use of coercion; it also raises other normative issues. In the final section of this chapter I will introduce some of the additional ethical issues in infectious disease control to put the focus on coercion in perspective.

Case discussions

In order to promote normative argumentation in infectious disease control practice, a series of interdisciplinary case discussions was set up in collaboration with the Centre for Infectious Disease Control (CIb) at the National Institute for Public Health and the Environment (RIVM) and several Municipal Health Services (MHS). The rationale behind the case discussions was not that normative argumentation does not take place at the CIb and the MHS. On the contrary, the idea was that normative argumentation is central to the practice of infectious disease control, but will probably remain implicit. Assuming that making normative arguments *explicit* can support responsible decision-making, one function of the case discussions was to train public health professionals in making normative arguments explicit and to (more) systematically weigh different normative considerations in arriving at a conclusion about what may or ought to be done

in specific cases of infectious disease control. Table 1 summarises the retrospective case discussions and what was considered to be the moral problem in each particular case.

Some of the case discussions – particularly the "Entrepreneur" case – will be used throughout this study (1) to reflect on theoretical issues related to the moral justification of infectious disease control on harm principle grounds, and (2) to examine what practical implications these theoretical considerations might have for determining what may or ought to be done in actual cases of infectious disease control. After a brief presentation of the cases, the cases will be used to illustrate some of the additional ethical issues in infectious disease control besides restricting liberty.[155]

[155] Annex 1: Case discussions contains the original articles (in Dutch) that were based on the case discussions. The selection of cases is defended in Annex 2: Case selection – methodology.

Table 1: The moral problem in the retrospective case discussions

Case	Description	Moral problem
Anthroposophic school	The younger brother of a girl who tested positive for measles may be infected as well. Both attend the same anthroposophic school.	*Can it be justified to ban the younger brother from the school during the incubation period to prevent transmitting the disease to others?*
Call girl	A man who regularly orders the same call girl tested positive for hepatitis B.	*Should the MHS contact the escort service to inform them that one of their employees might be infected and pose a risk to other clients?*
Cats at the airport	A customs employee is bitten and scratched by kittens from Egypt that may have rabies. The employee refuses prophylactic treatment because she is pregnant.	*Should the kittens be killed and tested for rabies, in order to know whether insisting on treatment is necessary?*
Day care	A pregnant woman is anxious because several children at the day care centre at which she volunteers have spots that may be a sign of parvovirus that could have severe effects on the unborn child. Treatment is not available.	*Can it be justified to test the children, a test that will not benefit them, to comfort the woman?*
Entrepreneur	An entrepreneur who is about to close an important deal tested positive for New Influenza A – H1N1 – during the 2009 pandemic. Although he has recovered, it is unknown whether he and his partner can still infect others.	*Should the MHS advise the mayor to impose mandatory home isolation for 10 days?*
Group travel	The MHS learns that a man with shigellosis, which can lead to, for example, bloody diarrhoea and severe dehydration, was part of a group travelling to Thailand.	*Should the MHS contact all group members or is it their personal responsibility to take precautions if they get sick?*
Medical student	A medical student, who needs patient contact for his internship, remains a carrier of MRSA.	*Should the student be denied all patient contact, even if this means that he cannot finish med school?*
Medical tourist	A cancer patient prefers to return to a hotel with confirmed Legionellosis, which may be dangerous for immune-compromised patients.	*How far should health professionals go in protecting patients outside the hospital context?*
Plane crash	A Turkish airliner crashed just prior to landing at Schiphol airport. The MHS learns that passengers with open wounds had crawled over each other while exiting the plane.	*Should surviving travellers be offered post-exposition vaccination against hepatitis B?*

Infectious disease control raises a variety of ethical issues.[156] First, to protect or promote population health it may be necessary to apply *restrictions*, to coerce individuals, or to pressure them to cooperate – either in their working conditions, in the private sphere, at school, or in the

[156] This list is not meant to be exhaustive.

public domain. The “Entrepreneur” case and the “Anthroposophic school” case provide examples, involving mandatory home isolation and potentially banning a child from school respectively.

Privacy. Pressuring or forcing people affects their liberty. But their liberty may be at stake in another sense as well. Another ethical issue in infectious disease control is that interventions can potentially *violate people’s privacy*. The “Call girl” case provides an example. Typically, call girls use aliases to protect their identity. This may be compromised by the intervention under consideration. What weight should be given to privacy considerations in cases like this?

Well-being. A further issue is that public health interventions may result in the impairment of individual well-being. Surely, when restrictions are applied and when people are coerced or pressured into cooperation, this will negatively influence their well-being. The “Medical student” case provides an example. Denying him all patient contact would not only restrict his current options, but would also mean that he could not finish medical school and become a doctor. But well-being can be negatively influenced even in the absence of restrictions. Take the “Plane crash” case. One of the considerations was that the information about potentially being infected with hepatitis B may impair the well-being of surviving travellers even further.

Minor risks. The “Plane crash” case also provides a good example of two other ethical issues in infectious disease control: whether to *inform* people about potential exposure, and *how far we should go in ruling out risks*. Since every case of infectious disease control includes a risk assessment, the latter question is actually pertinent to every case in infectious disease control.

Reducing unrest. Preventing negative well-being can potentially play a role in arguments contra public health interventions, as was suggested above in connection with the “Plane crash” case. It may play a role on the other side of the equation as well, as a reason in favour of an intervention. Another ethical issue in infectious disease control is whether *preventing or reducing unrest* is an acceptable ground for intervening. This question was central to, for example, the “Day care” case. This topic is especially relevant in connection to justifications of public health interventions on harm principle grounds. The question is whether preventing unrest can be interpreted as preventing harm to others in the relevant sense.

Treatment for the sake of others. The “Day care” case also provides an example of another ethical issue: whether people may be *tested or treated* (purely) *for the sake of others*. One option in the case was to use blood tests to find out whether the children in the day care centre

had a disease that might put the unborn child at risk. The test would not benefit the children themselves.

Sacrificing animals. Instead of testing people for the sake of others, the issue in "Cats at the airport" was whether it can be justified to sacrifice animals to decrease the treatment of people. In this case, killing the cats would be an option to test whether the cat that had bitten and scratched the customs employee had rabies.

Division of responsibilities. This study focuses on the question of whether public health officials may coerce individuals, if need be, to prevent infection risks. But arguably, non-state actors may have specific (moral) responsibilities in this regard as well. This is relevant in all cases of infectious disease control, but was most explicitly addressed in the "Medical tourist" case and the "Group travel" case.

Scarcity. Still another ethical issue has to do with prioritisation in situations of scarcity. Since resources are never *un*limited, the issue of limited resources is relevant for each and every case of infectious disease control (at least to some extent). This issue was not explicitly addressed in the case discussions that were published. An example may be prioritisation of intensive care beds in the case of an influenza pandemic.

Infectious disease control can thus raise a variety of moral problems in daily practice. The question of how to justify liberty-limiting interventions is only one of many. Liberty restriction does not pertain to physical restrictions only, but includes, for example, the violation of (informational) privacy as well. The issue of whether coercion can be justified can arise in combination with some of the other moral problems that were mentioned. Deliberation of these moral tensions is inherent in the work of infectious disease specialists, though it will often remain implicit. One of the central ideas behind this study is that making the normative aspects of infectious disease control explicit and incorporating these in a systematic evaluation of specific cases can contribute to responsible decision-making in infectious disease control.

1.6. Conclusions

To prevent infection risks it may be necessary to restrict the liberty of individuals. Several arguments can be put forward to justify such preventive measures. One such argument is the harm principle, roughly the idea that the state may limit the liberty of individuals to prevent harm to others. The main aim of this chapter was to connect the context of infectious disease control to the literature on the harm principle. First it was explained what conditions need to be met for an infection to occur (The Chain of Infection, §1.1). It was argued that individuals can play roughly five roles in connecting the elements from the Chain of Infection (the Situations of Contagion). The resulting categorisation of SoCs is sensitive to different senses in which individuals can be responsible for posing infection risks to others (§1.2). I also discussed common measures to prevent this from happening (§1.3). Subsequently, I explored the notion of "harm" as a parallel to "infection", and argued that we need an ex ante version of the harm principle to cover all Situations of Contagion, i.e. a version of the harm principle that revolves around the prevention of infection *risks* (§1.4.1). Subsequently, I explored the notion of "harming" as a parallel to the roles that individuals can play in spreading contagious diseases (the SoCs). I distinguished two versions of the harm principle, HP_1 (focusing on harmful conduct prevention) and HP_2 (focusing on general harm prevention), and argued that if we employ a non-moralised account of "causing harm" then HP_1 covers all SoCs. However, it seems that at least some cooperation requirements cannot be conceptualised in terms of harmful conduct prevention (such as the mandatory collection of (non-anonymous) information on individuals and a requirement to participate in vaccination programmes). For that, we would seem to need HP_2. Whether HP_1 covers all Situations of Contagion on a moralised account of "causation" depends on whether there are normative reasons for thinking that individuals should take precautions against infection and transmission in specific circumstances (§1.4.2). Finally, to put the focus on coercion in perspective, I introduced some of the other ethical issues in infectious disease control via the case discussions that were organised as part of this project (§1.5).

2. Methodology

Professionals working in infectious disease control constantly have to make decisions about what, if anything, to do to prevent contagious diseases from spreading. Many of these decisions – perhaps all – have moral aspects.[157] In each of these cases, it is appropriate to ask: can a specific (in)action be morally justified? From an applied ethics perspective, a further question is: what normative sources can be appealed to in answering the practical moral question, *'What should I do?'* In many countries, including the Netherlands, there are legal provisions for infectious disease control. It was argued in the general introduction to this study that appeals to statutes and guidelines alone are not enough to morally justify specific interventions in infectious disease control, and that further normative argumentation is called for.[158] This study explores whether common interventions in infectious disease control (including liberty restrictions) can be morally justified by appealing to a *mid-level* harm principle, i.e. a version of the harm principle in which different normative theories converge.

Outline

This chapter explains and defends the general methodology of this study, and has four aims. The first aim is to introduce the functions that mid-level principles are supposed to fulfil. I will distinguish strong and weak versions of moral mid-level theorising, a distinction that allows me to qualify the status of the conclusions that can be drawn from this study (§2.1). A second aim is to establish that, at least from the perspective of *applied ethics*, the feasibility of a mid-level approach is worth examining (§2.2). Thirdly, I will specify some of the commitments that are *presupposed* by a mid-level approach to the harm principle in infectious disease control, which is important to map the potential strengths and weaknesses of such an approach (§2.3). Besides specifying my account of moral justification (§2.4), I will indicate the ways in which, in subsequent chapters, I will examine whether and to what extent the harm principle can function

[157] Some of the ethical issues in infectious disease control were outlined in §1.5. Also see §§3.2 and 3.3.

[158] See Introduction.

as a mid-level principle in infectious disease control (the fourth and final aim of this chapter). Concluding remarks can be found in §2.5.

2.1. Mid-level theorising

If forced to use as few words as possible to describe what mid-level theorising aims to do, 'building bridges' might be the best way to characterise it. Focusing on moral mid-level *principles*, there are several respects in which moral principles aim to provide bridges: between people with different backgrounds (§2.1.1), between normative theories (§2.1.2), and between theory and practice (§2.1.3).[159]

2.1.1. Shared terminology

First, a moral mid-level principle aims to enable people with different backgrounds and moral outlooks to talk about an issue in the same terms. Since contagious diseases can have serious health effects, all parties involved in infectious disease control, e.g. citizens, infectious disease professionals, public health policy-makers, and ethicists can relate to the idea of potentially spreading disease to others as "harming others".[160] The harm principle can function as a bridge by providing shared terminology. By itself, this does not imply that all parties will agree on "harming others" being the preferred terminology to talk about prevention of infection risks, or that they agree that potentially "harming others" can morally justify liberty restrictions. Shared terminology still leaves maximum room for disagreement, but at least it helps to specify the issues on which people may disagree.

[159] In bioethical debates the term "mid-level theory" is used to cover a wide variety of approaches. For instance, (Arras 2010) seems to use the term for a range of different methodologies that accept at least *a* justificatory role for moral principles (as opposed to "anti-theory") but which are theoretically more 'modest' than "high theory" (characterized as striving for 'the articulation of a theoretical system based upon a small number of abstract fundamental principles ... that they regard as the "keys" to understanding the moral or political life', such as Mill's principle of utility). See (Krom 2011a, 440–441) for the relation between my approach and the taxonomy of Arras.

[160] Cf. §§1.4.1 and 1.4.2.

2.1.2. Convergence between theories

Mid-level principles do not only aim to provide bridges between people with different backgrounds and roles (§2.1.1), but also *between theories*. It is disputed whether we need to appeal to normative theories in applied ethics, at least if normative theorising involves an image of moral justification as bringing actions or policies under various specified ethical principles or maxims.[161] I think it is inevitable to appeal to normative theory in applied ethics, in the sense that every attempt to sketch out how we are to determine what is morally right or wrong will soon take the form of a normative theory,[162] and also we expect one another to take a coherent perspective in normative argumentation. For the purposes of this study, I will use a rather general concept of what a normative theory is and what it is supposed to do. Following the ideas of Mark Timmons, we could say that normative theories have two aims: one practical, the other theoretical. Focusing on actions, the *practical* aim of normative theories is to provide systematic answers to very general questions about what to do.[163] Normative theories are supposed to help us determine the "deontic status" of actions, i.e. help us determine whether an action is morally wrong, optional, or obligatory.[164] The *theoretical* aim of normative theories is to discover the underlying features that make actions right or wrong, good or bad.

Normative theories fundamentally disagree about how we should determine what we ought to do. Recognising this, we may be tempted to move quickly from the practical normative question of what we ought to do, to determining which normative theory is correct. Indeed, to give another example, when *raising* the question of what a person is morally allowed or required to do, one possible reply is that the answer requires a meta-ethical discussion about what the concept of "morality" entails – for different theories do not necessarily concur on whether specific issues belong to the moral domain. These are just some examples of how we can go from applied ethics to meta ethics in the blink of an eye.

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[161] The account of moral justification employed in this study is outlined in §2.4.

[162] Though some variants of casuistry, narrative ethics, feminism, pragmatism, and particularism reject any justificatory role for "high theory" or mid-level principles, not all variants of these methodologies do so (Arras 2010 par. 4). See §2.3.2 on the relation between mid-level theorising and particularism.

[163] Cf. (Timmons 2002, 1). Instead of "moral theories" I talk about "normative theories" to cover both normative ethical and normative political theories.

[164] The category of morally optional actions can be further subdivided in actions that are allowed and actions that are supererogatory, i.e. commendable but not obligatory (Timmons 2002, 7–8).

The idea behind moral mid-level theorising is that it might not always be necessary to settle fundamental theoretical debates before we can engage in debates on a more practical level, such as determining what one is morally allowed or required to do. Bernard Gert provides an example of convergence that is relevant for the purposes of this study and that is related to different definitions of morality. Gert distinguishes between a descriptive and a normative definition of morality. *Descriptively*, "morality" refers to 'some codes of conduct put forward by a society or some other group, such as a religion, or accepted by an individual for her own behavior'. *Normatively*, the term "morality" refers to 'a code of conduct that, given specified conditions, would be put forward by all rational persons'. Crucial for our purposes is that, according to Gert, whatever the differences between these definitions, they share at least one important element, namely the moral importance of preventing harm to others.[165] If this is correct, then I would say that – apparently – different definitions of morality converge on the moral importance of preventing harm to others.[166] There is no need, then, to enter into meta-ethical debates about the concept of morality before we can enter into more practical normative debates about preventing harm to others.

Convergence on the moral importance of preventing harm to others is a crucial element for any version of the harm principle to function as a moral mid-level principle. But it is not enough. What is needed in addition is that different theories converge on the idea that preventing harm to others can be a legitimate reason to *restrict the liberty* of individuals. More precisely, what is needed is convergence between normative theories on a specific formulation of the harm principle. If two different normative theories can support the same version of the harm principle, then this version of the harm principle serves as a bridge between those theories. What this means is that if two people look at a specific situation through the lens of these two different normative theories, they will each be able to point out that what is morally relevant in that situation is to prevent harm to others and that it may be justified to restrict the liberty of a person to do so. The

[165] 'The only feature that the descriptive and normative senses of "morality" have in common is that they refer to guides to behavior that involve, at least in part, avoiding and preventing harm to some others' (Gert 2012, par. 2).

[166] This is not to suggest that the moral relevance of preventing harm to others is somehow included in the structure of a normative theory. To regard harm prevention as morally important is a *substantive* choice. I take Bernard Gert to suggest that this substantive choice is compatible with both definitions of morality.

function of "convergence" is the crucial element of mid-level theorising.[167] Suppose a third normative theory does not support any version of the harm principle at all. Does this threaten convergence? Not necessarily, for it may still be that this third theory is *consistent* with the version of the harm principle on which the other two theories converge, in the sense that it does not negate (i) that it is morally relevant to prevent harm to others, nor (ii) that it may be justified to restrict the liberty of a person to do so. Indeed, it is at least theoretically possible that all three theories can support moral judgements to the same effect, even if the first two theories may arrive at these judgements via the harm principle, while the third theory arrives at them via different moral considerations. In Chapter 1 an examination was made of what a version of the harm principle must look like in order for common measures in infectious disease control to be justifiable by appealing to it. In Chapters 3–5 an examination will be made of whether diverging normative theories can support (i) this version of the harm principle, and (ii) the same measures in concrete cases of infectious disease control.

Outline of a strategy

This study focuses on morality in the *normative* sense. Focusing on the harm principle, the question would then be: would a principle regulating the prevention of harm to others be put forward by all normative theories?[168] There is no room here to discuss all conceivable normative theories. Nor is it possible to discuss all potential cases in infectious disease control. My strategy will be to make two abstractions. First, instead of examining a large number of normative theories, I will discuss two pairs of normative theories that are commonly placed in opposition to each other on a fundamental level. Second, to manage the large number of potential cases, I will

[167] This corresponds roughly to what (Arras 2010, supplement) calls "convergence theories". Beauchamp and Childress' *Principles of Biomedical Ethics* is a prominent example of mid-level theorising in this sense. From the first edition on the authors claimed that different normative theories converge on the importance of four moral principles – autonomy, beneficence, nonmaleficence, and justice. From the third edition on the authors focused more on "common morality", which would support the same principles. In the 2009 edition Beauchamp and Childress have fully embraced a theory of common morality, entailing that if there are differences between the convergence that can be attained between normative theories, on the one hand, and common morality, on the other hand, common morality should prevail (Beauchamp and Childress 2009). I will return to this issue in §5.3.1.

[168] I take the idea of morality in the normative sense to entail that rationality is required for moral debate about specific normative commitments, not that those commitments themselves are necessarily rationally required. On that view theories such as Scanlonian contractualism (focusing on *reasonableness* instead of rationality in choosing moral principles to guide our behaviour) and divine command theories (deriving normative claims e.g. from the will of a deity) are also included as theories with a specific view on morality in the normative sense.

discuss a selection of cases that are representative of the context of infectious disease control.[169] By choosing widely diverging normative theories, I hope to make plausible that if the selection of theories can accommodate the justification of infectious disease control measures on harm principle grounds in all Situations of Contagion (SoCs),[170] this may hold for other relevant theories as well – that may differ *less* from our selection of theories than the selected theories among themselves. But which theories shall we choose?

How should we choose our selection of theories?

Normative theories can be categorised in different ways, and it is possible that two theories can turn out to be both quite similar and widely diverging – depending on the criterion or criteria that we use for our comparison. For instance, act-utilitarianism and rule-utilitarianism are both consequentialistic theories because they make what is morally right dependent on a non-moral good: both theories take a non-moral good (well-being) as a starting point for determining what is morally right (maximising the non-moral good of well-being).[171] As such, act-utilitarianism and rule-utilitarianism can be opposed to theories that do not consider what is morally right to be a function of a non-moral good, such as contractualist theories, which are non-consequentialistic. The fact that Scanlonian contractualism is a non-consequentialistic theory does not mean that consequences of actions or policies are morally irrelevant (that would be absurd).[172] The theory is non-consequentialistic in that what is morally right is determined by using a specific constraint on the selection of our moral principles and rules – namely whether they are acceptable to anyone who aims at finding principles and rules that no one can reasonably reject. There are numerous alternatives for categorising normative theories. For instance, it can be (i) based on whether morality is thought to be about categorically binding moral principles or about prima facie principles;[173] (ii) based on the specific method by which moral principles themselves are justified

[169] These cases have already been introduced in §1.5. See Annex 2: Case selection – methodology for the senses in which these cases are representative for the context of infectious disease control.

[170] See §§1.2 and 1.4.2.

[171] (Darwall 1998, 81–82). Comparing normative theories along these lines concerns the internal structure of theories, in this case how a theory of right conduct is related to a theory of value (Timmons 2002, 12).

[172] See §3.5.2 for the way in which consequences of actions are morally relevant in Scanlonian contractualism.

[173] See e.g. (Düwell 2006). Also see §2.2.

in different theories;[174] (iii) based on whether a normative theory presumes an ideal world ("ideal theory") or accomodates real world circumstances ("non-ideal theory");[175] or (iv) based on whether a theory adopts the view that having a moral conviction is necessarily tied to a motivation to act on that conviction ("moral internalism") or denies that such a connection is necessary ("moral externalism");[176] the list goes on and on.

Where does this leave us, if we are interested in the possibility of a mid-level harm principle in the context of infectious disease control? I see two ways in which we could proceed. We could just pick some normative theories that are different in terms of at least some standard(s), and leave it at that. This would make it necessary to strongly qualify our conclusions, since in that case the reader would be left without any reason to think that our choice of theories, and hence our examination of the possibility of a mid-level harm principle, covers much relevant terrain. Another option, and the one I will opt for, is trying to make plausible that some standards for comparing normative theories are perhaps particularly relevant given the focus of this study. I will employ two such criteria: the relationship between individuals and the state/society in a theory, and the distinction between consequentialist and non-consequentialist theories.

For the harm principle to be able to function as a mid-level principle, it is necessary that there is at least convergence between two normative *political* theories. This is because the harm principle pertains to the relationship between the state/society and individuals by entailing – roughly – that the state/society may legitimately restrict the liberty of some to prevent harm to others. And the relationship between the state/society and individuals is pre-eminently a political issue. Regarding this issue, libertarianism and communitarianism may be said to represent extreme views, with libertarianism being very individual-minded and communitarianism being very community-minded. In this study I will discuss the contrast between libertarianism and communitarianism as a proxy for a more elaborate set of normative political theories.[177] This axis is particularly relevant in the context of public health, where it is commonly accepted that it may be necessary to make trade-offs between individual concerns (e.g. liberty) and collective

[174] See §2.4.

[175] See e.g. (Rawls 1999, 8) for a distinction between strict compliance theories ("ideal theories") and partial compliance theories ("non-ideal theories").

[176] (Darwall 1998, 139–140).

[177] There is a discussion about the disctinctiveness of communitarian theory/theories. I will return to this issue in §3.4.2.

concerns (population health).[178] At least at first sight, we may expect rather different conclusions to be drawn concerning the justifiability of such trade-offs in infectious disease control, depending on whether we take a libertarian perspective or a communitarian perspective.

Our selection of normative theories would not be complete without giving attention to the relation between *individuals* as well. After all, the focus of this study is mainly on the possibility of individuals infecting other individuals. While the precise connection between normative political and normative ethical theories may be debated,[179] perhaps a *rough* division can be made by stipulating that the types of theories focus on different relationships: whereas normative political theories focus on the relation between the state/society and individuals, normative ethical theories pertain to the relation between individuals. Convergence between normative *ethical* theories might be relevant for the justification of infectious disease control measures as well. If it can be argued that individuals have a moral duty to not harm others, then perhaps the neglect of such a duty can provide additional support for interventions by the state on harm principle grounds.[180] A prominent contrast in normative theorising is the distinction between "consequentialist" and "non-consequentialist" theories. Central to consequentialist theories is the claim that normative properties depend only on consequences, e.g. that the moral rightness of an action is determined only by the consequences of that act or something related to that act.[181] Non-consequentialist theories deny that normative properties depend only on consequences, and typically hold that there is something about an action itself – for example it being a lie or a cruel action – that determines how we should morally evaluate an action, and that an action can be morally wrong even if it has good consequences. I will use the distinction between rule-utilitarianism and Scanlonian contractualism as a proxy for a more elaborate set of normative ethical theories across the consequentialism–non-consequentialism divide. Again, they represent a collectivist theory (rule-utilitarianism) and an individualistic theory (Scanlonian contractualism), and again, at least at first sight, we may expect rather different conclusions to be drawn from these perspectives regarding the justifiability of preventive measures against infection risks. This

[178] See §3.3.

[179] It can be claimed that all normative theories have something to say about the individual and the collective level. Nothing much seems to hinge on my admittedly rough division. This is because, for instance, rule-utilitarianism and Scanlonian contractualism are selected along the consequentialism–non-consequentialism divide.

[180] Cf. (Dawson 2007, 167).

[181] Such as the motive behind the act or a general rule requiring acts of the same kind (Sinnot-Armstrong 2012).

is because, as we will see in Chapter 3, rule-utilitarianism aims at *maximising* aggregate well-being, while Scanlonian contractualism does not allow for maximisation.

I will examine the feasibility of a mid-level harm principle in infectious disease control in several steps. Chapters 3 and 4 will only allow for rather general conclusions on this issue. It will be argued that appealing to the harm principle in infectious disease control only makes sense in case there is at least a potential conflict between the value of liberty and the value of public health, as a result of which a trade-off between the two values may be necessary. Chapter 3 focuses on the "public health" part of such trade-offs. It will be argued (i) that at least in extreme cases of infectious disease control, libertarianism and communitarianism can support liberty restrictions on harm principle grounds; and (ii) that rule-utilitarianism and Scanlonian contractualism can regard the risk of spreading a contagious disease as a neglect of an individual duty to not harm others. Chapter 4 focuses on the "liberty" side of potential trade-offs in infectious disease control. I will discuss different concepts of liberty and coercion and examine, among other things, the extent to which infectious disease control measures may restrict liberty on these accounts. Finally, in Chapter 5, I will examine whether we can expect our selection of normative theories to be able to morally justify the same preventive measures in infectious disease control on harm principle grounds and, if not, whether this undermines the feasibility of a mid-level harm principle.

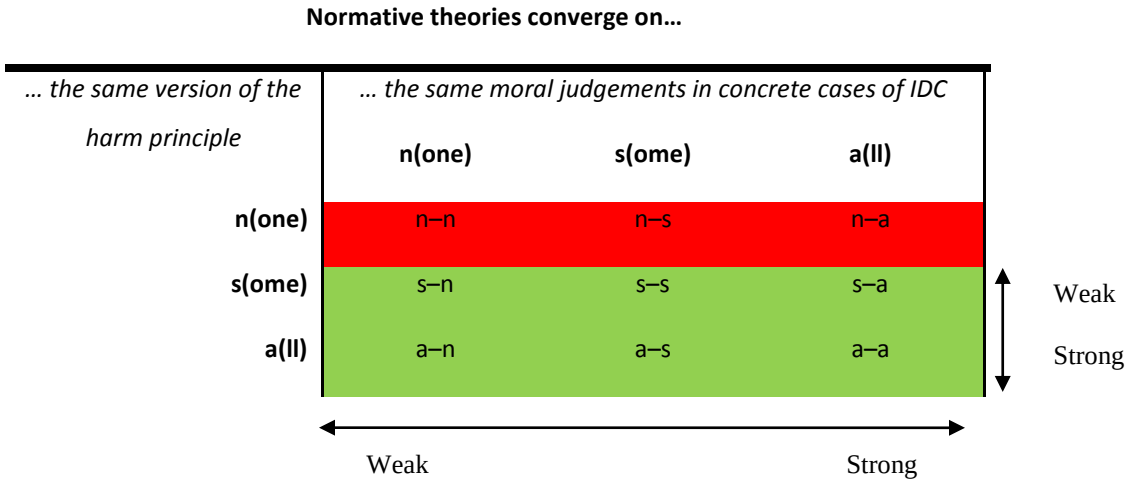
2.1.2.1. Selecting theories leads to qualified conclusions

Obviously, narrowing our focus by discussing two pairs of diverging normative theories will affect the status of the conclusions that can be drawn from this study concerning the feasibility of regarding the harm principle as a mid-level principle in infectious disease control. To specify this status, it is necessary to distinguish two questions. First, can a set of normative theories support the same version of the *harm principle* (I)? Second, can a set of normative theories support the same *moral judgements* in concrete cases of infectious disease control, namely that a specific preventive measure can be morally justified (II)?[182] If we allow that there are three options regarding the number of theories contained in sets I and II – namely all theories (a), only some

[182] As we will see in §4.4 this leaves open the question of whether different theories must *qualify* this preventive measure in the exact same way, particularly whether or not a measure is thought to restrict a person's liberty.

theories (s), or no theories at all (n) – we end up with nine possible combinations, six of which represent convergence in the sense required (these combinations are marked green). With these distinctions in place, I submit that convergence may be weaker or stronger, depending on the number of theories contained in sets I and II. Table 2 gives an overview of the options concerning weak or strong convergence between normative theories.

Table 2: Weak vs strong convergence in applied ethics



The cells that are marked red in Table 2 do not represent convergence in the sense required. This is because the combinations would entail that no normative theories whatsoever can support the same version of the harm principle (row 1). It was already indicated in §2.1.2 that the possibility of a mid-level harm principle presupposes that at least two normative theories can support the same version of the harm principle. Convergence is stronger if more normative theories can support the same version of the harm principle and if more theories can support the same moral judgements in concrete cases of infectious disease control.[183] The strongest possible convergence is thus represented by combination a–a, which would entail that all normative theories can support the same version of the harm principle and the same moral judgements in all cases of infectious disease control. As indicated, I will not examine all normative theories, nor every case of infectious disease control imaginable, but only a selection of each. This means that the conclusions that I will be able to draw at the end of our examination will *at best* belong in the

[183] On the assumption that the theories under consideration are all at least minimally plausible. Cf. §5.3.

category s–s, which would entail that at least some normative theories converge on the same version of the harm principle and/or on the same moral judgements in at least some concrete cases of infectious disease control. The careful reader will have noticed that according to Table 2 the possibility that normative theories cannot yield the same moral judgements in any case of infectious disease control (combinations s–n and a–n) does not preclude that there is convergence in the sense required, i.e. for the harm principle to function as a mid-level principle in infectious disease control. I will provide argumentation for this in Chapter 5. On that note, combination s–n represents the weakest convergence possible, which would entail that only some normative theories can support the same version of the harm principle and that no normative theories can support the same moral judgements in any case of infectious disease control.

An outsider theory: ethical egoism

Discussing only a selection of theories puts pressure on the extent to which this selection is representative of a broader set of theories. Perhaps a brief discussion of a genuine 'outsider' theory can inspire some optimism in this regard. We are inquiring into the possibility of normative theories converging on a moral principle regarding the prevention of harm *to others*. But then "ethical egoism" is perhaps the most challenging candidate theory. For, ordinarily, egoists are characterised by the uniformly overriding strength of their *self-regarding* desires or motivations.[184] Does the harm principle rule out ethical egoism from the start? It would, if the harm principle would presuppose that the good of others carries *independent* moral weight. I will argue that it does not.

Ethical egoism is a combination of rational egoism (the theory that it is always rational to aim at our own greatest good, even if it harms others) and ethical rationalism (the position that a moral requirement may be accepted if complying with it is in accordance with reason).[185] Whether or not an ethical egoist can accept any moral principle depends, crucially, on whether, by complying with that principle, the agent would promote his own greatest good. It is clear that, in the context of infectious disease control, the interests of individuals can conflict with the good

[184] (Baier 1999, 199).

[185] Weak ethical egoism holds that agents *may* accept a moral requirement if, by complying with it, the agent aims at his/her own greatest good. Strong ethical egoism holds that agents *must* accept a moral requirement if, by complying with it, the agent aims at his/her own greatest good (Baier 1999, 201).

of others. If a person with a serious contagious disease does not take effective precautions, others may get seriously ill as well. The nature of contagious diseases makes it very difficult, however, to make a clear distinction between the interests of an individual and the interests of others. If person A takes effective precautions, then this will provide protection for others as well, at least in the sense that person A will not spread the disease to them. The reverse holds as well. If others take effective precautions, this will provide protection too for person A.

Assuming that person A sufficiently values his/her own health, s/he will at least accept a principle to the effect that *others* may be restricted in their liberty to protect him/her. Can ethical egoists accept a principle entailing that everyone (including the egoist) may be restricted in their liberty to prevent harm to others? They *can*, on the condition that by adhering to this principle, they secure their own interests. Whether or not the harm principle can be used as a means of coordination such that the interests of individuals are aligned with the good of others is an *empirical* matter.[186] Relevant for our purposes is that even a theory that seems most at odds with the harm principle may actually support it. A normative theory need not accord independent weight to the good of others in order to support a version of the harm principle.

2.1.3. Bridge between theory and practice

Mid-level principles do not only aim to provide bridges between people with different backgrounds,[187] and between normative theories,[188] but also between theory and practice. More specifically, mid-level principles aim to provide bridges between *theories* and practice. What would this entail? We can distinguish here between arriving at specific moral judgements via a moral principle, on the one hand, and a principle highlighting points of significance that have to be taken into account in arriving at moral judgements, on the other. With this distinction in mind, there are two options regarding the way in which a moral principle can provide a bridge between *theories* and practice. First, different normative theories yield the same moral judgements via the

[186] If it can it will not be necessary to actually restrict the liberty of a true ethical egoist. For in that case it is not only rational, out of self-interest, to prevent harm to others (an implication of rational egoism), but the egoist may also accept a requirement to that effect (an implication of ethical rationalism). Moreover, if the harm principle can align the interests of individuals with the good of others the strongest form of ethical egoism entails that an agent *must* accept this moral requirement.

[187] By providing shared terminology (§2.1.1).

[188] By expressing or enabling common ground between normative theories (§2.1.2).

same moral principle. Second, a moral principle expresses or enables an overlap between normative theories concerning the points of significance that have to be taken into account in arriving at moral judgements.[189]

In any case, a principle providing a bridge between theory and practice involves the specification of the most general considerations in a normative theory, in such a way that it becomes clear(er) what the theory implies for a specific situation.[190] This corresponds to what may be called the "identification" function of mid-level principles, i.e. the function to help us identify more easily what is morally and/or legally relevant in specific situations (e.g. preventing harm to others), compared to more general considerations contained in a theory (if present).

Moral principles are themselves often quite general. Still, some moral principles are more general than others. In order to know what it would mean to comply with the most fundamental normative considerations of moral theories, these considerations must be specified. Important for our purposes is that these general considerations can be specified in different ways. Take the principle of utility for instance, a specification of which may result in a wide variety of utilitarian theories, for instance act-utilitarianism, rule-utilitarianism, indirect utilitarianism, and negative utilitarianism. Just as there are different versions of utilitarianism, there are different varieties of libertarianism, communitarianism, contractualism, and other theories. This is important for the purposes of this study, because if the most general moral considerations of normative theories can indeed be specified in different ways, this suggests a potential for convergence between normative theories – namely if the most general moral considerations contained in separate normative theories can be specified in such a way as to create overlap between normative theories.

Specification in applied ethics typically does not proceed in a purely deductive way. In specifying moral considerations, *content* is added that was not entailed by the underlying moral considerations themselves.[191] For example, the harm principle cannot be deduced from the principle of utility. Specifying that adhering to a certain version of the harm principle maximises utility requires empirical knowledge and judgement about what maximises utility.

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[189] Both options represent convergence, albeit of a different strength. See §2.1.2.1.

[190] Cf. (Richardson 1990, 284). Richardson defines specification as a relation between two norms that 'allows us to understand ... how a "mid-level" norm can serve as a bridge between a general precept and a concrete case.'

[191] (Richardson 1990, 295–296).

The more general the considerations contained in a normative theory, the less clear it is what it would mean to conform to these considerations. But to the extent that these general considerations provide at least *some* normative guidance (in terms of what we ought to do), they are typically rather broad in scope.

To sum up, the first two functions that mid-level principles aim to fulfil are to provide "convergence" (between normative theories) and to assist in the "identification" of morally relevant characteristics of specific situations. The third and final function is that of "constraint". Through specification, mid-level principles not only aim at assisting in identifying morally relevant characteristics of a situation, but also aim at constraining or limiting the scope of more general considerations contained in normative theories.[192] This "constraint" function is not unique for mid-level principles.[193] Generally, "secondary" principles have this function as well. Let me give an example. John Stuart Mill, a prominent proponent of the harm principle, was both a liberal and a utilitarian. Utilitarianism is a monistic theory with one fundamental or "first" principle: the principle of utility. First principles, according to Mill, must be supplemented by secondary principles to be able to apply them. Mill says:

> It is a strange notion that the acknowlegdement of a first principle is inconsistent with the admission of secondary ones. To inform a traveller respecting the place of his ultimate destination, is not to forbid the use of landmarks and direction-posts on the way … Whatever we adopt as the fundamental principle of morality, we require subordinate principles to apply it by.[194]

For Mill, we could say, the harm principle is a secondary principle, a "landmark" on the way to (maximising) utility. Roughly, Mill's idea is that regarding *only* the prevention of harm to others

[192] If theories leave room for supporting the same version of the harm principle this version of the harm principle can mediate between theories (representing at least some common ground between the theories) and, at the same time, serve as a specification of the more general considerations contained in the normative theories involved.

[193] In some cases an abstract principle may contain in its own structure the means for (at least some) further specification. An example of this is Alan Gewirth's moral theory in which two "generic conditions of agency" (freedom and well-being) and even the supreme principle of morality itself (the "principle of generic consistency", PGC) are derived from the normative structure of an action (Gewirth 1978). Still, like any other abstract principle, the application of the PGC too requires judgement, for instance, to determine whether the two generic conditions of agency (freedom and well-being) are violated in a specific case.

[194] (Mill 1998, 70–71).

as a legitimate reason to restrict the liberty of members of a civilised society would maximise utility. Taken separately, the principle of utility is rather indeterminate; it underdetermines what we ought to do in order to maximise utility. For Mill, the harm principle may be said to protect the vital interests that human beings have in security and autonomy. Only when these vital interests are threatened, Mill thought, can a policy of liberty restriction be justified.[195] This is at least somewhat more specific and action-guiding than the principle of utility. An important *empirical assumption* in Mill's work is that not intervening in the liberty of individuals contributes to maximising utility. This not only specifies the principle of utility, but also restricts its scope, not in the sense of reducing the number of cases in which the principle of utility is considered relevant (for utilitarians the principle of utility is always relevant), but in the sense of narrowing down the type of actions that contribute to maximising utility. Coercion for purposes other than preventing harm to others, for example, does not contribute to maximising utility, according to Mill.[196]

One of the differences between Mill's version of the harm principle and a mid-level harm principle is that the latter presupposes that different theories can support it. What they have in common, however, is that both second-order principles and mid-level principles aim to enable us to identify morally or legally relevant characteristics of situations and to note specific normative questions more dependably and more quickly than we could when directly applying a fundamental principle or theory. The harm principle tells us to look for "harm to others" and prevent it, by force if necessary. As we will see in subsequent chapters, the concept of "harm" itself is still rather vague, taken on its own, perhaps even as vague as the concept of "utility".[197] But as a specification of or constraint on *other* principles, the idea of preventing harm to others at least gives us *some* more direction.

[195] (Gray 1999, 52).

[196] (Gray 1999, 137ff) argues that Mill, who wanted to exclude coercion of competent individuals for their own good, would have to accept "hard paternalism" in cases where doing so would maximise utility.

[197] See especially §5.1.1.

Summarising the functions of mid-level principles

In sum, we might say that mid-level principles have three functions: (1) *identification* of morally and/or legally relevant characteristics of concrete situations (e.g. harm to others), (2) *constraint* (of any underlying, more general considerations contained in a theory), and, most importantly, (3) enabling and representing *convergence* between normative theories.[198] As such, moral mid-level principles aim to provide bridges between people with different backgrounds and moral outlooks, between normative theories, and between theory/ theories and practice.

A reason for thinking that normative theories might converge on specific *actions* being morally justified is that normative theories necessarily leave room for moral judgement about concrete cases, e.g. about the nature of the situation, the magnitude of the risk involved, and the precise implications of a principle in the case at hand, et cetera. The more complex the situation is, and the more uncertain the risk involved, the more need there is for judgement. This might mean that for each specific normative theory it holds that several actions may be consistent with it in specific circumstances. If there is an overlap between the sets of actions that are consistent with separate normative theories, these theories may be said to converge on these actions as being morally justified. Convergence between normative theories on specific actions, then, is not a matter of different normative theories being fine-grained enough to single out the exact same action as being morally justified, but a matter of normative theories leaving open – both conceptually and normatively – a space of possible actions, the moral justification of which inherently requires moral judgement.

2.2. Applied ethics

It might turn out that, upon reflection, the set of concrete actions, the moral acceptability of which normative theories converge on, appears to be relatively *empty*. Likewise, it might turn out that different normative theories accord a different deontic status to specific acts. Presumably, there will be situations in which some theories consider a specific liberty restriction in infectious disease control to be morally optional, whereas other theories consider it morally wrong, even if these theories converge on the same version of the harm principle. Some theories might consider

[198] Cf. (Henley 1993) who discusses the functions of mid-level principles in terms of *virtues*.

a liberty restriction optional, while other theories consider it obligatory, et cetera. Obviously, the question as to which theory is superior surely gains importance the less convergence can be attained. This still does not negate the idea that examining whether and to what extent convergence between normative theories is possible is a plausible starting point for normative reflection in applied ethics. Indeed, it seems to me that the idea that we *have* to choose between normative theories when normatively justifying specific actions *presupposes* that any differences between those theories are relevant, given the task at hand. But the only way to establish that, in my view, is by showing that this is in fact the case.[199]

A division of normative labour

If convergence between normative theories is unattainable, either on the relevance of specific moral considerations (in our case: of preventing harm to others) or on the justifiability of specific actions (in our case: liberty-restricting measures in infectious disease control), one strategy might be to appeal to a specific normative theory in those cases where convergence cannot be reached. But which theory? Showing convincingly that our preferred theory is superior to all others might not be that easy. Proponents of different theories have debated the relative merits of these theories for quite some time now. We need not be psychics to predict that these debates will continue, even if proponents on all sides think they have provided very strong arguments for their preferred theory. Another option would be to rely on the idea that, in a democratic society, decisions regarding the restriction of liberty in infectious disease control should be subject to democratic procedures. This option will be discussed in Chapter 5. I will explore the option of what may be called a "division of normative labour" between applied ethicists and infectious disease professionals where the role of applied ethicists is to explore to what extent convergence is possible between normative theories. And public health professionals, in turn, can take whatever convergence between normative theories is possible as a *foundation* for justifying infectious disease control measures in their professional context. Additionally, public health

[199] This involves a *particular* view on applied ethics. See e.g. (Arras 2010) for an overview of alternative methods in bioethics.

professionals have a certain degree of professional discretion to make moral decisions;[200] this is subject to democratic procedures and is especially relevant in cases that normative theories cannot converge on. More precisely, I will explore whether the discretion that infectious disease professionals *already have* to make moral decisions in cases of infectious disease control can be morally justified.

The normative status of convergence

Proposing that any convergence that can be achieved between normative theories can serve as a foundation for justifying infectious disease control measures in a professional context suggests that convergence itself has normative status, that it *adds* to the moral justification of, for example, preventive measures in infectious disease control. Why should we think that convergence between normative theories has normative standing?

Accounting for what we do does not necessarily require that we are theorists. In fact, we account for what we do all the time without explicitly referring to normative theories. But sometimes a more systematic account is required, and this is what normative theories (ought to) provide. When appeals are made to the harm principle, there is much at stake – for the harm principle can be used to morally justify highly intrusive interventions. In such cases, especially, I can imagine that we would like to gain as much confidence about the rightness of specific interventions as possible. The idea of mid-level theorising employed here is that examining diverging normative theories can at least provide a little more confidence about the rightness of particular courses of action. Specifically, the greater the number of different normative theories that can support a moral principle and/or specific measures to prevent infection risks, the less perspectives there are from which this principle and these measures can be challenged. Other things being equal,[201] relying on this convergence is less controversial than relying on moral principles and/or opting for preventive measures that can only be supported by one normative

[200] Different normative theories may allow for more or less professional discretion. The idea to be examined in §5.3, however, is whether it can be argued that normative theories are 'discharged', so to speak, when convergence between normative theories on specific principles and actions ends.

[201] Cf. §2.3.3.

theory.[202] *That is why* convergence has normative standing. You could call this "pragmatic" or "practical" normative standing, in 'contrast' to a full philosophical justification.[203]

There will surely be limits regarding the level of certainty that appeals to normative theory can provide. In complex cases, where the risk of harm is unknown, there is all the more need for moral judgement. Indeed, descending further and further towards the most fundamental considerations that normative theories have to offer may even *increase* uncertainty. Moral mid-level theorising can be understood as a strategy to stop descending just prior to that point. It seems plausible to hold that at least public health professionals do not need to discuss the relative merits of competing normative theories. For if there is convergence, there is nothing for them to discuss. And to the extent that there is no convergence, there is little to be gained by them engaging in such a discussion.[204] It seems difficult in any case to resolve uncertainty about the justifiability of concrete actions by descending to a level in normative theory at which things are at least as contestable.[205]

Connecting normative frameworks to normative theories

In recent years, many so-called normative frameworks have been put forward in the public health literature. These frameworks consist of collections of normative considerations that are considered to be important and helpful in deciding practical normative questions in public health practices.[206] In many cases a version of the harm principle plays a central role in such normative frameworks. Most of the time it is unclear, however, what the precise connection is between the elements in the proposed normative framework and normative theory,[207] including the connection between the version of the harm principle that is employed and normative theory. Not knowing

[202] I will discuss this issue in more detail in §5.3.

[203] Note, however, that the two are not mutually exclusive. Two theories each giving a full philosophical justification of a particular course of action does not preclude the possibility of these theories converging on (i) what moral considerations are relevant to determine the right course of action and/or (2) on what is the right thing to do.

[204] Referring to normative theories in such cases can still have *heuristic* value. See §5.4.2.

[205] This does not mean that *no one* should discuss the relative merits of competing normative theories. On the contrary. Discussion among applied ethicists/philosophers about the relative merits of competing normative theories is part of the division of normative labour that I will propose in §5.4.1.

[206] See e.g. (Ten Have 2011, 61ff) for an overview of such normative frameworks.

[207] See e.g. (Dawson 2010, 192ff), arguing that 'a framework ought ultimately to be linked in a clear way with theory and questions of justification.'

what underlies these frameworks makes it very difficult, not to say impossible, to understand how we are to apply these frameworks, e.g. it is unclear what provides the normative content of a crucial concept such as "harming others".

I think that normative frameworks can be very helpful in moral practices such as infectious disease control. I do think, however, that it is necessary to make explicit what underlies our normative framework, i.e. to show its connection to normative theory. In Chapter 5 I will discuss a normative framework for morally justifying interventions in infectious disease control, and connect it to our selection of normative theories.

Categorically binding vs prima facie principles

I will close this section on applied ethics with a brief discussion about the relevance of the role that different normative theories can assign to moral principles. It has been argued that only theories with one foundational principle (e.g. Kantian theory) can make sense of the idea of *categorically* binding moral obligations and the need to justify the criteria we employ to distinguish morally right from morally wrong actions. By contrast, normative theories with many foundational principles (e.g. Rossian intuitionism) can only contain prima facie moral principles that have to be weighed against each other. It may be further argued that normative ethics is about categorically binding moral obligations, and that, therefore (among other reasons), a theory with one foundational principle is to be preferred over a theory containing many foundational principles.[208]

The account of mid-level theorising employed here entails that both a theory that contains one foundational principle and a theory containing many foundational principles *may* support the same formulation of the harm principle and the same concrete moral judgements in the context of infectious disease control. At least theoretically, it seems possible that what is considered to be a categorically binding obligation according to a one foundational principle normative theory is also considered an *actual* duty (i.e. a duty on balance) according to a 'many foundational principles' normative theory. In that case, the duty will be equally binding. If both types of theories can support the same version of the harm principle and the same moral judgements in

[208] See e.g. (Düwell 2006, esp. 96–98). For a perspective challenging such a view, see e.g. (Verweij 2000), employing a "coherentist" model for ethical reflection (p.8).

infectious disease control, then *at least if our aim is to determine whether a particular action is morally justified*, any underlying differences between the theories seem to be irrelevant.

2.3. Some presuppositions of a mid-level harm principle

In previous sections there was an explanation of what functions mid-level principles aim to have (the most important function being representing or enabling convergence; §2.1.2). It was also argued that in applied ethics, examining whether and to what extent convergence between normative theories can be attained is a plausible strategy (§2.2). This section will specify some of the presuppositions of employing a mid-level harm principle in infectious disease control. Specifying these presuppositions will make clear what some of the potential strengths and weaknesses of this approach are.

2.3.1. People are in some sense free

One of the first assumptions of a mid-level harm principle is the idea that people are in some sense free. If people are not in some sense free, it does not make any sense to talk about restricting their freedom to prevent infectious disease from spreading and inquiring into what could morally justify this. That people are in some sense free is not a controversial claim, at least not from the perspective of normative ethics in general. If normative theories aim to help us determine the deontic status of actions (i.e. whether actions are morally allowed, obligatory, or forbidden), then *every* normative theory must presuppose that people are in some sense free. If people were not in some sense free, it would not make much sense to demand that they behave in a certain way. Ought implies can.[209]

2.3.2. Moral principles have normative force

Another assumption of potentially regarding a version of the harm principle as a mid-level principle is that moral principles have normative force. This assumption is shared by most

[209] A mid-level approach to the harm principle need not presuppose that determinism is false; we can be compatibilists regarding the relation between determinism and free will. It *does* presuppose, however, that *if* determinism holds true incompatibilism (the position that determinism is incompatible with free will) is false.

normative theories, but not necessarily by all versions of all normative theories. For example, some versions of moral particularism deny that moral principles have normative force or that it even makes sense to talk about moral principles. However, Jonathan Dancy, a prominent proponent of moral particularism argues that, 'The strongest defensible version [of moral particularism], perhaps, holds that though *there may be some moral principles*, still the rationality of moral thought and judgement in no way depends on a suitable provision of such things: and *the perfectly moral judge would need far more* than a grasp on an appropriate range of principles and the ability to apply them.'[210] This seems consistent with most of what has been said so far. A mid-level approach to the harm principle need not exclude moral particularism. Nothing in the idea of mid-level theorising suggests that it is sufficient to have a grasp of an appropriate range of principles and the ability to apply them. On the contrary, it was suggested that moral judgement will still be necessary, and that this is true for all normative theoretical approaches.[211]

2.3.3. Normative theories under consideration are at least minimally plausible

Suppose that different normative theories can support the same version of the harm principle and can also support the same moral judgements in infectious disease control. In that case, there is no need – at least as far as the moral justification of specific acts in infectious disease control goes – to discuss the relative merits of these theories, since they all point in the same direction. Still, the possibility of a mid-level harm principle in infectious disease control is based on a general assumption about the 'plausibility' or 'adequacy' of at least two of the converging normative theories contained in the set; this is because convergence between theories requires that there are at least two theories on the table, and for this convergence to have any standing whatsoever, these theories must at least be minimally plausible or adequate – whatever that may mean exactly. Convergence between implausible theories does not have any normative significance at all.

Suppose we cannot convincingly argue why theories other than the one(s) we might prefer are implausible. This implies that we cannot ignore these other theories in normative

[210] (Dancy 2009), italics added. Dancy goes on to claim that 'Moral principles are at best crutches that a morally sensitive person would not require'. (Stangl 2006) argues that few particularists wish to deny that something very like moral principles do indeed play a significant role in our everyday moral practice.

[211] I do assume, however, that at least *some* normativity 'flows' from general considerations to more specific ones. That assumption seems perfectly compatible with the quote by Dancy in the main text.

argumentation. Mid-level theorising, as the term is used here, is one way in which we can recognise that there is a variety of normative theories on the table which we cannot ignore in normative argumentation, and this makes constructive normative argumentation possible (e.g. by providing bridges between normative theories, and between theories and practice). We might say, then, that moral mid-level theorising presupposes at least a weak form of normative theoretical pluralism.[212] At present, there seems to be no agreement on the criteria for determining the adequacy of normative theories.[213] If there is no agreement on the criteria for determining the adequacy of normative theories, it seems reasonable to adopt at least a weak form of pluralism in normative theorising and applied ethics. Also, it does not seem controversial to proceed on the assumption that, in the absence of proof to the contrary, the theories selected for discussion here are all at least minimally plausible. I will remain neutral regarding the tenability of such pluralism. My strategy will be to leave open the possibility that at some point it can be shown that all but one normative theory is correct or adequate.

It has already been mentioned that not all possible normative theories will be discussed in this study. Two pairs of diverging normative theories will be used as proxies, in the hope that this selection is representative for a broader set of normative theories. But even this broader set does not include all possible normative theories. I will focus on common Western normative theories, and exclude, for example, theories that allow mass murder, such as National Socialism. There may not be total agreement on the criteria for the adequacy of normative theories, but theories that can support mass murder are commonly excluded as being normatively inadequate.[214] This means that the normative force of a mid-level harm principle does not depend on convergence between normative theories alone, but also on the relevant theories being regarded as *normatively* adequate to begin with. I will not argue any further for that claim.[215]

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[212] There is also pluralism in a more practical sense: people can and do disagree about many things, including moral issues. Still, in some cases it is possible for people to agree on moral issues, e.g. by reaching consensus. I will have more to say about the relation between convergence and consensus in §5.3.1.

[213] (Beauchamp and Childress 2009, 333–336, 371).

[214] I take it that even National Socialism can support a version of the harm principle, though the theory will presumably differ from other theories regarding, for example, who should be protected from harm.

[215] There are several ways that one could argue for there being different adequate moral codes, for instance from the perspective of pluralistic relativism. See e.g. (Wong 1996).

2.3.4. Theories can conceptualise a normative issue in the same way

Focusing on a version of the harm principle as a mid-level moral justification of liberty restrictions in infectious disease control forces us, I think, to conceptualise moral issues in a specific way. Specifically, it forces us to conceptualise moral justifications of liberty restrictions as *trade-offs* between individual liberty (that which is restricted) and public health (that which is protected or promoted by restricting individual liberty). This does not imply that individual liberty and public health are *necessarily* in tension with each other.[216] On the contrary, if people take precautions voluntarily, individual liberty will be beneficial to public health. Moreover, it may be beneficial for public health generally to promote individual liberty. All that is implied by the harm principle is that individual liberty and public health *can* be at odds with each other, e.g. when individuals do not take precautions that are necessary to protect or promote population health. In those cases, it seems that a trade-off has to be made. For a mid-level harm principle to be able to morally justify trade-offs between liberty and public health, it seems that diverging normative theories must be able to conceptualise such trade-offs to begin with. Chapters 3 and 4 deal with this issue.

2.4. Moral justification

Up until now I have been talking about "moral justification" in a rather loose fashion. But in order to determine whether specific preventive measures against infection risks can be morally justified by appealing to a version of the harm principle, we must know more precisely what it means for an action or policy to be morally justified. I take the following to be the general structure of moral justification: *x* is morally justified by *y* if *x* conforms to *y* and if *y* is itself morally justified.[217] Applied to infectious disease control this entails, that, for example, a liberty restriction (*x*) is morally justified by a certain version of the harm principle (*y*) if the intervention

[216] Nor does it suggest that public health ethics is '*about* a real or potential conflict between the individual on the one side and the state or society on the other.' Cf. (Dawson 2010, 201ff).

[217] This is an abstraction from (Campbell 1988, 194–195). Note that this structure leaves open the possibility that action *x* can be justified by, for instance, moral principle y_1 but is in conflict with principle y_2, whereas moral principles y_1 and y_2 are themselves both justified (e.g. by moral theories z_1 and z_2, respectively). Is action *x* then justified? Arguably, answering that question requires attending to the conflict between the two competing moral principles y_1 and y_2. I will not further discuss the issue of competing moral principles here. My stance on this will be the same as on how we should 'deal' with divergence between normative theories. See §5.3ff and Chapter 6.

conforms to that version of the harm principle and if that version of the harm principle is itself morally justified.[218]

According to this structure, we must look into the justification of a moral principle itself if we want to determine whether specific measures can be justified by appealing to that moral principle. This raises a specific question concerning the possibility of a mid-level harm principle. This is because there are several ways in which moral principles can be justified, and one of the ways in which normative theories can be differentiated is by the specific meta-ethical strategy through which the moral principles contained in those theories are justified. There is *induction*, where justification proceeds from the particular to the general. We have *deduction*, where the order of justification is reversed. There is *coherentism*, a combination of deduction and induction. And finally we have *reflexive justification*, where moral justification proceeds from propositions that a rational agent cannot deny without self-contradiction. Now the question is: does the possibility of a mid-level harm principle require that this version of the harm principle can be supported by all four strategies of meta-ethical justification? It does not. It has already been argued that "convergence" on a moral principle does not require that all conceivable normative theories can support this moral principle. Convergence is also maintained if a theory is consistent with this moral principle.[219] Indeed, it was suggested that convergence does not necessarily require that different theories can yield the same moral judgements in concrete cases of infectious disease control.[220] Finally, the question of whether a specific version of the harm principle can be supported regardless of our strategy of meta-ethical justification entails a hidden assumption that must be put into perspective, namely the assumption that there could be a necessary connection between specific strategies of meta-ethical justification, on the one hand, and a *unique* normative content, on the other. I cannot refute this assumption here, but there is at least some cause for optimism regarding the potential independence of specific normative content from specific meta-ethical strategies of justification. For instance, Kantian theory (employing a strategy of reflexive justification of the Categorical Imperative) can support a duty not to lie, but so can, for example,

[218] This structure was already implicit in what has been said so far, in that I clearly distinguished between whether normative theories can support (i) a specific version of the harm principle, and (ii) specific preventive measures.

[219] See §2.1.2.

[220] See §2.1.2.1. The idea that convergence does not necessarily require that different theories can yield the same moral judgements in concrete cases of infectious disease control is discussed in more detail in Chapter 5.

a theory employing an inductive strategy of justification, such as Rossian intuitionism.[221] Likewise, Gewirthian theory (employing a strategy of reflexive justification for the justification of the Principle of Generic Consistency) assigns central importance to individual well-being, but so does utilitarianism (employing an inductive strategy to establish that well-being is the highest good).[222] This being said, the theories that will be discussed in this study do not include a theory that employs a reflexive strategy of justification. This does not have to be problematic, as long as we acknowledge this when determining the status of the conclusions that can be drawn from this study. In §2.1.2 I have already indicated some of the ways in which my final conclusions will then have to be qualified.

2.5. Concluding remarks

The account of mid-level theorising outlined in this chapter is one way of accounting for a positive relation between applied ethics and normative theory. It starts from the recognition that it might not be necessary to settle the most fundamental debates in ethics first, before being able to answer the practical normative question, *'What must I do?'* If, for example, different (meta-ethical and normative) theories can converge on a specific version of the harm principle, and also on the moral acceptability of specific liberty restrictions, then at least from the perspective of morally justifying these actions by appealing to this principle, any differences between these theories at a more fundamental level are irrelevant. By aiming at enabling and representing convergence between theories, and by aiming to specify more general considerations, mid-level principles aim to help us to identify morally and/or legally relevant aspects of concrete situations more easily, and to provide bridges between people with different backgrounds and moral outlooks, and between theory and practice. The promise is that they will make constructive normative argumentation possible in the face of theoretical disagreement. Subsequent chapters will examine whether any version of the harm principle can meet the demands that were outlined in this chapter for it to function as a mid-level principle in infectious disease control.

[221] (Ross 2002, 21). There is a discussion about how the duty not to lie should be interpreted in Kant's work. See e.g. (Korsgaard 1986).

[222] (Gewirth 1978, 64–66); (Darwall 1998, 123ff).

3. Trade-offs in infectious disease control. Part I:
Controlling infectious diseases as preventing harm to population health

Infectious disease control is a species of *public health*, as I will explain in this chapter. This raises a specific question if we want to explore whether a version of the harm principle can function as a mid-level principle in infectious disease control.[223] The harm principle is a *liberty-limiting* principle. But if liberty restrictions might be necessary to protect population health, then diverging normative theories must be able to conceptualise trade-offs between liberty and population health and be able to justify such trade-offs on harm principle grounds. This chapter focuses on the "public health" side of potential trade-offs and inquires whether our selection of theories can conceptualise controlling infectious diseases as preventing *harm to population health*.[224] The chapter yields rather general conclusions, but will lay a first foundation for a mid-level harm principle in infectious disease control.

Outline

After presenting the definition of public health used in this study, I will show that infectious disease control is a public health issue in all relevant respects (§3.1). When it comes to evaluating public health *practice*, it is often argued that this requires a different normative framework compared to regular health care (§3.2). I will put such claims in perspective by discussing some of the main differences and commonalities between the two contexts. A key difference relates to a potential motivational problem deriving from the "prevention paradox", the idea that preventive measures which bring much benefit to the population offer little to each participating individual. This may necessitate *trade-offs* between liberty and population health (§3.3). I will show that two normative theories can justify trade-offs between liberty and population health by appealing to the same version of the harm principle in at least some cases (§3.4). I will also show that two normative theories can support duties to not infect others as a specification of a more general

[223] See §2.1 for a discussion of the functions of moral mid-level principles.

[224] Chapter 4, in turn, is about the "liberty" side of potential trade-offs, and examines whether specific measures in infectious disease control restrict liberty on the different accounts of liberty associated with our selection of normative theories.

duty to not harm others. Violation of such duties might provide additional support for liberty restrictions in infectious disease control on harm principle grounds (§3.5). The main conclusions are summed up in §3.6.

3.1. Infectious disease control is a public health issue

There are many definitions of "public health", but all involve at least two elements: one referring to the *health of a population* and one referring to a *practice* aimed at protecting or promoting that population's health. Determining whether infectious disease control is a public health issue, then, requires that we examine both the relation between infectious diseases and population health and the relation between infectious disease control and public health practice. I will conclude that infectious disease control is a public health issue in all relevant respects: infectious diseases can affect all dimensions of population health (§3.1.2), and common measures in infectious disease control are "public" in all relevant respects (§3.1.3). But first, I will substantiate the concept of "public health" that is used in this study (§3.1.1).

3.1.1. The definition of public health used in this study

Definitions of public health can differ in several respects, for instance whether they are descriptive or normative in nature. Descriptive definitions simply describe what is being done to protect and to promote population health. An example would be to define public health as 'collective interventions aimed at protecting or promoting population health'. Descriptive definitions do not contain evaluative statements about population health, e.g. that it should be protected or that specific parties have certain responsibilities in this regard. Normative definitions of public health, on the other hand, *do* contain such evaluative statements. An example is provided by the Institute of Medicine (IoM), that defines public health as: 'what we, as a society, do collectively to assure the conditions in which people can be healthy'.[225] The IoM definition is normative because it entails a statement about something that presumably must be *assured* by society, namely the conditions in which people can be healthy. From the perspective of this study,

[225] (Institute of Medicine 1988, 19).

a descriptive definition of public health is to be preferred.[226] By excluding normative statements from the *definition* of public health, a descriptive definition is compatible with diverging normative theories. Employing a descriptive definition of public health is a way of making sure that we have the same thing in mind when evaluating whether different normative theories can support specific public health measures.

Definitions of public health can also differ regarding the nature of public health interventions or the type of health-influencing factors they include. Narrow versions focus on health-influencing factors such as environmental factors, sanitation, infectious disease control, screening programmes, or health education. Broad accounts cover these as well, but also cover, for example, the socio-economic conditions of a society, including issues such as homelessness, violence, war, race, education, and wealth.[227] For the purpose of this study, we don't have to choose between definitions of public health that are narrow or broad concerning the *nature* of public health interventions. This is because even narrow definitions include infectious disease control.

Finally, definitions of public health can be narrow or broad concerning who performs or is allowed to perform public health interventions. Extreme positions would be either to put no restrictions on who performs public health interventions or to single out one actor for this – such as the state. The focus of this study is on whether representatives of the *state* (public health professionals) can morally justify preventive measures in infectious disease control by referring to a mid-level harm principle. While a narrow account of public health suffices in this regard, it is not necessarily implied by my focus. We might think, for instance, that the state only has the authority to restrict the liberty of some to protect and promote population health if 'the action of the government will be more efficient or more likely to be beneficial than the actions of individuals' or other private initiatives, which would broaden our account.[228] Moreover, claiming that liberty restrictions should only be performed by certain actors leaves open the possibility that *alternative* public health measures may be performed by others.

[226] See (Verweij and Dawson 2007, 18–19) for a discussion of reasons in favour and reasons against normative definitions of public health.

[227] (Verweij and Dawson 2007, 16–17).

[228] Cf. (Verweij and Dawson 2007, 17–18).

In this study, I will use the concept of "public health" as referring (descriptively) to 'collective interventions that aim to protect and promote population health'.[229] I will remain neutral on whether our concept of public health should be narrow or broad concerning the nature of public health interventions (since both cover infectious disease control), and I only need a relatively narrow account of who may perform public health interventions (given the focus on justifying interventions by representatives of the state). This definition fits the most prominent theories of public health.[230]

In the next two sections I will show that infectious disease control is a public health issue. This involves showing that infectious diseases can affect the health of individuals in different ways and all dimensions of population health (§3.1.2), explaining in what respects public health measures are "public", and showing that common measures in infectious disease control are public in all relevant respects (§3.1.3).

3.1.2. Infectious diseases can affect all dimensions of population health

There can be no population without individuals.[231] Hence, to assess the *health* of a population, it must somehow be connected to the health of the individuals in that population. I will start this section by discussing different dimensions of population health. I will then inquire whether statements about population health require a specific account of individual health. I will conclude that infectious diseases can affect all dimensions of population health, and that the range of possible claims about population health does indeed require a specific account of individual health, namely a *combined* account, entailing both negative elements (e.g. the absence of disease) and positive elements (e.g. enjoying well-being).

Since there can be no population without individuals, any concept of population health must include at least an "aggregative dimension" – the idea that population health is in better

[229] The senses in which public health measures are "collective" are discussed in §3.1.3.

[230] (Verweij and Dawson 2007, 21). I use "population health" to refer to the health of a population and use "public health" to refer to the practice of protecting and promoting population health.

[231] Cf. (Verweij and Dawson 2007, 23).

shape if the sum total of the health of the individuals comprising that population is higher compared to some moment in the past, and vice versa.[232]

In the public health literature, population health is seen as entailing more than an aggregation. Besides looking at the sum total of the health of individuals in a population, we could also look at how (groups of) individuals are doing in terms of health relative to that sum. Specific groups in a population may, for example, have a higher incidence of a particular disease. Think of the relatively high incidence of HIV/AIDS amongst homosexuals compared to heterosexuals in some countries,[233] or the much higher percentage of malaria deaths in Africa (about 90% in 2010) compared to the rest of the world. Yet another example is the relatively high incidence of hepatitis C amongst intravenous drug-users in the Netherlands compared to the general populace.[234] One of the goals of public health practice can be to reduce health inequalities such as these.[235] If health inequalities are reduced at time t_2 compared to t_1, it may be said that population health has been improved at t_2. This is called the "distributive" dimension of population health. Note that health inequalities are not always problematic. Indeed, the idea that *certain* health inequalities are problematic requires an account of (health) justice.

A final aspect of population health is connected to our social practices and our social and physical environment. These *environmental* factors constitute underlying determinants of disease. They involve both risks and health-enhancing factors that are in a sense 'shared' by all members of a population. Examples include the extent to which members are keen to avoid risking transmission of infectious diseases, a norm to have safe sex, not being surrounded by smokers, and having the option to take the stairs instead of just the elevator or escalator. Arguably, if the underlying determinants of disease in a population are better contained at time t_2 compared to t_1, population health is better protected at t_2 than it was at t_1.[236] Call this the "environmental" dimension of population health.[237]

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[232] (Jennings 2007, 36ff) argues that "the public" is not an aggregation *at all*, but this seems overly stringent.

[233] (Beyrer et al. 2012); (WHO 2012, 1).

[234] (LCI 2011b).

[235] The examples would involve reducing health inequalities even if the primary aim of public health measures would be to reduce the incidence of the disease in the population *at large*.

[236] (Verweij and Dawson 2007, 22–24).

[237] Cf. (Brülde 2011, 21–23) who formulates the three dimensions of population health as public health *goals*.

Connecting population health to the health of individuals

To assess the health of a population, it must somehow be connected to the health of the individuals in that population. Recall that any concept of population health must at least include an aggregative dimension, the idea that population health has decreased if more people have a specific disease at time t_2 compared to t_1. Now the question is: does protecting or promoting the different dimensions of *population* health require a specific concept of the health of *individuals*? I will argue that it does.

There are roughly three accounts of individual health: negative, positive, and combined accounts. On a *negative* account, health refers to something being absent. A prominent example is the "biomedical model", which regards health as the absence of disease. On a *positive* account, health refers to something being present. A prominent example is the "well-being account", according to which someone is healthy when, and to the extent that, they (can) enjoy well-being. Another example is the "functional view", entailing that a person is in good health if s/he functions well as a whole person. Finally, *combined* or pluralistic accounts of health refer both to things being absent (e.g. disease) and to things being 'present' (e.g. well-being, functioning).[238] Contagious pathogens can affect the health of persons in all these respects: if an infection turns into disease (negative account of health) by diminishing our well-being (e.g. when an infection causes persistent pain), or even our capacity to enjoy well-being (if we die), and by negatively affecting our functioning, as in the case of infection-related paralysis (positive account of health). We can also experience combinations of these effects as a result of contracting an infectious disease, which are covered by pluralistic accounts of health. I will employ a combined account of health, in line with common statements we make about a person's health. For instance, we typically hold that someone is unhealthy if s/he has a contagious *disease*. And in practice, well-being is also central to our concept of health.[239]

The aggregative dimension of population health is connected to individual health *directly* – if more people have a specific disease at time t_2 compared to t_1, population health has decreased. The environmental dimension of population health has an *indirect* link to individual health, since

[238] Cf. (Brülde 2011, 33–36); (Holland 2007, 90–91 and references).

[239] According to the WHO, employing a combined account of health, health is: 'a state of complete physical, mental and social *well-being* and not merely the *absence of disease* or infirmity' (italics added).

it is not about the presence or absence of disease, but about 'shared' risks and underlying determinants of disease. Finally, the distributive dimension of population health can have both a direct connection to the health of individuals (if specific groups in society have a higher *incidence* of a certain disease) as well as an indirect connection (if specific groups in society are at increased *risk* of disease).

Typical claims about *population health* require a combined account of health. True, a negative account of health can support some claims about the distributive dimension of population health. For instance, that it has improved if at time t_2 the relative *incidence* of disease amongst specific groups in a population is lower than at t_1. A negative account of health also suffices for making some statements about the aggregative dimension of population health. For instance, that it has diminished when the incidence of a specific contagious disease in a population is higher at time t_2 compared to t_1. However, other claims about the aggregative dimension of population health require a combined account of health, for example claims about the *burden of disease* in a population, which involve statements about disease or disabilities and about the quality of life of individuals. Note that claims about the environmental dimension of population health can be supported neither by negative accounts nor by positive or combined accounts of health. The same holds for claims about the distributive dimension of population health involving increased *health risks* for specific groups in society. This is because such claims are connected to the health of individuals only *indirectly*. One way to establish an explicit connection between such statements about population health and the health of individuals would be via the notion of the "capability" or real opportunity that individuals have – in this case the capability to maintain or improve bodily health. We could argue, for instance, that if the underlying determinants of contagious disease in our social and physical environment are less well contained at time t_2 compared to t_1 (affecting the environmental dimension of population health), this threatens our real opportunity to maintain or improve our bodily health.[240] In any case, it is clear that infectious diseases can affect all dimensions of population health[241] and that

[240] I am assuming here that this would not necessarily commit one to a full-fledged "capability approach".

[241] This leaves open what we mean by individual health. In a full-fledged capabilities approach there is a clear connection between well-being and the (basic) capability of bodily health (Nussbaum 2006, 76–78). However, since "capabilities" are conceived of as real opportunities to do and be what people have reason to value (Robeyns 2011), that connection does not by itself constitute, for example, a positive account of health; people can just as well have reason to value the absence of disease (negative health).

making statements about all dimensions of population health requires a combined account of (individual) health.[242]

Relation between the dimensions of population health

Improvements in one aspect of population health do not automatically result in improvements in other respects. For instance, promoting the sum total of the health of individuals in a population is compatible with maintaining increased health risks for specific groups in society. As of 1 August 2011, hepatitis B immunisation has been offered for all Dutch newborns.[243] One reason for this expansion was that there were no clear indications that the previous high-risk-group strategy yielded a lower incidence of the disease.[244] General vaccination promotes the aggregative dimension of population health. Depending on the vaccine uptake, general immunisation may also reduce health inequalities between groups in society. Suppose, for the sake of argument, that the vaccine uptake is 100% and that the vaccine provides 100% protection against hepatitis B infection. In that case, babies who will end up using drugs intravenously will run no risk of hepatitis B infection. As a result, the average risk of hepatitis B infection amongst intravenous drug-users will also drop. However, at least for a certain period – specifically, the time between birth and the start of intravenous drug use – general immunisation will not reduce the health inequality under discussion. *Current* intravenous drug-users will still be at increased risk of hepatitis B infection. Indeed, health inequalities may even increase during this period if (i) intravenous drug-users still run the same absolute risk of hepatitis B infection, while (ii) the absolute risk of hepatitis B infection in other groups in society drops as a result of general immunisation.[245]

[242] I agree with (Holland 2007, 105–106) that accounts of health that single out one factor to determine what health '*is*' may be conceptually incompatible. This does not show, however, that combined accounts of health are conceptually incoherent. Accounts singling out one determining factor may simply be mistaken. See (Brülde 2011, 33–34) for some examples of combined accounts of health.

[243] In 1992 the WHO advised *universal* immunisation against hepatitis B (Health Council of the Netherlands 2009, 21). In the Netherlands childhood hepatitis B immunisation was introduced for high risk groups in 2003 (indications: a mother carrying the virus; parents from a high incidence country; and Down Syndrome).

[244] (Health Council of the Netherlands 2009, 102).

[245] Statements about the distributive dimension of population health must always be connected to its aggregative dimension. Otherwise the distributive dimension of population health could be promoted by making everyone ill!

This section showed that infectious diseases can affect individual health on all accounts (positive, negative, and combined accounts of individual health), and can affect all dimensions of population health (its aggregative, its distributive, and its environmental dimensions). Improvements to a specific aspect of population health do not necessarily translate into improvements in the other senses. It was also shown that protecting or promoting all dimensions of population health requires a combined account of individual health.

Showing that infectious diseases can affect the health of individuals in different ways, and all dimensions of population health, however, is just one part of showing that infectious disease control is a public health issue. The next paragraph provides the other ingredient for that conclusion. I will explain in what respects public health measures are "public", and show that common measures in infectious disease control are public in all relevant respects.

3.1.3. Common measures in infectious disease control are "public" in all relevant respects

Recall that our definition of public health entails 'collective interventions aimed at protecting or promoting population health'. Interventions in public health are "public" or "collective" in two respects. First, they are part of 'an overall programme in which many people cooperate in order to realise objectives that go beyond improving the health of assignable individuals'. This may refer to government interventions or to programmes by non-governmental institutions, but it may also refer to interventions offered by individual physicians or within the context of employment, such as vaccination or screening. The second sense in which public health interventions are "public" is that, in order to be successful they 'often require the active participation of members of the public'. This may involve individuals taking care of their own health, for instance by following recommendations about a healthy diet or participating in a screening programme.[246]

Positive outcomes that only or primarily benefit the individuals concerned are called "private" goods.[247] But participation may also confer benefits that go beyond this. For instance, practising safer sex serves to protect *any one of us*. Joint participation *itself* may also improve the

[246] (Verweij and Dawson 2007, 26).

[247] See e.g. (Dawson 2007, 163).

conditions of good health for all, even for those who – for whatever reason – do not participate. For instance, high vaccination rates may lead to "herd protection" or even the eradication of a disease. Goods conferring benefits that are open to all are called "public goods". Examples include national defence, police and fire protection, the protection of all persons against preventable death and disability, and tobacco discouragement.[248]

In short, public health activities are collective by (1) being organised or coordinated efforts to protect or promote the health of the public which go beyond the production or distribution of private goods, and/or (2) requiring collective participation by the individuals who constitute the relevant target population to be successful.

Infectious disease control as a collective effort

Common interventions in infectious disease control in the Netherlands involve all relevant senses of public health as a public or collective effort. To start with, they are part of an overall programme in which many people cooperate in order to realise objectives that go beyond improving the health of assignable individuals. This is clear from the way infectious disease control is organised in the Netherlands. The National Institute for Public Health and the Environment (part of the Ministry of Health) coordinates infectious disease control; Municipal Health Services (semi-government agencies) do most of the actual controlling of infectious diseases; general practitioners (amongst others) have duties to notify specific diseases to the MHS and play an active part in vaccination programmes; and employers are bound by law to prevent employees from contracting and spreading diseases, et cetera.

Common interventions in infectious disease control also involve all forms of active cooperation required to effectively protect or promote population health.[249] They involve health protection efforts that are either left to specialist individuals or institutions (e.g. the RIVM, MHSs, and general practitioners) or require active participation of individuals to ensure the protection of *any one of us* (e.g. social distancing and practising safer sex). They also entail public health

[248] (Verweij and Dawson 2007, 25); (Beauchamp and Steinbock 1999, 107); (Verweij 2007, 191ff). Public goods are 'non-excludable' (once they exist, no one can be excluded from enjoying its benefits), and 'indivisible' (they cannot be divided up into distributable private goods) (Dawson 2007, 163–164).

[249] Common measures in infectious disease control are discussed in §1.3.

interventions that involve participation by individuals in which each person takes care of their own health (e.g. following recommendations about precautions in case someone close to us is contagious or potentially contagious; getting treatment when infected and/or ill; and getting a vaccine before going on holiday). Moreover, common interventions in infectious disease control also involve forms of joint participation that will improve conditions for the good health of all (high vaccination rates being a clear example) and that cover all the dimensions of public health: its *aggregative* dimension (all common measures), its *distributive* dimension (e.g. immunisation against seasonal influenza for at-risk groups), and its *environmental* dimension (e.g. hygienic measures such as cleaning, decontamination, and sterilisation; and the culling of animals). Finally, several forms of surveillance (broad surveillance, but also case-specific surveillance such as case notification, source- and contact-tracing, screening and testing, outbreak investigation) are essential to provide the information that is needed to effectively control the spread of infectious diseases.

Support for the conclusion that infectious disease control is a public health issue in all relevant respects is shown in §§3.1.2 and 3.1.3. Questions about the justification of common measures of infectious disease control, then, must be answered in a way that reckons with the characteristics of public health activities. It is sometimes claimed that public health practice requires a different normative framework from that required in the context of regular health care.[250] In the next section, I will put such claims in perspective by discussing some commonalities between regular health care and public health – *especially* concerning the prevention of infection risks. As will become clear in the course of this chapter, our selection of normative theories can support a version of the harm principle that can be appealed to in a way that does indeed reckon with the fact that we are dealing with the question of justifying *public health* activities.

3.2. Putting differences between health care and public health in perspective

Protecting and promoting health is the aim both of regular health care and of public health. But whose health? Who takes the initiative? Can individuals achieve this aim on their own? These questions are generally answered differently in the two contexts. In regular health care, targets of

[250] See e.g. (Kass 2001).

interventions are typically individuals who *themselves* have contacted a health professional after having experienced some sort of clinical symptoms (e.g. a headache, diarrhoea). If available, interventions are typically aimed at protecting or promoting the health of this specific *individual*. And if all goes well, the patient, with a little help from a health professional, will recover. Regular health care is thus commonly *curative* in nature, or at least aimed at relieving symptoms.

In public health things are somewhat different. Interventions in public health are typically aimed at groups or whole *populations* (not just individuals). Members of these populations may not have any clinical symptoms and may even be perfectly healthy. Public health has a predominantly *preventive* character.[251] Moreover, it is usually the *health professional* who takes the initiative for an intervention, with the aim of protecting or promoting the health of the public. Crucially, uncoordinated individual action is typically insufficient to achieve that aim. Instead, protecting or promoting population health often requires *collective action*.[252]

Public health is relatively distinct from regular health care

There are differences between regular health care and public health practice, but there is also considerable overlap, *especially* concerning infectious disease control. For that reason it would be better to speak of the "relative distinctiveness" of public health.[253] This is not to suggest that the two contexts are the same, but to point out that the dividing lines are not so much absolute but more a matter of accent. To start with, even if specific individuals are the primary targets of interventions in regular health care, the success or failure of such interventions influences population health as well. This is easy to see if we realise that for instance in 2010 the Netherlands had more than 9,500 general practitioners (GPs), with an average of about 2,000 registered patients per full-time equivalent GP.[254]

Yet another example that puts differences between health care and public health into perspective is the role of *prevention*, especially in the case of infectious disease control. Prevention aimed at averting the onset of a disease is called *primary* prevention. This can be

[251] See e.g. (Beauchamp and Steinbock 1999, 95).

[252] (Cribb 2010, 20).

[253] Ibid.

[254] (Jurling et al. 2012, 29). Please note: not all GPs work full time.

accomplished by decreasing exposure to pathogens and by decreasing sensitivity to certain pathogens.[255] But prevention can also aim at identifying people in an asymptomatic population who have developed risk factors or who have a disease in a preclinical stage, with a view to undertaking early interventions. This is called *secondary* prevention.[256] Finally, prevention may aim at impeding progression of a disease and attendant suffering after a diagnosis has been established. This is called *tertiary* prevention.[257]

Can we draw a clear distinction between regular health care and public health based on this? We cannot. To start with, primary prevention also happens in *regular* health care. Physicians, for example, often counsel patients to avoid risk behaviours such as smoking, consumption of high-fat foods, unprotected sex, or excessive use of alcoholic beverages. Conversely, public health agencies sometimes offer medical care for the poor, e.g. for conditions with 'spill-over' effects for the wider community. Examples include *treatment* for sexually transmitted diseases (STDs), tuberculosis (TB), and HIV/AIDS. Moreover, because contagious diseases always involve a risk of infecting others, it is difficult to make a clear distinction between different forms of prevention in this context. For example detecting and then treating an infection with post-exposition prophylaxis is both primary and secondary prevention at the same time: it is secondary prevention regarding the person who is infected, but primary prevention regarding others who might otherwise be infected by that person. Indeed, since treating persons who are ill and contagious can also limit the period and degree of contagiousness – and hence protect population health – we can conclude that the goals of regular health care and the goals of public health are 'intertwined in the field of infectious diseases'.[258]

[255] Examples include general environmental and sanitary measures (e.g. maintaining safe water and food supplies); promoting installation of airbags in cars; promoting the use of condoms or motivating/educating people to change their behaviours in order to avoid, e.g. contracting heart disease (more exercise) or lung cancer (stop smoking); and offering safe and effective immunisation (Wallace, 2006); (Holland 2007, 135).

[256] Such preclinical conditions are most often detected by disease screening. Examples include the Pap smear for detecting early cervical cancer, routine mammography for early breast cancer, periodically measuring blood pressure and cholesterol levels (e.g. heart disease), and screening for high blood-levels in persons with high occupational or other environmental exposures.

[257] Examples include eliminating offending allergens from asthmatic patients; routine screening for and management of early renal, eye, and foot problems among diabetics; preventing the reoccurrence of heart attacks with anti clotting medications, and treating persons who contracted a contagious disease and have become *ill* (Wallace, 2006).

[258] (Bayer et al. 2007, 28).

Finally, public health reasons are relevant in the context of regular health care as well, especially when dealing with contagious diseases. Suppose a patient has asked his/her general practitioner to perform a blood test, and finds out s/he is HIV-positive. Regardless of whether we think that a doctor has an obligation to keep this confidential or not, it is at least *a* reason for thinking about alternative ways to prevent further spread of the disease, and about the fact that not keeping it confidential might result in this person not going to the doctor anymore. That, in turn, may negatively affect both the health of the person now shunning doctors and population health (the risk of spreading HIV). General practitioners too have to consider the health of those other than their immediate patients. In particular, this implies that considerations of preventing harm to others are relevant both in regular health care and in the context of public health. This at least supports the idea that public health and regular health care might not need normative frameworks that are different altogether.[259]

3.3. The need for trade-offs between liberty and population health

People will generally be motivated to take action to protect or promote their own health, exceptions notwithstanding. But even if they are not motivated thus, in regular health care individual autonomy is normally decisive for determining whether an intervention takes place or not. In most jurisdictions, competent individuals have the legal right to refuse even life-saving treatment. The aim of public health is to protect or promote population health, not so much the health of assignable individuals. It is less obvious, therefore, that individual autonomy should normally be decisive in this domain. Since public health inherently involves the triad individual–society–government,[260] public health ethics is inherently tied to *political philosophy*. Now while it is true that regular health care too is related to policy issues,[261] the relation between individuals and the state, but also the relationship between individuals and society – central themes in political philosophy – are of fundamental importance to the context of public health. This is because, for instance, many common interventions in infectious disease control may involve or even require government involvement, and because protecting or promoting population health

[259] Cf. (Verweij 2000, Ch.3). An additional reason is that this would severly complicate the possibility to make normative comparisons between practices.

[260] See e.g. (Holland 2010, 33).

[261] For instance, in relation to priority-setting (scarcity) or legalising specific actions (e.g. euthanasia).

may require some of the *intrusive* interventions that were discussed in Chapter 1, including potential liberty restrictions.

This section highlights an ethical issue that may be unique to public health practice. It is to do with a motivational problem connected to large-scale preventive endeavours like infectious disease control, which might necessitate liberty restrictions.

A motivational problem related to the "prevention paradox"

To understand the motivational problem, note that if primary prevention is successful, it 'results in things that do not happen'.[262] This means that specific individuals who benefit from such public health interventions cannot be identified.[263] In the words of Dan Beauchamp and Bonnie Steinbock:

> No politician can send postcards to particular individuals and claim credit for saving their lives through public health programs they have advocated.[264]

This holds true both for individuals with small health risks and for individuals at a high risk. In fact, a large number of people at a small risk may give rise to more cases of disease than the smaller number who are at a high risk.[265] This is mainly because it is generally very difficult, if not impossible, to predict who will actually get ill, even in hindsight.[266] For to know that we would have to know who would have fallen ill without the intervention. Also targeting the large number of people at a small risk will thus increase the success rate in terms of protecting/promoting population health, other things being equal. However, as a result, such measures offer little to each participating individual. This is known as the "prevention paradox":

[262] (Verweij and Dawson 2007, 22).

[263] In the case of secondary and tertiary prevention it *is* possible to identify specific individuals who benefit from interventions. For instance, it can be monitored whether treatment helps a patient to recover from an ailment.

[264] (Beauchamp and Steinbock 1999, 25).

[265] (Rose 1985).

[266] The big difference in the size of the two groups is obviously a contributing factor as well.

'preventive measures which bring much benefit to the population offer little to each participating individual'.[267]

Add to this that preventive measures may *themselves* involve risks – think of vaccination, which may have serious side-effects – and it becomes clear why the preventive paradox entails a motivational problem, especially in people who (think they are) are at low risk themselves. They are confronted with measures that (i) they might not actually need, (ii) that might not benefit them even if they need them, and (iii) might themselves involve risks. A small risk can be enough to negatively affect a person's motivation to take part in preventive activities. This is because the expected individual benefit from the preventive action is also small to begin with, at least in the short term.

A population approach – in which people at small risk also participate – is necessary for effectively protecting or promoting population health. But if this is exactly where motivation to participate may turn out to be low, then a population approach implies making trade-offs in public health practice – specifically between protecting liberty and protecting or promoting population health.

First appearances notwithstanding,[268] most authors in the public health ethics literature actually support the idea of a tension between protecting liberty and protecting or promoting population health.[269] This is the case even if they have diverse positions on the relative importance of liberty compared to public health[270] and/or have slightly different takes on how best

[267] (Rose 1985).

[268] See e.g. (Childress and Gaare Bernheim 2003, 1195); (Colgrove and Bayer 2005, 571); (Wilkinson 2009, 181) and references.

[269] Examples include (Beauchamp 1980, 121); (Bayer and Dupuis 1995, 310–311); (Pope 2000); (Coker 2001); (Kass 2001, 1778–1779); (Childress et al. 2002, 176–177); (Benatar 2003, 200); (Childress and Gaare Bernheim 2003, 1195–1197, 1218); (Parmet 2003, 1222); (Bayer and Fairchild 2004, 490–491); (Colgrove and Bayer 2005, 575); (Wynia 2005, 7); (Selgelid, Battin, and Smith 2006, xii); (Jacobsen et al. 2007, 145); (Nuffield Council on Bioethics 2007, 19); (Holland 2007, ix); (Wikler and Brock 2007, 87–88); (Buchanan 2008, 16); (Mah 2008, 192); (Gostin 2008, xxiv); (Munthe 2008, 40–43); (Arah 2009, 58–59); (Viens, Bensimon, and Upshur 2009, 215–216); (Battin et al. 2009); (Jennings 2009, 130); (Selgelid et al. 2011, 3); (Faden and Shebaya 2010); (Upshur 2010, 55); (Hann and Peckham 2010, 137–138:); (Cribb 2010, 23); (Wilson 2011, 269); (Verweij 2011, 100); (Newson 2011, 129); (Dawson 2011b, 150–152 and references); and (Allen 2011, 260).

[270] For example, (Selgelid 2009); (Dawson 2011a); and (Grill 2011) are critical of regarding liberty as the prime value, but do allow for liberty restrictions to protect or promote population health.

to qualify the 'real' tension in public health.[271] True, some authors make claims to the effect that there is no necessary tension between liberty and population health,[272] but they typically do so with regard to specific diseases[273] and/or concerning specific public health measures.[274] Claiming that liberty and population health go well together regarding specific diseases leaves open the possibility that they might not go well together concerning other diseases.[275] It is also true that there are authors who claim that trade-offs between liberty and population health are inevitable, but such statements are either made with regard to specific topics in infectious disease control – such as the threat of bioterrorism[276] – or they are an exaggeration of the actual position of the author.[277] Even if preventing bioterrorism does not necessitate liberty restrictions, this still leaves open the possibility that in 'regular' infectious disease control there are at least some instances when liberty and population health might not go well together.[278]

[271] For example, (Jennings 2007, 54–55) regards the 'true tension' as being 'torn between our private wills and ... our moral interests and commitments as members of a community of shared purposes'. Still, Jennings explicitly leaves open the option of liberty restriction for public health purposes (if the private will prevails).

[272] For instance, (Sutrop 2011) suggests that 'the dichotomy of autonomy and the common good may be overcome' (p. 543). But since her argument turns on 'the moral reorientation of the citizens' through education toward virtue (p. 536) there is ample room for tension between autonomy and the common good, at least until the "moral reorientation" of all citizens has been completed – if that is an attainable goal at all.

[273] See e.g. (Levine and Bayer 1989, 1663ff); (Mann et al. 1994, esp. 16–17); and (Jaffe and Hope 2010) with regard to HIV/AIDS. For a criticism of "AIDS exceptionalism" see e.g. (Burr 1997).

[274] An example of this is (Coker 2001), claiming that there is no evidence that *detention* in case of *tuberculosis* benefits population health. (Sutton and Upshur 2010) argue that *compulsory vaccination* programmes may lead to uptake outcomes contrary to those intended (p. 183). Finally, (Mariner, Annas, and Glantz 2005) regard public health programs based on force as a relic of the 19th century (p. 588) but also hold that 'Today, *involuntary isolation* and *quarantine* should be needed and used only in extremely rare cases' (p. 587). All italics added.

[275] See e.g. (Bayer and Dupuis 1995, 310–311), contrasting HIV/AIDS ('a new threat that has evoked a radical rethinking of public health practices stressing principles of voluntarism') to tuberculosis ('an ancient threat, the control of which epitomized the coercive tradition in public health').

[276] See e.g. (Gostin 2003, 1107–1108).

[277] Compare, for instance, (Gostin 2010, 23): 'inevitable trade-offs between personal liberty and public health', to (Gostin 2008, xxiv) 'sometimes public health officials confront hard choices between public goods and private rights', and to (Childress and Gaare Bernheim 2003, 159): 'Trade-offs are inevitable in the sense that *effective public health policies cannot always avoid them*.'

[278] George Annas is among the strongest critics of Gostin's position vis-à-vis bioterrorism. However, (Annas 2003, 1178–1179 and references) supports the claim that population health and liberty might not go well together in tuberculosis control, and (Annas 1982) supports the claim that population health and liberty go well together in, for instance, screening for PKU (phenylketonuria) – a hereditary metabolic disorder that can cause mental retardation.

3.4. Justifying trade-offs between liberty and population health on harm principle grounds

Public health programmes might require liberty restrictions. In this section I will show that libertarianism and communitarianism can support the same version of the harm principle and can justify liberty restrictions in infectious disease control by appealing to that version of the harm principle in at least some cases. Shifting the focus from the relation between individuals and the state (which is covered by the harm principle) to the relation between individuals, I will show in §3.5 that rule-utilitarianism and Scanlonian contractualism can support duties of individuals to not infect others as a specification of a more general duty to not harm others. Violation of such a duty can provide additional support for liberty restrictions on harm principle grounds. This will lay a first foundation for regarding the harm principle as a mid-level principle in infectious disease control. But let me start with a note on different ways in which trade-offs in public health may be conceptualised.

How to conceptualise potential trade-offs in public health

I have characterised the potential trade-offs in infectious disease control I am interested in as trade-offs between liberty and population health. There are also other ways that trade-offs in public health could be conceptualised.[279] For instance, we could think of trade-offs between public goods and private rights (including liberty rights). Another option would be to formulate potential trade-offs in terms of two collective goods: the good of population health and the good of limited government, on the assumption that society gains from the protection of individual liberties through a constitutional system of limited governmental interference. The reason for not choosing the first alternative here is that this would presuppose a commitment to a rights-based theory, whereas I am interested in the possibility of morally justifying trade-offs involving liberty from different normative perspectives. Regarding the second alternative, I think that not much depends on which option we take here. In both cases individual liberty has a central role, either *directly* – when it may be traded-off against population health – or *indirectly* – when the good of limited government is fleshed out in terms of, for example, protection of individual liberty. From the perspective of examining what could justify *liberty restrictions* in public health practice, my

[279] For both examples see e.g. (Gostin 2008, xxiv).

way of framing trade-offs has the advantage that it expresses directly that what may need to be traded-off against population health is liberty.

Our two versions of the harm principle

In §1.4 two versions of the harm principle were introduced: HP_1 ('It is justified to restrict the liberty of A to prevent A from causing harm to B') and HP_2 ('It is justified to restrict the liberty of A to prevent harm to B'). The main difference is that HP_1 only allows for coercion if the liberty is restricted of those who cause harm to others: it is "origin-centred". HP_2, on the other hand, is "origin-neutral". By dropping the condition of "causing harm", HP_2 allows for liberty restrictions in more cases than HP_1. Both versions of the harm principle require specification of the concept of "harm". Can diverging normative theories support HP_1 and/or HP_2?

3.4.1. Libertarianism

Libertarianism is often identified with the principle that each agent has a right to maximum equal empirical negative liberty, i.e. the absence of forcible interferences from others when one attempts to do things,[280] regardless of who those others might be – the state, our neighbours, complete strangers, or our friends. From a libertarian perspective, actions that preserve and promote maximum equal empirical negative liberty are morally right, and actions that don't are morally wrong. This is often fleshed out in terms of requiring consent from autonomous individuals. Indeed, a central component of libertarianism is the idea that what an autonomous person consents to cannot be said to "harm" him.[281] It must be considered "good" by his own standards *because* he has autonomously chosen it.

It is generally acknowledged that this liberty is not unlimited. Indeed, unrestricted liberty is self-defeating. If I were just to do anything I want to, without any regard for the effects on others – as an interpretation of my right to maximum empirical negative liberty – I would have to accord others these rights as well, since they too are endowed with the same liberty. But surely, if

[280] Libertarianism can be taken as a *derivative* normative theory (justified, for instance, on rule-consequentialist grounds), or as a *non-derivative* theory (e.g. as a natural rights doctrine) (Vallentyne 2012).

[281] This is known as the Volenti principle, short for *Volenti non fit injuria* – "To one who has consented no wrong is done". See e.g. (Feinberg 1984, 115–117 and references). Note that if we were to hold that a person is not harmed (in the sense of the harm principle) by that which s/he consents to, requires a *moralised* concept of harm.

others just do what they want without regard for me, this threatens my maximum *equal* empirical negative liberty, and vice versa. Libertarians therefore necessarily have to accept at least one limit to liberty: liberty itself.

Can libertarians support a version of the harm principle? They can. Specifically, libertarians can support an *autonomy-based* version of the harm principle, where "harm" is interpreted as violating someone's negative rights. This constitutes a moralised account of harm, according to which a moral criterion (violation of negative rights) is used to determine whether a person harms others in the relevant sense.[282] We could argue that since it is valuable for a person to live his life according to his own plans and values, others should not interfere with his life against his will, at least as long as *he* does not interfere with other people's lives. However, if he *does* interfere with the lives of others, the state may intervene to prevent him from violating other people's negative rights or to reduce the probability of his violating them.

Note that since the only actions that are morally right, according to libertarian theories, are those that preserve and promote maximum equal empirical negative liberty, liberty may be restricted to that end *only*. Moreover, from the perspective of a libertarian theory, the state may not coerce anyone other than the person who would otherwise violate the negative rights of others. Only *he* who threatens to violate the negative rights of others loses the right to non-interference. In other words, libertarians can only support a version of the harm principle that is "origin-centred".[283]

This means that libertarians can support HP_1: 'It is justified to restrict the liberty of person A to prevent A from causing harm to B.'[284] Neither HP_1 nor HP_2 specifies what counts as harming others. Therefore, libertarians can support HP_1 and then employ their 'own' concept of harm in applying this version of the harm principle. Libertarians *cannot* support HP_2, however, because that would allow the restriction of liberty of someone who otherwise would not himself violate the negative rights of others.

[282] (Holtug 2002, 382ff).

[283] (Holtug 2002, 383).

[284] Cf. the discussion of the "extreme liberal position" in (Feinberg 1984, 26). Feinberg discusses liberty restrictions in the context of the *penal law*.

Implicitly, I have given a specific interpretation of the negative rights involved, namely a *deontological* interpretation, to be distinguished from a consequentialist interpretation. On a consequentialist interpretation of rights, it would be allowed to violate those rights merely to promote the good. On a deontological interpretation, this is ruled out. This generally reduces the range of cases in which the state may justifiably coerce individuals.[285]

What does this imply for libertarians using HP_1 in the context of infectious disease control? Surely libertarians can accept any public health intervention that people *consent to*. This includes interventions creating public goods. But will libertarians also accept the claim that it may be necessary to trade off liberty and population health? They should. If we are dead, we are no longer free in the sense that we can do what we want without interference from others. Libertarians will at least regard very serious – say highly contagious and potentially deadly – threats to our health caused by others as an infringement of our right to maximum equal empirical negative liberty. Such infringements, we have seen, could very well justify a restriction of a person's liberty.

However, it makes a difference whether we can easily 'step out of the way' of contagious diseases or not. If we can easily step out of the way of contagious diseases but don't actually step out of their way, restricting the liberty of others to protect us is not allowed.[286] Not stepping out of the way of infectious diseases when we could easily have done so is interpreted as voluntary risk-taking.[287] Living in society is impossible without accepting at least some "background risks". We cannot avoid certain risks without stepping out of society altogether. Libertarians will surely hold that at least some risks are *assumed* simply by going out in public. However, state coercion is justifiable if risks are higher than the normal background risks. Mark Cherry, a well-known libertarian, states:

[285] Construing the rights as deontological entails a moralised concept of "harm" (Holtug 2002, 383), according to which to "harm" someone *presupposes* that our behaviour is morally objectionable (Holtug 2002, 377ff).

[286] (Engelhardt, Jr. 1986, 326 note 26).

[287] Note that we cannot simply claim, for example, that coercion is not allowed to prevent the transfer of HIV, which typically requires intimate contact. Recall that one of the Situations of Contagion (SoC_5) entails someone willingly and knowingly infecting others (§1.2). In that case stepping out of the way might not be that easy or even impossible.

> [G]overnments possess very limited legitimate authority to restrict individual freedom unless the risk to others is greater than the normal background risks that persons assume by going out into public ... when one ventures out into public one consents to many health risks, but not usually to the risk of picking up a highly contagious and crippling or deadly disease, which can be passed on to others through casual public contact. Such a significant and unusual risk likely justifies compulsory vaccination for diseases such as polio and smallpox, which are dangerous and highly contagious through casual contact. It might even justify quarantine, or perhaps involuntary treatment, for persons with highly infectious and very dangerous diseases ... Insofar as ... disease can be spread by casual contact, it would likely be justifiable for patients with extensively drug-resistant tuberculosis to be quarantined, with legally mandated treatment, if necessary, to defend nonconsenting others from exposure to the deadly disease. The risks associated with such diseases are significantly greater than the background risks that one generally assumes in daily life.[288]

The examples of forced vaccination support the claim that on libertarian grounds coercion can also be justifiable in SoC_1, that is, in cases where individuals are not contagious yet but may contract a contagious disease when they do not take preventive measures. Further to the argumentation in §1.4.2, justifying this by appealing to the harm principle will only work by either appealing to HP_2 (aimed at *general* harm prevention) or by employing a moralised concept of harm when appealing to HP1 (aimed at preventing *harmful conduct*). I have argued above that libertarians cannot support HP_2. They can support HP1, however, and typically also employ a moralised account of harm. Not getting vaccinated against at least very serious diseases that we cannot easily evade, then, can be understood as seriously threatening the maximum equal empirical negative liberty of individuals, and provides a ground for coercive state interference. Such interference can perhaps be justified by appealing to HP_1, although I am inclined to say that this overstretches the concept of "causing harm".[289]

It may be objected, at this point, that libertarians are typically strong proponents of the free market, and fierce critics of state interference. As was explained in §3.1.2, the distributive dimension of population health entails that population health can be improved by reducing certain health inequalities. Is this compatible with libertarianism? We might think that it is not. *Generally*, reducing health inequalities seems to presuppose a specific theory of justice – namely of the egalitarian or the prioritarian kind. Such theories of justice, in turn, might require

[288] (Cherry 2009, 288–289).

[289] Cf. §1.4.2.

redistribution of property (taxes), which libertarians are generally opposed to, based on strong interpretations of property rights.

I would like to answer this objection in two steps. First, as indicated by the shift in Dutch vaccination policy against hepatitis B, *offering* vaccination to everyone may be more effective than a high risk group strategy in reducing (i) the incidence of disease in the overall population, and (ii) health inequalities as well. But if that is the case, then at least in infectious disease control it is not necessary to appeal to egalitarian or prioritarian theories to support reducing health inequalities to begin with. Health inequalities may be reduced as a result of more general policies aimed at reducing infection risks.

What about the 'problem' of taxation? Recall that on a libertarian account, giving or withholding consent makes the difference between being harmed or not by the things that others do that affect our lives. On this view, individuals can be harmed just as much by being taxed as by being infected by others. Other things being equal, setting up a system of infectious disease control requires money. I can imagine that for many individuals, including libertarians, there will at least be *some* point at which they are willing to pay a certain amount of money to buy protection against infectious diseases. Libertarians interested in protection against infectious diseases have several options open to them: buying protection via the market, via a system of taxation, or via a combination of the two. But if the aim is to protect the right to maximum equal empirical negative liberty, which system is to be preferred is an *empirical* question. State intervention, then, is not to be excluded in advance.[290]

Suppose that government involvement is required, and that taxation is called for. Suppose further that there will at least be some persons who (i) assume all risks connected to infectious diseases, and (ii) do not want to pay taxes for setting up a system of infectious disease control. These persons, I think, face a choice between (1) paying taxes against their will, and (2) having their liberty restricted to prevent harm to others – possibly on a regular basis, given the ease with which many contagious diseases spread.[291]

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[290] Cf. §3.1.1.

[291] Chapter 5 introduces several considerations to help narrow down the scope of the harm principle. For instance, that one should always use the least intrusive means to reduce infection risks. We cannot exclude in advance that using tax revenues to finance a system of infectious disease control is at least as effective but less intrusive than restricting the liberty of individuals in other ways (assuming that taxation indeed violates our negative rights).

A final remark concerns the idea that libertarians might understand the value of health in terms of liberty. Does this pose problems for the possibility of conceptualising trade-offs between liberty and population health? Not necessarily. For perhaps even a theory such as this can still see a tension between promoting the health of a population (the liberty of many) and the health/liberty of an individual.

3.4.2. Communitarianism

Communitarianism is commonly introduced as a criticism of at least some liberal theories. I will try to give a positive – though only partial – account of what communitarianism entails. Particularly relevant for this study is (1) the endorsement by communitarians of a "perfectionist" state;[292] and (2) the idea that the common good takes priority over individual rights.[293]

Let us take the endorsement of a perfectionist state first. Central to communitarian thinking is the idea that being part of a community comes with specific social responsibilities[294] that follow from the pursuit of shared ends that define a community's way of life. "Community" can be defined as being as narrow as the family or as broad as the political state. The relevant community for our purposes is the political state, in which many smaller communities operate, and in which individuals might display many different ways of life. The endorsement of state perfectionism entails that different ways of life are *evaluated* from the perspective of the common good. In the case of communitarianism, the common good is a substantive conception of the good life,[295] consisting of communal and cooperative values (including family values, for example), values inherent in traditional practices (e.g. medicine), and social goals.[296] According to communitarian theories, actions are morally right if they conform to or promote the community's

[292] They have this in common with perfectionist liberal theories such as (Raz 1986).

[293] Communitarians also criticise the alleged liberal idea of atomistic, isolated individuals ("the unencumbered self"), and the liberal account of the value of self-determination. The first criticism is based on an unfair account of liberal theories. See e.g. (Kymlicka 1990, 207–215) and (Bell 2012). I will return to the different relative value that normative theories attach to individual liberty in §5.1.4.

[294] Cf. (Beauchamp and Childress 2009, 357).

[295] Endorsing state neutrality is itself a specific interpretation of the common good in which the common good results from counting preferences of individuals equally (if consistent with the principles of justice). The underlying idea is that people's interest in leading a good life is advanced when society does not discriminate against the projects that are most valuable to them (Kymlicka 1990, 206).

[296] Cf. (Beauchamp and Childress 2009, 356).

way of life and morally wrong if they do not. Hence, communitarian politics entails encouraging people to adopt a conception of the good that conforms to the community's way of life, and discourages conceptions of the good that conflict with it.[297]

This also informs us about how communitarians view public health.[298] Dan Beauchamp and Bonnie Steinbock, for example, hold that:

> [P]ublic health is ... a perspective, one that stresses ... the "population" or "community" approach ... In that it seeks to expand the scope of community health institutions or programs in a liberal democratic society, public health can be viewed as a kind of communitarianism, so long as this is understood as a practical, rather than theoretical, philosophy ... public health is about facing health problems as a group and using organized community approaches to resolve those problems ... [public health requires] consideration of not just what each individual deserves and needs but of what will help whole communities hold together and what will encourage people to consider themselves a community.[299]

This quote backs up the idea that communitarianism can support infectious disease control measures. From Chapter 1 it should be clear that infectious diseases can affect many types of social interaction, including personal and intimate relations. Surely this is of interest for communitarians, since infectious diseases can disrupt whole communities and can, via affecting population health, thwart the pursuit of (other) shared ends. Contagious diseases have this potential in all Situations of Contagion, ranging from situations in which healthy people can take preventive measures (SoC_1) to situations in which people consider willingly and knowingly infecting others (SoC_5). It follows that in principle communitarians can support infectious disease control measures in all SoCs. Given the focus in communitarian ethics on, for example, cooperative values, such measures at least include promoting forms of cooperation that are required to protect and promote population health (§3.1.3) and ways of promoting the adoption of conceptions of the good entailing that it is good to take preventive measures against infectious diseases.

[297] (Kymlicka 1990, 206–207).

[298] (Holland 2007, 43–45) discusses several problems with appeals to communitarianism in public health ethics, but concludes that: 'the communitarian critique ... should be allowed to inform public health ethics issues' (p. 45).

[299] (Beauchamp and Steinbock 1999, viii–ix).

Can communitarians also support *liberty restrictions* in infectious disease control? This brings us to the second point that was raised in the introduction to this section, about the relation between individual rights and the common good. In communitarian ethics, the public pursuit of shared ends that define a community's way of life takes precedence over the claims of individuals to the resources and liberties needed to pursue their own conceptions of the good.[300] It follows that if individuals exercise their liberties in such a way that infection risks may thwart the public pursuit of shared ends that define the community's way of life, it can be justified to restrict their liberty.[301] It is easy to see, then, that communitarian ethics allows for trade-offs between liberty and population health. However, given the general commitment to *communal ties* in communitarian theories, and given that liberty restrictions typically restrict social contact and interaction, communitarians will generally consider such restrictions to be troublesome.

Communitarian ethics allows for trade-offs between liberty and population health, but can communitarians also support liberty restrictions in infectious disease control on *harm principle* grounds? I will argue that they can. More specifically, I will argue that communitarians can support both HP_1 and HP_2.

Consider the distinction between "agent-causality" and "exposure-causality" that was introduced by Dan Beauchamp and Bonnie Steinbock. Agent-causality focuses on what individuals do to invite or to accept exposure to dangerous conditions. By having unprotected sex or sharing needles, an individual may be said to cause himself to get infected with HIV. Exposure-causality focuses on causes that expose whole communities or groups to health hazards.[302] The authors use this distinction to suggest that "the communitarian perspective" justifies preventive measures on harm principle grounds, but in a slightly different way from, for example, the normative approach they label as the "burdens-on-society thesis":

[300] (Kymlicka 1990, 206). The idea of individual rights taking priority over the common good is challenged by (Taylor 1979), for example.

[301] At least up to the point that restricting the liberty of individuals can itself thwart the public pursuit of shared ends that define the way of life of a community.

[302] (Beauchamp and Steinbock 1999, 95–96).

> [T]he rationale for the coercive measures is ... that minor infringements on the liberty of individuals ... are justified by the great good that can be accomplished. Unlike the burdens-on-society thesis [the thesis that some choices made by individuals impose harms on society even if they do not directly impose harms on specific others], the communitarian perspective does not blame individuals for imposing costs on society. However, both views justify preventive measures on harm-principle grounds.[303]

I take this passage to imply that the "burdens-on-society thesis" focuses on agent-causality, whereas the "communitarian perspective" focuses on exposure-causality. Note that in infectious disease control, the difference between agent-causality and exposure-causality might not be as big as it perhaps can be in other areas of public health. Since inviting infection risks ourselves nearly automatically implies that we pose a risk to others, individuals who 'accept or invite exposure to dangerous conditions' (agent-causality) might very well be 'a cause that exposes whole communities or groups to health hazards' (exposure-causality). In any case, it seems safe to conclude that communitarians can at least support HP_1: 'It is justified to restrict the liberty of A to prevent A from causing harm to B.'

Communitarians can also support HP_2: 'It is justified to restrict the liberty of A to prevent harm to B.' To see this, note that even if an individual who accepts or invites exposure to dangerous conditions (agent-causality) can be a cause that exposes whole communities or groups to health hazards (exposure-causality), this does not *exhaust* the possibilities of exposure-causality. There are many situations in which individuals could do something to prevent whole communities or groups being exposed to health hazards without *themselves* accepting or inviting exposure to dangerous situations. Think of destroying reservoirs of mosquitoes (malaria). Surely, if infectious diseases threaten the pursuit of shared ends that define a community's way of life (think of raising children, who may fall prey to malaria), communitarians would be willing to mandate preventive measures, such as destroying the reservoir. Communitarians regard threats to population health as harms, regardless of whether someone can be assigned as the cause. To coercively prevent such harms requires an origin-neutral version of the harm principle, such as HP_2.

What concept of harm would communitarians employ? It is worth repeating part of the last quote by Dan Beauchamp and Bonnie Steinbock:

[303] See (Beauchamp and Steinbock 1999, 99).

> [T]he rationale for the coercive measures is ... that minor infringements on the liberty of individuals ... are justified by the great good that can be accomplished.

On the basis of this claim, we can at least rule out an autonomy-based concept of harm employing deontological rights, as we found while discussing libertarianism (§3.4.1). On such an account, liberty restrictions just to promote the good would not be allowed. The idea that liberty restrictions can be justified by the good that this can accomplish seems to suggest a consequentialist account of liberty rights at best.[304]

A communitarian concept of harm must at least be connected to the pursuit of shared ends that define a community's way of life, no matter what the content of these ends is. This implies a moralised account of harm that makes statements about harm being dependent on the violation of a moral norm. In communitarian ethics, the norms inherent in a community's way of life set the standard against which the ways of life of individuals in that community ought to be evaluated. The shared ends that define a community's way of life must of course be specified. The way to specify these ends and norms on a communitarian account is a matter of shared consensus about the good society.[305] This leaves room for additional elements to be included as part of a community's concept of harm.

3.5. A duty to not infect/harm others

It has been shown that libertarians and communitarians can justify trade-offs between liberty and population health in infectious disease control by appealing to HP_1. Communitarians, it was argued, can also justify such trade-offs by appealing to HP_2. That discussion focused on the relation between individuals (who might spread contagious diseases to others) and the state (that might be justified in restricting their liberty to prevent that). In the final section of this chapter, I will shift the focus to the relationship between individuals, i.e. to the domain of potential duties individuals might have towards one another. I will show that two normative theories (rule-utilitarianism and Scanlonian contractualism) can support a duty of individuals to not infect

[304] (Holtug 2002, 379).

[305] See e.g. (Callahan 1990, 105–13).

others as a specification of a more general duty to not harm others. Violation of such a duty, I will argue, can provide additional support for liberty restrictions in infectious disease control on harm principle grounds.

The duty to not harm others is typically discussed in the bioethical literature under the heading of the principle of "nonmaleficence". Tom Beauchamp and James Childress famously claim that a duty of nonmaleficence can be supported by diverging normative theories.[306] Interestingly, the authors do not support this claim by explicitly discussing the exact place and meaning of their "principles of biomedical ethics" in different normative theories themselves.[307] Neither do the authors explicitly distinguish between considerations concerning harm to others in the context of the relation between individuals (where discussion of a duty to not harm others is relevant) and considerations of harm to others in the context of the relation between individuals and the state, not even in discussing potential restrictions on autonomy in the context of public health (which, in my opinion, would also require, for example, appealing to the harm principle).[308] Beauchamp and Childress specify the principle of nonmaleficence as the obligation 'not to inflict evil or harm on others', a specification that they treat as equivalent to saying that individuals have a duty not to *cause* harm to others.[309]

There is a discussion about whether the obligation not to cause harm is properly regarded as the specification of a separate and distinct duty of nonmaleficence or, alternatively, whether it is part of a general duty of "beneficence" that also includes the obligation to *prevent* harm, the obligation to *remove* harm, and the obligation to do or promote good.[310] Is this discussion relevant for the purposes of this study? Not necessarily. Whether it is relevant depends on the flexibility of the concept of "causing harm" to others. As long as different roles that individuals can play in spreading contagious diseases can adequately be conceptualised as potentially *causing* harm to others (§1.4.2), it would seem that potential liberty restrictions that can be morally justified on

[306] (Beauchamp and Childress 2009, 149).

[307] Concerning the place of the principle of nonmaleficence in different normative theories the authors include two references, one to W.D. Ross, the other to John Rawls. See (Beauchamp and Childress 2009, 190 note 2).

[308] See e.g. (Beauchamp and Childress 2009, 105): 'If our choices endanger the public health, potentially harm innocent others ... others can justifiably restrict our exercises of autonomy.' Cf. (Arras 2010, note 1) who treats the principle of nonmaleficence and the harm principle as equivalent.

[309] (Beauchamp and Childress 2009, 151).

[310] (Beauchamp and Childress 2009, 149–150 and references).

harm principle grounds (e.g. HP_1, which explicitly incorporates that A causes harm to B) can gain additional support when individuals neglect their obligation to not cause harm to others, *regardless* of whether this obligation is a specification of a separate and distinct duty of nonmaleficence or part of a general duty of beneficence.

3.5.1. Rule-utilitarianism

Rule-utilitarianism is a specific type of consequentialist theory. Consequentialist theories hold that what is morally right to do always depends on the goodness of consequences. To avoid circularity, the goodness of these consequences must be explained in terms of non-moral values that do not already depend on which acts are right.[311] According to utilitarian theories, this non-moral value is well-being. A distinctive feature of utilitarian theories is the idea that utility (aggregate well-being) should be maximised.

Commonly, three alternative concepts of well-being are distinguished: hedonistic theories, desire-based theories, and objective list theories. Very generally, *hedonistic* theories of well-being hold that well-being consists in the greatest balance of pleasure over pain. According to desire-based theories, well-being consists in the satisfaction of the desires of individuals. In principle, *objective list* theories of well-being can include any item that consists neither solely in pleasurable experiences nor solely in the satisfaction of desires. An example of what may be put on an objective list is autonomy, if we were to claim that the informed and reflective living of one's own life for oneself itself constitutes a good.[312] Another example of what people may have objective reason to value is their health. Our health is a good not just for purely instrumental reasons.

Theories of well-being also represent a conception of *harm*. On hedonistic theories of well-being an individual is harmed if the quality of a person's mental state is lowered. A person is harmed according to a desire-based theory of well-being when his desires are frustrated.[313] Assuming, for the sake of argument, that autonomy is on the objective list, a person is harmed on an objective list theory of well-being if his autonomy is diminished.

[311] (Darwall 1998, 81).

[312] (Crisp 2008).

[313] (Holtug 2002, 364–365).

Can the risk of spreading contagious disease be qualified as potentially harming others on all accounts of well-being? This does not seem to present any problems. To the extent that being infected with contagious diseases can cause displeasure and a balance of pain over pleasure, a hedonistic theory of well-being seems to allow for judgements to the effect that potentially spreading diseases that can have this effect qualifies as posing a risk of harm to others. Everyone who has ever had the (real) flu will acknowledge that even a common disease such as the flu can cause a balance of pain over pleasure, even if this is temporary. Desire-based theories seem to have an even lower threshold for judgements to the effect that potentially spreading diseases that can have this effect qualifies as posing a risk of harm to others, in the sense that if person A desires that s/he is not infected with a contagious disease, other persons posing a risk of spreading a contagious disease to him/her may be said to pose a risk of harming person A. What about objective list theories? Note that, in our discussion of different theories of health, a distinction was made between positive and negative accounts of health (§3.1.2). An example of a positive account of health was the biomedical model, according to which health is the absence of disease. The well-being account was presented as an example of a positive account of health, entailing not only that a person enjoys well-being, but also that s/he has the *capacity* to enjoy well-being. The capacity to enjoy well-being consists neither in pleasurable experience alone nor solely in desire-satisfaction, and this makes at least positive accounts of health plausible candidates to be put on an objective list theory of well-being. But negative accounts of health might be put on an objective list of well-being as well. For even if, on a negative account of health, health is not *itself* defined in terms of having the capacity to enjoy well-being and actually enjoying well-being, health understood as the absence of disease can still be regarded as good *independent* of whether a person desires to be safeguarded from disease and regardless of whether, for example, contracting a disease affects the balance of pleasure over pain. Given the potential negative effects of infectious diseases on our health,[314] and assuming that people do indeed have objective reasons to value their health, infection risks can surely harm a person on an objective list account of well-being.

Rule-utilitarianism holds that, put negatively, an act is morally wrong if, and only if, it is contrary to a (possible) rule, such that were society to have a practice of enforcing that rule

[314] See §1.1.

(formally or informally), this practice would maximise overall net well-being.[315] Since utilitarians regard well-being as the highest good, and since all theories of well-being can support judgements to the effect that potentially spreading contagious diseases to others qualifies as posing a risk of harm to others, rule-utilitarianism must allow for such judgements as well. What is relevant from a utilitarian perspective is the overall net well-being of all creatures that matter morally. Utilitarianism is an *aggregative* theory. It is no wonder, then, that utilitarianism is generally thought to be able to account for at least some of the collective considerations that are part and parcel of public health activities, e.g. the aggregative dimension of population health and the idea of risking harm to population health.[316]

Can rule-utilitarianism support a duty to not harm others? Very generally, rule-utilitarianism can support *any* rule, on the condition that the practice of *enforcing* this rule would maximise overall net well-being. It is clear that at least with regard to some contagious diseases – say a highly contagious and serious disease that can be spread by asymptomatic persons – people not taking precautions to prevent this from happening can have a significant negative effect on overall net well-being (population health). At least in those cases, rule-utilitarians can accept a rule that prescribes people from taking necessary precautions to prevent spreading contagious diseases to others. A duty to not harm others is such a rule. It is safe to conclude, then, that rule-utilitarianism can support individual duties to not harm others and can understand not taking precautions to prevent spreading contagious disease to others as neglecting this duty in at least some circumstances.[317] Such a rule would of course need to be specified further, for instance concerning what exactly counts as harming others and which precautions are obligatory.

Finally, utilitarians can reduce the value of liberty to the value of well-being. Does this pose a problem for the possibility of conceptualising *trade-offs* between liberty and population health (aggregate well-being) in utilitarian theories? Not necessarily. Utilitarians may still be able to see at least some tension between promoting the health of a population (aggregate well-being) and protecting the liberty of individuals. While aggregate well-being may be best promoted by

[315] (Darwall 1998, 135). My definition of rule-utilitarianism differs from Darwall's in one respect. Whereas Darwall talks about maximising overall net *happiness*, I choose to talk about *well-being*. I think this is more appropriate as a *general* description of utilitarianism in the sense that promoting happiness is *one* way that overall net well-being might be promoted.

[316] See e.g. (Beauchamp and Steinbock 1999, 13–16); (Holland 2007, 7–17).

[317] This conclusion is more reserved compared to (Verweij 2005, 329).

granting – as a general rule – individuals their liberty, there may come a point when allowing certain behaviour is detrimental to aggregate well-being.

3.5.2. Scanlonian contractualism

Scanlonian contractualism differs in several ways from utilitarian theories. To start with, it explicitly denies that well-being is a "master value",[318] let alone a value that should be maximised. An action can be morally right according to Scanlonian contractualism even if it does not maximise well-being. Indeed, whereas utilitarian theories take a collective approach in deciding what is morally right, Scanlonian contractualism takes an individualistic approach.[319] What is crucial, on this approach to arriving at judgements of right and wrong, is being moved to find principles for the general regulation of behaviour that others, similarly motivated, could not reasonably reject. Negatively formulated, an act is *wrong*, according to Scanlonian contractualism, if and only if any principle that permitted it would be one that could be reasonably rejected by people who are also motivated to find principles that no one can reasonably reject.[320]

Contrary to utilitarian theories, it can be *enough* to reject a principle that *one individual* can reasonably reject. But not just any reason an individual puts forward against a principle for the general regulation of behaviour is enough to reject that principle. The relevant reasons have to be "generic". They require that we take other people's interests into account in deciding what principles to follow. In deciding whether a principle is "rejectable" we must take into account the consequences of its acceptance in general, not just the consequences of its acceptance in the particular case we happen to find ourselves in. Essential to the idea of a generic reason in Scanlon's sense is the need for commonly available information about what people have reason to want. In deciding whether a principle is rejectable, we cannot know which *particular* individuals will be affected by it and how (e.g. as agents on which moral demands are made, or as victims). Hence, there is a need for commonly available information about what people have reason to want.

[318] (Scanlon 1998, 142).

[319] (Ibid., 234).

[320] (Ibid., 4).

Can spreading a contagious disease to others be wrong according to Scanlonian contractualism? The phrase "we cannot know which particular individuals will be affected" should sound familiar by now. Recall that successful primary prevention results in things that do not happen (§3.3). Moreover, when it comes to infectious diseases, we may infect others without even knowing that we are infected ourselves. One of the examples that Scanlon discusses is especially relevant in this regard: that we commonly understand that people have strong reasons to want to avoid bodily injury. I think it is not controversial to assume that, indeed, people *generally* have strong reasons to avoid bodily injury. It is also uncontroversial to believe that contagious diseases can lead to (even serious) bodily injury. The combination of these uncontroversial claims represents a rather straightforward way in which principles regulating the prevention of the spread of contagious diseases could be justified by Scanlonian contractualism. This is especially so if we accept that it is a small step, if one at all, to move from the claim that people generally have strong reason to avoid bodily injury to the claim that people generally have strong reason to avoid bodily *harm*; and a small step from claiming that contagious diseases can cause bodily injury to claiming that contagious diseases can cause bodily *harm*. If people generally have strong reasons to avoid bodily harm, then anyone motivated by the aim to find principles that no one can reasonably reject cannot reasonably reject a principle requiring individuals to take precautions to avoid spreading contagious diseases to others in at least some cases, for instance when the disease may cause serious harm to others and where precautions are not too burdensome. Nor can they reasonably reject a principle forbidding, for example, the intentional infliction of serious harm.[321] Trade-offs between liberty and population health, then, can also be conceptualised and justified within Scanlonian contractualism. Again, further reflection is necessary to determine what precautions are reasonable given the potential harm involved.

If what I have said so far makes sense, we can conclude this section by saying that two rather diverging normative ethical theories – rule-utilitarianism and Scanlonian contractualism – can support duties of individuals to not harm others and can understand not taking precautions to prevent spreading contagious disease to others as neglecting this duty in at least some

[321] Scanlon holds more generally that his version of contractualism can 'accept a prohibition against intentionally inflicting serious harm on others' (Scanlon 1998, 209).

circumstances.[322] If the state would already be justified in restricting the liberty of individuals to prevent infection risks on harm principle grounds, then the violation by individuals of any duties they may have to not infect others provides further support for coercive state interference.

3.6. Conclusions

Appealing to the harm principle in infectious disease control presupposes that it might be necessary to make trade-offs between liberty and population health. In this chapter it was shown that infectious disease control is a public health issue in all relevant respects. Contagious diseases can affect all dimensions of population health (§3.1.2), and common interventions in infectious disease control involve all senses in which public health is a collective enterprise aimed at protecting or promoting the health of the public (§3.1.3).

Public health ethics is a relatively new field. There is ample discussion on what normative perspective would be adequate for supporting public health activities. I have put the idea in perspective that public health might require a rather different normative framework from the one governing regular health care by showing that, particularly in infectious disease control, there are many commonalities between regular health care and the context of public health. For instance, in both contexts considerations of preventing harm to others are relevant (§3.2).

However, public health does raise specific ethical issues. I focused on one difference in particular, involving a potential motivational problem that could result from the insight that preventive measures which bring much benefit to the population offer little to each participating individual ("the prevention paradox"). This, it was shown, may necessitate trade-offs between liberty and population health. For if a population perspective requires large-scale cooperation, and the nature of the measures is such that motivation to participate is low, potentially intrusive state interference may be needed to protect/promote population health (§3.3). It was shown that libertarianism and communitarianism can support liberty restrictions in infectious disease control by appealing to HP_1 ('It is justified to restrict the liberty of A to prevent A from causing harm to B'). Communitarians can also support trade-offs between liberty and population health by appealing to HP_2 ('It is justified to restrict the liberty of A to prevent harm to B') (§3.4). Shifting

[322] This provides support for the claim by (Beauchamp and Childress 2009, 152) that '[a]lthough harm is a contested concept, everyone agrees that significant bodily harms ... are paradigm instances of harm'.

the focus from the relationship between individuals and the state (covered by the harm principle) to the relationship between individuals, I showed that rule-utilitarianism and Scanlonian contractualism can support a duty to not infect others with a contagious disease as a specification of a more general duty to not harm others. Violation of such duties may provide additional support for liberty restrictions on harm principle grounds (§3.5).

These conclusions are all still rather general. But a first foundation has been laid for regarding the harm principle as a mid-level principle in infectious disease control. The main challenge, of course, is whether the general conclusions drawn in this chapter can be maintained in specific cases of infectious disease control. Can diverging normative theories morally justify the same specific interventions based on the same version of the harm principle? In order to examine this, we must first explore the other side of potential trade-offs between liberty and public health. Chapter 4 will discuss different accounts of liberty and liberty restriction, and will map the extent to which common interventions in infectious disease control can be said to restrict liberty on different accounts of liberty.

4. Trade-offs in infectious disease control. Part II:
Public health measures as potential restrictions of individual liberty

Appealing to the harm principle in support of public health measures presupposes that there might be a tension between protecting or promoting population health, on the one hand, and individual liberty, on the other hand – for the harm principle is a *liberty-limiting* principle. Indeed, to prevent infection risks, it might be necessary to trade off the value of population health and the value of individual liberty. Chapter 3 focused on the "public health" side of such potential trade-offs. The present chapter focuses on the "liberty side". There are several accounts of liberty and coercion, and normative theories are often associated with such different accounts. That could potentially yield different results as to whether a specific public health measure is coercive. The aim of this chapter is to map the potential for divergence between normative theories on these issues, and to examine whether it poses problems for the possibility of a *mid-level* harm principle in infectious disease control.

Outline

I will start by discussing the most prominent accounts of liberty (§4.1) and explaining that these are variants of one and the same *concept* of liberty (§4.2). Subsequently, I will discuss several prominent theories of coercion and show that the theories can converge on whether *specific* measures in infectious disease control are coercive or non-coercive (§4.3). As we will see, however, normative theories might employ different accounts of liberty and different theories of coercion. Moreover, theories of coercion may *diverge* on whether some measures in infectious disease control are coercive or non-coercive. I will argue in §4.4 that such differences do not necessarily undermine the possibility of regarding the harm principle as a mid-level principle in infectious disease control. Section §4.5 sums up the main conclusions.

4.1. Prominent accounts of liberty

What is liberty? Since we are discussing whether a range of public health measures can be morally justified by appealing to the harm principle (measures to control infectious diseases), and

since such measures are commonly executed by representatives of the state, accounts of *political* liberty are of primary interest for our purposes. These involve the relation between the state and individuals, who may be confronted with the public health measures. Prominent accounts of political liberty are: negative liberty, positive liberty, and republican freedom.[323]

4.1.1. Negative and positive liberty

The distinction between negative and positive liberty was most influentially formulated by Sir Isaiah Berlin. According to Berlin, we use negative and positive liberty in an attempt to answer two different questions. We use negative liberty to answer the question: *'What is the area within which the subject ... is or should be left to do or be what he is able to do or be, without interference by other persons?'* (call this Q1). Positive liberty, according to Berlin, is an attempt to answer a different question: *'What, or who, is the source of control or interference that can determine someone to do, or be, this rather than that?'* (call this Q2).[324]

Negative liberty is commonly associated with one's choices not to be interfered with by others – freedom as "non-interference". This account is 'negative' in that freedom refers to the absence of something: the absence of external obstacles, barriers, or constraints. Examples of authors commonly associated with a negative concept of liberty include Hobbes, Bentham, Mill, and Berlin. In a purely descriptive sense, human beings may never be absolutely free negatively. In our daily lives there will probably always be someone 'interfering' with our lives (strangers, friends, colleagues, the state, et cetera). Typically, negative liberty is used in a *normative* sense, and a normative criterion is used to separate interferences by others that count as restricting our negative liberty, and interferences that don't. Often, this normative criterion is formulated in terms of consent – however this is conceived. The idea is, then, that unless we voluntarily consent to it, interference by others restricts our liberty.[325]

Positive liberty is commonly associated with something being present. It may refer to acting such that one takes control of one's own life, realises one's fundamental goals, or becomes

[323] I will use the terms liberty and freedom as roughly equivalent. This is not unusual. See e.g. (Carter 2012 and references).

[324] (Berlin 2002, 121–122).

[325] Cf. §3.4.1.

one's 'true' self (or the *possibility* of acting as such). Classic authors who are commonly regarded as employing a positive account of liberty include Spinoza, Rousseau, and Hegel.[326] Positive liberty can also be used in both a descriptive and a normative way. We can simply describe whether someone takes control of his/her own life, et cetera, and conclude whether someone is free in a positive sense or not. Promoting someone's positive liberty typically requires that we *do* something, e.g. provide the means for taking control of one's life, such as in relation to education. Using positive liberty in a normative sense involves claims such as that a person ought to take control of his/her own life or that others ought to provide the means or conditions necessary to enable a person to realise his/her fundamental goals or become his/her 'true' self.

Berlin famously stated that "negative liberty" and "positive liberty" are two competing and mutually exclusive interpretations of a political ideal.[327] Note that, to truly be competing accounts, negative and positive liberty must be understood as giving different answers to one and the same question. And in fact they do. Negative liberty necessarily involves a claim connected to Q2 as well, namely that it is *the subject* who is or should be 'the source of the control ... that can determine someone to do, or be, this rather than that'. Central to the discussion between proponents of negative liberty and proponents of positive liberty as interpretations of a political ideal, I submit, is the question of who (or what) may interfere to protect or promote liberty in these senses. Focusing on the state, proponents of negative liberty typically hold that it is only under certain conditions that the state may interfere with the negative liberty of competent individuals without their consent (e.g. to prevent harm to others), but that the state may not interfere with the positive liberty of competent individuals without their consent. Proponents of positive liberty, on the other hand, generally hold that state activities aimed at protecting or promoting positive liberty may be justified and, more specifically, that it may be justified to interfere with the negative liberty of *competent* individuals to protect or promote their positive liberty.

Negative and positive liberty may be competing interpretations of a political ideal, but this does not mean that positive liberty is unimportant for proponents of negative liberty, or vice versa. Indeed, both accounts must acknowledge the *normative relevance* of the aspect of freedom

[326] The section on positive and negative liberty is based in large part on (Carter 2012).

[327] (Berlin 2002).

stressed by the competing account. Proponents of negative liberty must accept the normative relevance of positive liberty, because what else could being left alone by others be important for, if it is not to *live* one's life the way one sees fit? The latter entails positive liberty. Without positive liberty, negative liberty is empty. I submit, therefore, that the normative value of negative liberty derives *from* the normative value of positive liberty. Conversely, proponents of positive liberty must acknowledge the normative relevance of negative liberty. For without at least some actual non-interference, it seems difficult if not impossible to be free in a positive sense, i.e. to act such that one takes control of one's own life, realises one's fundamental goals, or becomes one's 'true' self.[328]

4.1.2. Republican freedom

Still another account of liberty comes from the republican tradition in political thought. The term "republicanism" is used in different ways. For instance, it refers to a loose tradition in the history of Western political thought that stresses 'the importance of civic virtue and political participation, the dangers of corruption, the benefits of a mixed constitution and the rule of law'.[329] This tradition includes thinkers such as Machiavelli, Montesquieu, Milton, and Jefferson. Relevant for our purposes is that while classical republicans share a commitment to the paramount value of political liberty, there is considerable debate on how this should be interpreted. There is both a "civic humanist" and a "neo-republican" interpretation of the classical republican tradition. *Civic humanists*, such as Arendt and Rahe, regard freedom as active participation in the political process of self-determination. *Neo-republicans*, such as Skinner and Pettit, on the other hand, regard freedom as not being subject to the arbitrary power of others. They regard freedom as non-domination. This is the second way in which the term "republicanism" is now commonly used.

We can gain a better understanding of these interpretations of republican political freedom by comparing them to negative and positive liberty. Neo-republican freedom is like negative liberty in that to be free, one need not do or become anything. But there is also a

[328] This is consistent with, for example, the Millean harm principle ("Liberty Principle") functioning as a way to protect 'individuality' (as a crucial element of well-being). See (Mill 2003, Ch. III). Cf. (Gray 1999, 79–82).

[329] The section on republican freedom is based in large part on (Lovett 2010).

difference. Whereas for a proponent of negative liberty *actual* non-interference by others suffices to be free, neo- republican freedom requires more. What is required in addition is the *guarantee* that we will not be subject to the arbitrary power of others. A slave may enjoy a large extent of non-interference from a benevolent slaveholder, but it is debatable whether the slave is free because of that. On a negative account of liberty, the slave is free to the extent that s/he enjoys a level of non-interference. But on a neo-republican account this is a prime example of unfreedom, because the non-interference enjoyed by the slave is only the contingent outcome of the relationship between the slave and the slaveholder.

Civic humanist freedom remains close to a *positive* account of liberty in that it centres on the idea of 'promoting a specific conception of the good life as consisting in active citizenship and health civic virtue'.[330] One of the differences is that a positive account of liberty may have oppressive consequences, where people are forced to be free. Positive accounts of liberty are often associated with regarding the rational, reflecting "self", capable of moral action and taking responsibility for what he does, as the higher or true self. The lower self is associated with passions, unreflecting desires, and irrational impulses. Freedom, then, entails one's higher self being in control and not being a slave to one's passions. Now imagine that some individuals are more rational than others and can therefore know best what is in their and others' interests. This might yield the conclusion that the most rational individuals can liberate less rational individuals than themselves by forcing them to do the rational thing. This is an important reason why, for example, Berlin favoured negative liberty over positive liberty.[331] Such oppressive consequences are excluded by a republican notion of freedom, since it excludes relations of domination.[332] Not all exercise of power is detrimental to liberty on a republican account of freedom, however, only the exercise of *arbitrary* power.

The crux is thus to distinguish arbitrary from non-arbitrary forms of power. This leaves open the possibility that if the authorisation for public health measures/infectious disease control is based on a democratic process, and there are, for example, legal safeguards in place for cases

[330] (Lovett 2010, 14–15). See e.g. (Jennings 2007) for a defence of a civic humanist interpretation of republicanism in the context of public health ethics.

[331] (Berlin 2002). This is called the "paradox of positive liberty".

[332] (Pettit 1997, 51ff).

in which coercion may be necessary to reduce the relevant infection risk (e.g. the option to appeal in court), it may be difficult to hold that this renders people unfree in a neo-republican sense.[333]

4.2. Different accounts, but only one concept of liberty

A fruitful discussion between proponents of different accounts of liberty presupposes that they are talking about the same 'thing'. Following the ideas of Gerald MacCallum, I will distinguish between "concepts" and "accounts" of liberty. And I will regard negative liberty, positive liberty, and republican freedom (however conceived) as different *accounts* of one and the same meta-theoretical *concept* of liberty. This is not merely a semantic issue. Without assuming a common concept, discussions between proponents on the *normative* pros and cons of the different accounts would be a matter of talking at cross-purposes.

In his 1967 paper "Negative and Positive Freedom", MacCallum argues that negative freedom and positive freedom do not constitute different answers to the question of what liberty 'is'. MacCallum shows that underlying any differences between negative and positive is the same concept of freedom, involving three elements: agents (*x*), constraints (*y*), and certain purposes an agent may have – certain doings or becomings (*z*). Liberty statements, then, can always be formulated in the form "*x* is free from *y* to do or become *z*".[334]

MacCallum does not discuss republican freedom, but it is clear that claims about political liberty will always involve (at least implicit) references to *agents*. Simply put, political liberty concerns the freedom of citizens, regardless of whether one favours negative liberty, positive liberty, or a republican account of freedom. Claims about political liberty will also always involve (at least implicitly) references to certain things that an agent is free or not free to do or become, i.e. references to certain *purposes*. Accounts of positive liberty stress being autonomous or realising our true selves, for example. And civic humanist accounts of republican freedom stress (even require) active citizenship and civic virtue. But proponents of negative liberty and proponents of neo-republican freedom too necessarily refer to doings or becomings in claiming

[333] Cf. (Lovett 2010, par. 2.1 and references).

[334] This is liberty as a triadic relation" (MacCallum, Jr. 1967). Note that 'being free from' does not equal negative liberty. This is because "constraints" may also include factors internal to an agent (commonly excluded by negative accounts of liberty). Also, 'being free to' does not equal positive liberty. The "purposes" a person is free *to* (pursue) may be left open by an account of liberty (contrary to at least some positive accounts of liberty).

that someone is free or unfree, at least implicitly.[335] As was argued in §4.1.1, it is *because* we think that agents should be free to do or become certain things that non-interference matters normatively. All accounts of liberty include references to *constraints* as well. Indeed, without it liberty would not be a very interesting notion.

Possible differences in the scope of "agents", "constraints", and "purposes"

The point of these distinctions is that while negative liberty, positive liberty, and republican freedom are different accounts of one and the same meta-theoretical concept of liberty, the accounts can differ in terms of what is regarded as the proper scope of agents, constraints, and purposes. Generally, it is *these* differences that go to the heart of debates between proponents of different normative theories.[336] To give an example, communitarianism is typically associated with a positive account of liberty,[337] and libertarianism with a negative account of liberty. Compared to libertarians, communitarians generally employ a more narrow interpretation of both an "agent" and the "purposes" the agent is free to fulfil. For instance, an agent's true purposes may be identified with those of some collective of which the agent is a member, and the true agent himself may be identified with only those beliefs and desires that are rational, authentic, or virtuous.[338]

There is no need to go into much more detail regarding any differences between our selection of theories about what constitutes an "agent". In this study I am concerned with people who can find themselves in different situations in which they can play a role in spreading

[335] A point of discussion is whether liberty as a "triadic relation" is compatible with an 'exercise concept' of liberty, according to which liberty-claims are about actually doing something or achieving a becoming (as opposed to 'opportunity concepts' of liberty). One reason to think that this does not pose a problem is that it can be argued that the absence of *all* factors (both internal and external) that can prevent a person from performing a certain action (A) or factors that can prevent one from a certain becoming (B) is equivalent to actually doing A and becoming B (Nelson 2005). Nelson argues that the claims made on behalf of "freedom as self-realisation" cannot withstand scrutiny, and fail to isolate a coherent view of liberty that is distinguishable from the absence of constraint. Note that whether *accounts* of positive liberty collapse into an *account* of negative liberty or not does not affect our discussion of there being only one (meta-theoretical) *concept* of liberty (liberty as a triadic relation).

[336] Normative theories cannot easily be classified as employing, for instance, either a positive or a negative account of liberty. A case in point is that there are at least two strands within republicanism, one remaining close to a negative account of liberty but also differing from it (neo-republicanism), the other remaining close to a positive account of liberty but also differing from it (civic humanism).

[337] (Cox 1997, 494ff).

[338] (Carter 2012, par. 4).

contagious diseases by either taking or not taking preventive measures against infection risks. And the question is whether their liberty can be justifiably restricted on harm principle grounds if they do not take precautions. Hence, we need not choose between, for example, broad or narrow interpretations of what counts as an "agent".[339] The "purposes" for which agents might be free or unfree are at the core of our examination. Indeed, the point is to determine whether, from the perspective of different normative theories, "agents" can be left free *not* to take preventive measures in different Situations of Contagion.

What about "constraints"? Again, there are narrow and broad interpretations. A broad interpretation of "constraints" would place no limits on the *source* of potential unfreedom, and might include for instance obstacles brought about by human action and obstacles with a natural origin (e.g. natural disasters). Likewise, it places no limits on the *type* of constraint and might include both internal factors such as psychological barriers (indecisiveness, weakness of will, addiction, strong fear, irrationality, et cetera), and external factors, such as physical barriers that render an action impossible, obstacles that render the performance of an action more or less difficult, and costs attached to the performance of an action. Narrow interpretations of "constraint" might only cover human action, or even only intentional human action as a relevant source and type of constraint. Given that we are discussing the justifiability of liberty-restrictive public health measures, a rather narrow interpretation of what counts as a "constraint" will suffice, namely an external account revolving around intentional human action (common measures in infectious disease control taken by public health officials). Also, our concern is primarily with potential restrictions of *negative* liberty. This is because (1) public health interventions constitute potential restrictions of negative liberty, and (2) because our focus is on preventive measures aimed at preventing *harm to others* (not, for example, harm to self). Positive liberty, then, does not seem to enter into the equation, at least not in any direct way.

[339] If, for the sake of argument, we focus on the beliefs and desires of individual human beings, a broad interpretation of an "agent" might include *all* of the empirical beliefs and desires of the individual. Narrower interpretations might include only a subset of those beliefs and desires, e.g. only those beliefs and desires that are considered to be rational, authentic, or virtuous.

4.3. Theories of coercion

Coercion undermines freedom. Not every constraint on freedom is necessarily coercive, though. My focus will be on personal coercion, i.e. coercion by other people. Generally, this entails being confronted with a proposal involving alternatives one considers to be very unattractive, and one has "no choice" but to choose the option one considers the least unattractive of the very unattractive options.

The main philosophical theories of coercion can be distinguished by answering two general questions. First, does a theory use some situation other than the one under examination as a standard for judging whether a person is coerced? Theories that do employ what is called a "baseline" (the baseline is the situation that is used as a standard). The second question is does our conclusion that a person is coerced rest on a prior moral judgement? If it does, the account is "moralised". Otherwise it is "non-moralised". I will discuss a prominent example of each group of theories. After explaining the main characteristics of these theories, I will apply them to some examples in infectious disease control.

4.3.1. Baseline approaches

'Your money or your life!' What is formulated as a proposal is commonly known as a "death threat". This is because the person on the receiving end of the proposal does not want to die, and considers the threat to be so credible that he cannot refuse the proposal to hand over his money. Baseline approaches to coercion are mainly used to distinguish between threats and offers.

A prominent example of a *moralised* baseline account is Alan Wertheimer's two-pronged theory of coercion. It focuses on the conditions under which someone who claims to have been coerced cannot be held responsible for what s/he has done or omitted to do in response to a proposal. The theory employs two tests that together determine whether a person is coerced.[340] The first test involves establishing whether a proposal is an offer or a threat (the "proposal prong"). If the proposal entails that a person will be made worse off than s/he *ought* to be when s/he refuses to comply, the proposal is a threat. Otherwise it is an offer. Wertheimer fleshes out

[340] (Wertheimer 1987, 267–274).

this 'ought' mainly in terms of a person's *rights*.[341] To claim that a person is coerced thus requires a prior moral judgement – e.g. that a person has a right to do what we are trying to keep him/her from doing or a right not to do whatever we are trying to make him/her do.

To determine whether a threat amounts to coercion a second question must be answered, according to Wertheimer: does the proposal leave a person a *reasonable* choice (the "choice prong")? Whether individuals do have a reasonable choice might be different in different circumstances. The main reason for this is to allow people in truly dire circumstances to improve their circumstances, even if that requires making "hard choices", that is, choices between alternatives that one severely dislikes (on the condition, of course, that these dire circumstances have not been created by the individual offering that person a hard choice). In the same vein, Wertheimer's theory of coercion allows for contextualised judgements,[342] for instance that it is more difficult to claim that we were coerced if what we have done in response to a threat is more serious (compare, for example, stealing a bike to murdering someone) and if the personal consequences of not complying with the demand is less serious (compare, for example, being killed ourselves to having to pay €100).

A prominent example of a *non-moralised baseline* approach to coercion is the theory of David Zimmerman.[343] Zimmerman holds that both threats and offers can be coercive. Like Wertheimer, he employs a baseline to distinguish threats and offers. Subsequently, he uses another baseline to distinguish coercive from non-coercive offers.

The first baseline in Zimmerman's account – the one used to distinguish threats from offers – is non-moralised. This means that judging whether a conditional proposal ('Your money or your life!') is a threat or an offer is not based on a prior moral judgement. Zimmerman suggests always using 'the normally expected course of events' as the relevant "pre-proposal situation" to determine whether a proposal is a threat or an offer. This baseline is counterfactual in that it compares the potential effects of a proposal to what would normally have happened, i.e. without the proposal.[344] The baseline is also *preference-based*. Zimmerman holds that if a person

[341] (Wertheimer 1987, 217–218, 228–229).

[342] (Wertheimer 1987, 181–188).

[343] E.g. (Zimmerman 1981).

[344] On a counterfactual baseline a proposal is coercive if person B would normally receive certain benefits from person A, but now A proposes to withhold these benefits *unless* B demonstrates certain behaviour, and this makes B

has a preference for moving from the situation without the proposal to the situation with the proposal, the proposal is an offer. On this reading, a proposal to a slave who is beaten every day not to beat him/her anymore on the condition that s/he performs some demeaning task might count as an offer if the person prefers performing demeaning tasks to being beaten every day and, given *this* choice, is willing to accept the proposal.

But offers, like threats, can be *coercive*, according to Zimmerman. To determine whether an offer is *coercive*, Zimmerman argues that we use, as a (non-moral) standard, a *hypothetical* situation that the person strongly prefers to the situation before the proposal. The slaveholder's proposal would count as a coercive offer if (i) there is a hypothetical situation that the slave strongly prefers to moving from his actual situation (being beaten every day) to the "proposal situation" (not being beaten anymore on certain conditions), (ii) this hypothetical situation is *feasible* (e.g. physically, historically, technologically), and (iii) the slave is actively *prevented* by the slaveholder from being in the feasible hypothetical situation the slave prefers.[345] It is not difficult to come up with feasible hypothetical situations that a slave who is beaten every day may prefer to the proposal situation, for instance not being in a position in which someone can just beat you if s/he feels like it. It is also not difficult to see that the slaveholder is actively preventing the slave from being in that very situation. The proposal is a coercive offer.

4.3.2. Non-baseline approaches

Finally, an account of coercion may not employ a baseline at all. Joel Feinberg's theory of coercion is an example.[346] Feinberg holds that coercion is a special degree or kind of force or pressure imposed on the coercee's will. To see how this could work, imagine a list of two demands (D) that can be made on us – 'Fix my car' (D1) and 'Make me a coffee' (D2) – and that we rank them according to how unwelcome these options are to us. Suppose that D1 is the most unwelcome option of the two. Also imagine a list of two threats (T) that can be made to back up these demands – 'Or I will kill you' (T1) and 'Or I will not go the the cinema with you' (T2) –

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worse-off in terms of well-being. Since well-being is a "non-moral" or prudential good (Crisp 2008, par. 1) the baseline remains non-moralised.

[345] The 'feasibility' condition and the 'prevention' condition thus function as side-constraints on the hypothetical situations that can make the difference between coercive and non-coercive offers (Zimmerman 1981, 131ff).

[346] (Feinberg 1996, Ch. 23).

and that we rank the threats according to how unwelcome they are to us: T1 then T2, with T1 being the most unwelcome option of the two. In this way we could generate four possible scenarios (combining D1 and T1, D1 and T2, et cetera). The proposal imposing the most pressure on a person's will is then the one combining D1 and T1, because these involve the options that are the *most* unwelcome to a person. The proposal imposing the least pressure on a person's will is the one combining D2 and T2, because these involve the options that are the *least* unwelcome to a person. A hierarchy of scenarios generated thus is called a scale of "differential pressure".[347] This does not involve a baseline (whether a proposal is coercive is determined by the amount of pressure imposed on one's will), and also does not presuppose a prior moral judgement (a proposal is not deemed coercive for moral reasons).

Surely, such a short list that is generated by picking random demands and threats is not sufficient for concluding that the combination D1–T1 is coercive. For that to be the case, we would actually need a more extensive picture of proposals that would be unwelcome to a person. Feinberg, for example, starts with a list of ten possible unwelcome demands and ten possible unwelcome threats, generating one hundred scenarios. Putting the issue of what number would be sufficient aside, the idea is that if our list of scenarios is sufficiently representative of the demands and threats that would be unwelcome to us, the proposal at the top of the list is definitely coercive and the one at the bottom definitely is not. The one at the top is coercive because while the demand is considered to be highly unwelcome, the alternative threat is considered to be even worse. Complying with the demand, therefore, will surely exert a huge pressure on a person's will. The scenario at the bottom is not coercive, because though the threat is considered unwelcome (but not *that* unwelcome), the demand is considered to be even less problematic (though still unwelcome). Complying with the demand, therefore, will probably not put much pressure on a person's will. Somewhere between these extremes more difficult cases are bound to arise, revolving around whether a proposal is coercive and, if so, whether it is coercive enough to nullify one's responsibility for what has been done in response to a threat. This will require judgement, tailored to the specifics of the case. In each case, a *subjective* criterion (the pressure imposed on a person's will, as experienced by that person) is used to determine whether or not a proposal is coercive.

[347] For the complexities involved in employing a differential coercive pressure criterion see (Feinberg 1996, 204ff).

But there are situations in which a subjective criterion may not suffice – namely situations in which the choice made in response to a proposal affects *others* besides those directly implied in the proposal. Surely infectious disease control is a context in which choices that one makes in response to a proposal automatically entail potential effects on others. In such cases, one of two "objective" criteria may be used to determine whether a person is coerced in the sense that s/he is not responsible for what s/he has done in response to a proposal: either what an *average* person (or most people) would do in the case at hand or what a *reasonable* person would do in the case at hand. This may yield the conclusion that even though a proposal was coercive on a subjective standard (based on the amount of pressure imposed on a person's will), it was not coercive *enough* to nullify one's responsibility for yielding to the proposal (because an average person or a reasonable person would not have yielded under the pressure imposed on his/her will in that same case).[348]

4.3.3. Persuasion, pressure, coercion – a continuum

Dutch infectious disease control policy, as suggested by the Health Council, involves several elements from the theories of coercion that have been discussed above. It distinguishes between persuasion, pressure, and coercion, which are placed on a continuum.[349] Pressure can be further divided into weak pressure and strong pressure. Weak pressure should then be regarded as persuasion.[350] Very generally, the idea is that coercion and strong pressure restrict a person's liberty, whereas weak pressure/persuasion does not. I will now unravel these concepts in some more detail and indicate some of the difficulties in drawing a clear distinction between the concepts.

Persuasion is the unproblematic steering of a person's behaviour in the desired direction (from the perspective of the one steering the behaviour of others). Whether or not "directive behaviour" is problematic depends on whether it restricts a person's self-determination. The Health Council argues that self-determination presupposes personal responsibility to consider the

[348] (Feinberg 1996, 204ff).

[349] In Dutch: "overreden", "drang" and "dwang" respectively (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 41–45).

[350] Jos Dute (personal communication).

interests of others. For instance, if the health of others is at stake, a health professional giving a contagious person unwanted advice, or even insisting that s/he will perform certain behaviour, does not diminish that person's self-determination. Persuasion can be aimed at a person's will (through encouragement or enticement) or at a person's reason (through explanation and instruction). An example of enticement would be to attach positive consequences to the behaviour we would like someone to perform (by giving him/her a reward, or doing him/her a favour). Generally, persuasion amounts to insisting on certain behaviour without taking away a person's options.

On the other side of the spectrum we find coercion. Coercion is defined by the Health Council as taking away all of a person's options so as to make unwanted behaviour impossible. This does allow for differences concerning the nature and the intrusiveness of interventions. For instance, forced isolation and violations of the professional duty of non-disclosure both restrict a person's liberty, but the former is generally more intrusive than the latter.

Between persuasion and coercion are forms of influencing a person's behaviour that consist in connecting negative consequences to unwanted behaviour. This is called "pressure". Pressure can entail a separate measure or consist in threatening to coerce someone. As indicated in Dutch public health policy, a further distinction is made between strong and weak pressure. Underlying the distinction is the argument that – contrary to weak pressure/persuasion – strong pressure restricts liberty and therefore requires legal provision.

The boundaries between the different concepts cannot always be clearly drawn. For instance, the line between strong and weak pressure is fluent, according to the Health Council, and depends both on the individuals concerned and on the concrete situation they are in: what may be strong pressure to some may be weak pressure to others. This means that, for example, non-mandatory childhood vaccination programmes can include liberty restrictions. In the Netherlands, childhood vaccination is not mandatory. Parents are offered immunisation for their children against a number of diseases, and can choose not to accept specific vaccines. On the basis of the distinction between persuasion, (strong) pressure, and coercion, we can conclude that the vaccination offer is not coercive (parents are given a choice). In the Netherlands, no tangible negative consequences will be connected to the option to refuse vaccination. This does not mean, however, that negative consequences are absent. John Stuart Mill famously spoke about the

coercive force of public opinion.[351] Also, in *practice*, public health professionals can of course exert more or less pressure on individuals. This includes, perhaps, public health officials emphasising to parents the potentially negative consequences of non-vaccination for children. Individuals will respond differently to pressure resulting from the expected negative judgements of others to what we would like to do. At least in principle, this leaves open the possibility that a person experiences strong pressure to accept vaccination. This is not to say that pressure in routine vaccination programmes is necessarily wrong. The relevant point here is that such pressure may entail liberty restriction, and that liberty restrictions require justification.[352]

Finally, the boundary between persuasion and pressure remains arbitrary, at least to a certain extent. Whether an attempt to steer a person's behaviour counts as persuasion or pressure depends on the precise consequences that are attached to performing the unwanted behaviour. Generally speaking, someone is *pressured* if he is hindered in his freedom of choice to make use of a certain right, claim, or benefit he normally has.[353] Borderline cases involve situations in which certain benefits become "common", for instance because of created expectations.

The theories of coercion discussed in this section differ quite significantly. Some theories use a baseline to determine whether a person is coerced (Wertheimer, Zimmerman), but one baseline is moralised (Wertheimer), while the other is non-moralised (Zimmerman). Feinberg's theory of coercion does not employ a baseline at all, while the theory of coercion inherent in Dutch infectious disease policy contains several of these elements. Different as these theories of coercion may be, however, they do not necessarily lead to different conclusions about whether specific proposals are coercive. Consider a case concerning the "Mexican Flu" pandemic in 2009.

[351] (Mill 2003, 76).

[352] In the interdisciplinary discussion of the "Day care" case, one of the public health officials involved mentioned that when she proposes an intervention people will typically agree, at least in part because of her authority. It was argued that, in principle, public health officials should only use their authority in this sense when there are serious health risks and something can be done to prevent those risks. Those conditions were not met in the "Day care" case. See Annex 1: Case discussions.

[353] The Health Council calls this an individual's "personal domain".

4.3.4. An example: the "Entrepreneur" case

The "Entrepreneur" case involved a man and a woman who both tested positive for Mexican Flu (New Influenza A – H1N1). At the time, it was known that both pregnant women and obese people were at an increased risk of serious complications after being infected (including death). Government policy was to require known infected individuals to remain at home during the contagious period of the disease (10 days). The man and woman did not want to stay in their homes. They had almost entirely recovered without medical intervention. Moreover, the man was an entrepreneur involved in a crucial business transaction. If the deal did not go through, there was a real chance that he would have to lay off some of his employees. But to make the deal, it was perhaps necessary to leave the house on short notice.[354]

Consider one of the options available to public health professionals in this case: proposing to advise the mayor to enforce home isolation during the contagious period if the patients would not remain in their house without some official enforcement. Is the option to confront the patients with the option of advising the mayor to enforce home isolation coercive? It is, on all theories of coercion that we have discussed. The proposal of being able to choose between staying at home voluntarily or having the mayor enforce home isolation is a threat on Wertheimer's moralised account since it involves violating the patients' *right* to freedom of movement.[355] That right is not absolute (we are not free to go anywhere we want) but would surely include leaving our own house when we like. A proposal to enforce home isolation would thus at least entail making the patients worse off than they ought to be. Does the proposal leave them a *reasonable choice*? Note that both options contained in this specific proposal (staying at home voluntarily, being forced to stay at home) involve home isolation during the contagious period (10 days); the only difference is the conditions under which home isolation will be observed – with or without the use of physical force.

It could not be precluded that the patients would infect others and that this would lead to severe, even fatal illness in pregnant women and obese people. This risk was something that the patients should have been concerned about and felt some responsibility for. At the time, however,

[354] (Krom et al. 2012).

[355] Generally, proposing to enforce a measure that cannot be legally enforced could constitute an unlawful threat. I thank Jos Dute for raising this point.

there was growing disagreement about the severity of the pandemic, both among the general public and among public health professionals. One of the considerations was that more people die each year during a regular flu epidemic than the number of people who had died during the Mexican Flu pandemic up until that moment, without home isolation ever being considered during a regular flu epidemic. Given this, and given the costs of home isolation involved (e.g. in terms of violating their right to freedom of movement and the consequences of the crucial business deal not going through) it can be argued that the choice the patients were faced with by the proposal was disproportional and therefore unreasonable.[356] Adding the unreasonable choice left by the proposal to the conclusion that the proposal was a threat, we can conclude that the proposal is *coercive* on Wertheimer's moralised account of coercion.

In the retrospective case discussion it was argued that, for reasons of justice, it could still be justified in this case to propose to advise the mayor to enforce home isolation unless the patients were willing to observe home isolation during the contagious period. In practice, home isolation was not enforced.[357]

The proposal is also coercive on Zimmerman's non-moralised account. First, it is a *threat*. As a result of the proposal the patients are far worse off than they would otherwise have been. In the 'normal course of events' they would have been able to freely leave their house, and the entrepreneur would have been able to (attempt to) close the crucial business deal. Moreover, the patients strongly preferred this pre-proposal situation to the proposal situation (that could only lead to home isolation). The proposal is also *coercive*, for it entails the health professionals actively preventing the patients from being in their strongly preferred pre-proposal situation (being able to leave their house as they please).

Whether or not the proposal to involve the mayor is coercive on Feinberg's account depends on the amount of pressure imposed on a person's will. Since the decisions we make

[356] I will discuss considerations of reasonableness in more detail in §5.1.3, including the extent to which such considerations may fit into different normative theories.

[357] Making "coercion" depend on prior moral judgements suggests that coercion is more or less equal to immoral action. Connected to this, there is a discussion about whether moralised theories of coercion can account for "justified coercion". One way of escaping the conclusion that they cannot is to argue that there are acts that are coercive on a moralised theory of coercion, but which are justified on different grounds – e.g. on public policy grounds. See e.g. (Wertheimer 1987, 174–175, 303–305); (Anderson 2011, par. 3.4 and references). In the ethical discussion of the "Entrepreneur" case it was argued that since home isolation was official government policy at the time, it would be *unjust* to make an exception for this entrepreneur (Krom et al. 2012). This could be an example of a proposal that is coercive on a moralised account of coercion, but that is justifiable nonetheless.

regarding infectious diseases automatically have implications for others (because the diseases are contagious), it may be necessary to employ an *objective* criterion in the case at hand, i.e. to ask what an average person would do or what a reasonable person would do. Normally, judging what an average person would do may require at least some amount of speculation. But in this case it is easy to predict, since the specific proposal entailed only one real option: home isolation. An average person would surely yield to the demand (in order to avoid the threat being carried out). The "reasonable person" would probably also yield – we concluded earlier that the proposal arguably did not leave the patients a reasonable choice. The proposal is also coercive on Feinberg's *subjective* criterion. For the sake of efficiency, I will skip the step of generating lists of unwelcome demands and threats in order to place a proposal on a person's scale of "differential pressure". While it is easy to imagine that there may be demands and threats that the patients would consider even more unwelcome, it is not difficult to see that the conditional threat to enforce home isolation unless the patients observe home isolation puts a huge amount of pressure on their wills, and will therefore probably rank relatively high on their scale of "differential pressure". Hence, the proposal is coercive.[358]

Finally, the proposal can also be considered as restricting liberty on the model employed in Dutch infectious disease control policy. Recall that pressure can entail a separate measure, but can also consist in the threat to coerce a person if he does not comply. Add to this that the boundary between weak and strong pressure depends on the individual and the concrete circumstances, and that it is clear that a request for 'voluntary isolation' can restrict a person's liberty. Given the strong opposition by the man and woman to having to remain in home isolation during the contagious period, the proposal to either remain indoors or be forced to stay indoors would most probably be considered to put "strong pressure" on them. Strong pressure, we have seen, restricts liberty on this account.

4.4. Convergence in the face of divergence?

There is no room here to discuss all possible proposals that public health professionals could issue. The discussion of the "Entrepreneur" case yielded the conclusion that it involved a

[358] Feinberg would probably call the proposal "compulsive", leaving the patients no choice whatsoever. For a distinction between compulsion and coercion see (Feinberg 1996, 191).

coercive proposal on all four accounts of liberty restriction. In a well-ordered and democratic society there will be many cases in which, for example, a moralised baseline yields the same conclusion as, for instance, a non-moralised baseline according to which coercion turns on strong deviations from the "normal course of events" in the absence of the proposal under consideration or a preference-based baseline. This is because in such a well-ordered society people's preferences (used in a non-moralised baseline), for example, can play a role in the democratic process of formulating legal standards that are subsequently used as moralised criteria to determine whether someone is coerced (on a moralised baseline approach to coercion). Moreover, there will be many cases where a preference-based baseline will yield the same conclusions as a counterfactual baseline. This is not surprising, assuming that people will generally prefer a situation that makes them better off in terms of well-being. If someone would have been better off without a specific proposal, a counterfactual baseline may yield the conclusion that the proposal is coercive. But that conclusion may also follow on a preference-based baseline – if indeed the person on the receiving end of the proposal would have (strongly) preferred not to have received that proposal.

Different normative theories may employ different theories of coercion. For instance, Scanlonian contractualism employs a *non-baseline* theory of coercion, revolving around specific ways in which pressure can affect a person's will.[359] Communitarians, on the other hand, are likely to employ a *moralised* account of coercion by defining a person's liberty at least partly in terms of collective goals. Does this threaten the convergence needed to regard the harm principle as a mid-level principle in infectious disease control? I submit that this need not necessarily be the case, at least as long as different theories of coercion can yield the same conclusion as to whether a proposal is coercive, and coercion can be justified by all normative theories involved.

This is not to suggest that theories of coercion will converge on the coerciveness and/or rightness of each proposal imaginable. There are different variants of the type of coercion theories discussed, and the literature on coercion is rife with examples where different theories arguably *do* yield different conclusions.[360] I do not exclude the possibility that such examples can be given regarding the context of infectious disease control as well. Suppose that there will be

[359] See (Scanlon 1998, 400 note 19, 402 note 29).

[360] See e.g. (Anderson 2011) for examples.

cases in which different theories of coercion yield different conclusions as to whether a specific act of public health professionals is coercive. Does this threaten the convergence needed to regard the harm principle as a mid-level principle in infectious disease control? Not necessarily. Convergence does not require that different normative theories can *characterise* specific acts in exactly the same way. What *is* required is different theories being able to morally justify specific acts via the same moral considerations, regardless of how these acts are characterised. Non-coercive measures too can be justified by considerations of preventing harm to others.[361]

What about the different value that normative theories may assign to individual liberty compared to other things of value that may be at stake in a given case? There is no doubt that different normative theories do value liberty differently. Whereas for instance libertarians will typically consider liberty inherently valuable, and the highest value at that,[362] utilitarians might not attribute any independent value to individual liberty whatsoever, and consider liberty valuable only to the extent that protecting or promoting individual liberty maximises the sum of well-being. Still, this does not necessarily undermine the relevant convergence. Although it might be stating the obvious, convergence is not undermined if (i) there are also *non-coercive* options available that can effectively reduce the relevant infection risk, and (ii) the normative theories under consideration can support that non-coercive option as well.

Actually, I don't think that this just amounts to stating the obvious. The remark about non-coercive options is relevant practically, but also theoretically. Especially if, as I will argue in Chapter 5, diverging normative theories can support the idea of always choosing the least intrusive means.[363] This implies that we do not just consider which options are *actually* available in any given case, and then choose the least intrusive option available, but that we also think about what options *could* be provided (also in future cases) in order to minimise the need for coercion.

[361] I have argued in §1.4 that while the harm principle is commonly regarded as a liberty-limiting principle, there is no reason to think that if a public health measure does not restrict liberty, the principle is irrelevant. In those cases too, the aim to prevent harm to others can be put forward in support of such non-coercive measures.

[362] (Vallentyne 2012).

[363] See §5.1.3.

4.5. Conclusions

Appealing to the harm principle in infectious disease control presupposes that it may be needed to trade off the values of individual liberty and the value of public health. Moreover, regarding the harm principle as a mid-level principle presupposes that different normative theories can morally justify the same specific measures via the same version of the harm principle. This chapter focused on the liberty side of such potential trade-offs. I discussed prominent accounts of liberty (negative, positive, and republican freedom), and argued that underlying these accounts is the same meta-theoretical concept of liberty as a relation between agents, constraints, and certain purposes. Normative theories may differ as to the scope of these elements – thus suggesting a huge potential for *divergence*. However, given the focus of this study, the specific senses in which normative theories do employ different accounts of liberty seem relatively innocent.

I also discussed prominent theories of coercion (moralised vs non-moralised baseline, non-baseline). It was shown that different theories of coercion need not yield different conclusions as to whether proposals made by, for example, public health professionals are coercive (the home isolation example). Still, different normative theories (i) do assign a different value to individual liberty, and (ii) *may* employ different theories of coercion. Also (iii) different theories of coercion *might* diverge as to whether specific proposals are coercive. It was argued that this does not necessarily threaten the convergence needed to regard the harm principle as a mid-level principle in infectious disease control.

Convergence is not threatened if one theory characterises a proposal as coercive and another theory does not. Non-coercive measures too can be justified by considerations of preventing harm to others.[364] What matters is whether different normative theories can support the considered measure via the harm principle, regardless of how the measure is characterised.[365] Also, convergence is not necessarily threatened by normative theories assigning different values to liberty, especially, and non-trivially, if non-coercive options are available or made available that can be supported by diverging normative theories.[366]

[364] Cf. §1.4.

[365] Contra points (ii) and (iii).

[366] Contra point (i).

5. The harm principle as a mid-level principle in infectious disease control?

Three problems and the outline of a solution

Introduction

Previous chapters have been quite optimistic about the possibility of a mid-level harm principle in infectious disease control. At the same time, some of the conclusions drawn so far are still rather general. Is optimism still warranted if we become more specific and get down to the level of individual cases?

Outline

This chapter has two main aims. First, to discuss several problems related to the possibility of a mid-level harm principle in infectious disease control, culminating in the claim that there will surely be limits to the normative theoretical convergence that can be expected in individual cases (§5.1). Second, to argue that while this puts pressure on the question of which normative theory is 'correct', this does not undermine the feasibility of a mid-level harm principle in infectious disease control. In an attempt to maintain a clear connection between normative theory and practical decision-making in infectious disease control, I will propose a "division of normative labour" between ethicists/philosophers on the one hand and public health professionals on the other. In such a model, a version of the harm principle can fulfil all functions of a mid-level principle (§5.4). I will discuss some of the (mid-level) considerations available for professional decision-making (§5.2), and argue that it is justified to let professionals make decisions using those materials (§5.3). Obviously, in a sense, decisions made against the background of normative theoretical divergence will be controversial. This does not mean, however, that they are *arbitrary*. There are several ways in which arbitrary decisions can be prevented (§5.5). This chapter's main conclusions can be found in §5.6, one of which is that this study provides support for the way that, for example, the practice of infectious disease control is organised in the Netherlands and the way in which public health professionals make moral decisions.

5.1. Limits to normative theoretical convergence[367]

If we combine some of the results from previous chapters, at least three problems loom on the horizon for the feasibility of a mid-level harm principle in infectious disease control. All three problems have to do with a tension between the theoretical convergence that can be attained on any version of the harm principle, on the one hand, and the normative guidance that can be expected from a version of the harm principle on which normative theories *can* converge, on the other hand.

5.1.1. The Constraint Problem

The first problem is related to the fact that both versions of the harm principle discussed so far are still very *general*. HP_1 reads: 'It is justified to restrict the liberty of A to prevent A from causing harm to B'; and HP_2 entails that: 'It is justified to restrict the liberty of A to prevent harm to B.'[368] Recall that mid-level principles are supposed to fulfil three functions – expressing an enabling *convergence* between normative theories, *identification* of what is morally and/or legally relevant in specific situations, and *constraint*, i.e. limiting the scope of more general considerations that are contained in normative theories.[369] The function of constraint is particularly relevant given that one of the key issues regarding the harm principle is how to determine the range of issues in relation to which the harm principle can be legitimately invoked to defend or restrict individual liberty.[370] We have seen that *infection* can be considered a "harm" (via the notion of bodily injury) and that all Situations of Contagion can be conceptualised in terms of "harming others".[371] But if this is true, then neither version of the harm principle seems to provide much constraint. This is because, at least on a non-moralised account of "causation", *all* Situations of Contagion are instances of causing harm to others (covered by HP_1). HP_2 is even broader than HP_1, because it does not require that A is the *cause* of harm to B for the restriction of A's liberty to be justified. Left at this, there seems to be room for liberty-restrictive infectious

[367] This paragraph is based in large part on (Krom 2011a, par. IV).

[368] See §1.4.2.

[369] See §2.1.

[370] Cf. (Holtug 2002, 364). See §1.4 on the functions of the harm principle.

[371] See §§1.4.1 and 1.4.2 respectively.

disease control pretty much across the board. Call this the Constraint Problem – the problem that whichever version of the harm principle we opt for (HP_1 or HP_2) we have no way to limit the scope of its application and to distinguish situations in which coercion can and cannot be justified.[372]

5.1.2. The Trade-off Problem

The second problem for the feasibility of a mid-level harm principle in infectious disease control comes to the fore if we combine the version of the harm principle that is needed to morally justify common measures in all Situations of Contagion, with the version of the harm principle on which our selection of normative theories can be expected to converge. It was shown that even though a non-moral account of "causation" (and hence HP_1) covers all Situations of Contagion, this does not mean that all *common measures* in infectious disease control can be morally justified by appealing to HP_1.[373] For instance, cooperation requirements such as participation in mass vaccination programmes (potentially resulting in "herd protection"), but also the mandatory collection of non-anonymous information about individuals (notification duties – a keystone of modern infectious disease control), can themselves hardly be said to prevent *causing* harm to others.[374] True, non-cooperation in vaccination schemes could be considered as causing harm to others if we employ a moralised version of HP_1, according to which non-participation is considered morally wrong and is *therefore* considered to cause harm to others. But unless we accept such a moralised account of harm, we would need a version of the harm principle that aims at *general* harm prevention (like HP_2).[375] But if that is true, then we might run into problems

[372] My Constraint Problem differs from Holtug's "Problem of Scope" in that the latter presupposes that we already know when coercion is justified. The task at hand is then to find a version of the harm principle that can yield "coercion" in the right cases. A version of the harm principle that meets this criterion 'solves' the problem of scope, as it were: *'I shall assume that* [the problem of scope] *should be solved in such a way that the Harm Principle's implications are at least roughly compatible with the sort of judgements liberals have traditionally used this principle to justify. Any "solution" to the scope problem that does not satisfy this requirement will not capture the purpose and spirit of the principle'* (Holtug 2002, 364). The Constraint Problem is more open than this. It starts from the premise that individual liberty carries at least some weight in *different* normative theories (not just liberalism), and hence, that there should at least be *some* limits to the application of the harm principle. The task at hand is then to examine on what limits normative theoretical convergence can be attained. Cf. §6.2.

[373] Common measures in infectious disease control are discussed in §1.3.

[374] See §1.4.2.

[375] It may be objected that if we can provide convincing normative reasons for thinking that individuals have a duty to participate in vaccination programmes, and to supply the information necessary for effective case-based

on the issue of normative theoretical convergence. For as we have seen, our selection of normative theories all support HP_1, but not all theories support HP_2.[376] This suggests that we need to make a choice to either (i) employ HP_1 and find alternative ways of morally justifying, for example, participation in vaccination programmes and the gathering of non-anonymous information about individuals in the course of case-specific surveillance;[377] or (ii) employ HP_2, and come up with reasons why a lack of normative theoretical convergence on this version of the harm principle is not that problematic. Call this the Trade-off Problem.

One reason for thinking that lack of convergence on HP_2 is not problematic is that even if an appeal to HP_1 cannot morally justify some common measures in infectious disease control, perhaps these measures can be justified by alternative lines of argument, some of which have been mentioned in the general introduction to this study. However, if the common measures that cannot be justified by appealing to HP_1 *restrict liberty*, this option is only available if we adhere to a version of the harm principle that is compatible with other liberty-limiting principles.[378]

Is there really a Trade-off Problem? One way of denying this would be to show that HP_1 and HP_2 are not truly distinct versions of the harm principle at all. One could for instance hold that in the context of public health HP_2 can be reduced to HP_1.[379] As we have seen, it is often impossible in the context of public health to identify those who benefit from preventive measures – primary prevention results in something not happening.[380] Likewise, it is often impossible to identify the contribution of specific individuals to the protection or prevention of public health. Hence, we cannot always identify who would otherwise have caused harm to whom if some preventive measure had not been taken to prevent this. Note that, to get from here to the point that HP_2 can be reduced to HP_1, we must hold that general harm prevention is actually nothing more than preventing A's from *causing* harm to B's. I have denied that this is the case. Perhaps

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surveillance (§1.3.6), we could justify such measures as preventing A from *causing* harm to B on a *moralised* account of causation. In that case HP_1 would suffice yet. The objection does not hold, however. For it is still true that refusing to get vaccinated and refusing to provide information about oneself do not *by themselves* result in bodily injury in others.

[376] §§3.4.1 (libertarianism) and 3.4.2 (communitarianism).

[377] See Introduction.

[378] Cf. §1.4.

[379] (Hartogh 1985, Ch. 4). I thank Govert den Hartogh for raising this point.

[380] §3.3.

some instances of general harm prevention can be broken down to preventing A's from causing harm to B's, but this does not hold generally. But even if they can, it still does not follow that HP_2 can be fully reduced to HP_1 in the context of public health. This is because HP_2 leaves open the possibility of forcing a person we *know* does not display harmful conduct him-/herself to prevent the harmful conduct of others, an option that is not available on HP_1.[381] Note that if HP_1 cannot justify *all* common measures in infectious disease control, this does not necessarily undermine the possibility of HP_1 functioning as a mid-level harm principle. For it may still be possible to show that a mid-level harm principle can support many other common measures.[382]

The Constraint Problem also does not necessarily undermine the feasibility of a mid-level harm principle in infectious disease control. For instance, there are several strategies for attaining more constraint – and hence for narrowing down the scope of potential liberty restrictions that can be morally justified by appealing to the harm principle. As we will see, the most promising strategy for solving the Constraint Problem yields the third problem that will be discussed. Let us continue, then, by briefly examining these strategies first.

One way of attaining more constraint on the application of the harm principle is to make whatever version of the harm principle we employ *itself* more specific. An example of a more specific version of the harm principle (compared to HP_1 and HP_2) is given by the Dutch Health Council:

> Liberty restriction is only justified if the unlimited exercise of someone's liberty rights threatens to harm others, who cannot adequately protect themselves.[383]

This version of the harm principle is more specific than HP_1 and HP_2 in that there is mention of liberty *rights*, and the lack of *adequate self-protection* is mentioned as a constraint on the restriction of liberty. Regarding the latter point, the idea is that if individuals can adequately protect themselves, for instance by taking preventive measures against infection risks, it cannot be justified to restrict the liberty of others who threaten to harm them. I will now argue that this

[381] Cf. §1.4.

[382] Cf. §5.4.

[383] 'Vrijheidsbeperking is pas gerechtvaardigd als de onbeperkte uitoefening van iemands vrijheidsrechten schade dreigt toe te brengen aan anderen, die zichzelf niet afdoende kunnen beschermen' (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 45).

requirement can be supported by our selection of normative theories as well. *Libertarians* can object to restricting the liberty of person A to prevent harm to B if B can adequately protect himself by referring (i) to the 'ease with which B could have stepped out of the way of the infection risk', and (ii) to the Volenti principle – suggesting that not protecting oneself when one could have adequately done so implies that one has voluntarily assumed the risk, in which case there is no "harm" relevant for the purposes of the harm principle.[384] Arguably, rule-utilitarians can support this restriction of the scope of the harm principle as well. Coercion will typically have a (severe) negative impact on a person's well-being. In some cases, using coercion may be necessary to maximise aggregate well-being. This is just another way of saying that the negative impact of restricting someone's liberty can outweigh the negative effects of certain infection risks. However, accepting as a general rule that one's liberty can be restricted to prevent harm to others who can adequately protect themselves will probably yield a huge 'amount' of negative well-being (on top of the negative well-being connected to actual liberty restriction) compared to, for example, stimulating people to protect themselves against threats they consider to be unwelcome. As always, there is some speculation involved in assessing utilitarian arguments, but it does not seem unlikely that the negative well-being resulting from coercing people to prevent harm to others who can adequately protect themselves would not maximise aggregate well-being. The communitarian and the Scanlonian contractualist positions on this issue will be discussed in the next section.

If our selection of normative theories can support the constraint that if person B can adequately protect themselves, coercing person A to prevent harm to B cannot be justified, then the Health Council's formulation of the harm principle is still narrower than HP_1 because it talks about liberty *rights*. In another respect, the Health Council's formulation of the harm principle is *broader* than HP_1, for example because it does not include the requirement that the threatened harm must originate in the person whose liberty may be restricted. There may be other ways of making the harm principle more specific and thereby attaining more constraint on the application of the principle (in the sense that it will leave less room for liberty restriction). I am not aware of any author employing this strategy only. It will not be my strategy, either. While leaving open the possibility that at least somewhat more constraint can be attained by further specifying the harm

[384] See §3.4.1.

principle itself *without* losing normative theoretical convergence on this version of the harm principle, I think there are good reasons to combine it with the strategy of finding *additional* principles or side-constraints that can help constrain the application of the harm principle.[385] This is also the strategy followed by the Dutch Health Council.

5.1.3. The Requisite of Reasonableness

There are many possible side-constraints to the application of the harm principle. Joel Feinberg discusses fifteen such restrictions.[386] I will focus on three possible side-constraints here, requirements that figure centrally in Dutch infectious disease control policy. Dutch infectious disease control policy requires that a liberty-restrictive measure must be *effective* in preventing or reducing the relevant infection risk, that we always choose the *least intrusive* means to reduce that risk, and that the means we use for preventing infection risks are *proportional* (the imperative being not to crack a nut with a sledgehammer). Together, these considerations constitute what may be called the Requisite of Reasonableness.[387]

Strictly speaking, the requirement that a liberty-restrictive measure must be effective to be morally justifiable is not so much a side-constraint on the application of the harm principle, but an internal requirement that is presupposed by the basic structure of the harm principle. If measures are not effective, they will not prevent harm to others, and hence, the justification will not work. Any normative theory that can support any version of the harm principle must therefore necessarily accept the requirement that liberty restrictions must be effective in preventing (or reducing) the relevant harm.

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[385] For instance, because even if it is possible to formulate one principle that can narrow down exactly when coercion is justified (which I doubt), such a principle will be so extensive (because the range of possible cases may be endless) that it will be very difficult either to understand the principle or to apply it.

[386] (Feinberg 1984, 214–217, 243–245).

[387] (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 46–47 and references), following (Dute 1994, 151 and references). The three criteria are inherent in many of the proposed frameworks for public health. See e.g. (Lappé 1986); (Kass 2001, 1778ff); (Childress et al. 2002, 173); (Nuffield Council on Bioethics 2007, 36, 41–42); (Gostin 2008, 63–70); (Verweij 2011). Dutch infectious disease control policy sets additional side-constraints to the use of coercion. For instance, there should be legal ground for the use of coercion, as well as legal guarantees in case coercion is used, such as the right to appeal (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996). Applying the Requisite of Reasonableness requires ethical reflection as well as legal reflection. In this study I focus on the former.

There are several senses in which a public health measure can be more or less intrusive. Whether or not a measure restricts individual liberty and, if so, to what extent, is surely one of the senses in which a public health measure can be more or less intrusive. It is implied by a normative theory accepting any version of the harm principle that the theory assigns at least some positive value to individual liberty – this is because the harm principle justifies liberty restrictions, but also *protects* individual liberty. However, taking the value of liberty into account does not necessarily imply that we should always choose the *least* intrusive means. It does imply, I think, that if there are only two effective measures to prevent an infection risk – one restricting liberty, the other not – there is at least a prima facie reason to choose the option that does not restrict liberty. The latter, I think, is an essential part of a commitment to the harm principle.

What about the requirement that the means we use to prevent infection risks must be proportional to that aim? This requirement, I submit, is *not* necessarily implied by accepting any version of the harm principle. However, every normative theory that can regard the relationship between individual liberty and population health as one of potential tension, such that protecting one of these (the aim) may come at the cost of the other (the means), will have to judge whether that aim is worth using the intended means. But this is the core of a consideration of whether a measure is proportional, i.e. stands in the right relation to the aim. And since our selection of theories can support the claim that individual liberty and public health may need to be traded-off against each other,[388] it seems that these theories must also allow for considerations of proportionality in determining what preventive measures can be morally justified in infectious disease control.

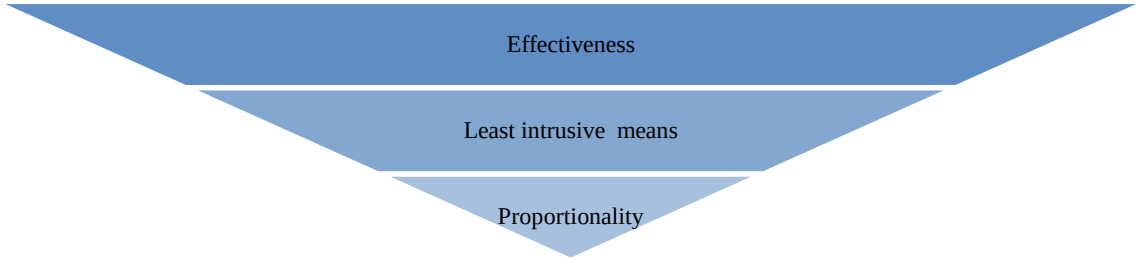
How is the Requisite of Reasonableness supposed to constrain the application of the harm principle? One option is to think that the three considerations must be fulfilled *sequentially*.[389] First, out of all possible things we could do given a certain infection risk, we must select those measures that we expect can effectively prevent or reduce this risk. This excludes all courses of action that are presumably ineffective at achieving this aim. Second, out of the set of measures that we expect can effectively prevent or reduce the relevant infection risk, we must choose the

[388] See §§3.4.1 (libertarianism), 3.4.2 (communitarianism), 3.5.1 (rule-utilitarianism) and 3.5.2 (Scanlonian contractualism).

[389] The Dutch Health Council employs the same considerations as (Dute 1994, 150ff), but does not explicitly mention a specific order in which the considerations must be employed. See (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 46–47).

least intrusive alternative. If the set of effective measures includes both a measure that would restrict liberty and a measure that would not restrict liberty, we should opt for the latter, other things being equal. Finally, the effective and least intrusive measures should stand in the right relation to the aim of reducing or preventing the relevant infection risk.[390] Figure 1 represents this idea:

Figure 1: The Requisite of Reasonableness



Having introduced the notions of effectiveness, always choosing the least intrusive means, and proportionality, let us return to the question of whether our selection of normative theories can support the constraint that coercion cannot be justified to prevent harm to others who can adequately protect themselves. From the perspective of Scanlonian contractualism, the question would be whether people have a generic reason to oppose a principle that would allow for one's liberty to be restricted to prevent harm to others who can adequately protect themselves. I, for one, would object to such a principle. I see no problem in accepting at least some burdens to prevent harm that I may cause to others. But *coercion* to prevent harm that others can adequately protect themselves against does not seem to be the least intrusive means to effectively prevent this harm. There is some speculation involved in saying that people generally have reason to object to such a principle, but I will assume that this is indeed the case.[391] Arguably, communitarians can support this restriction on the application of the harm principle as well. Recall that communitarians generally attach great value to communal attachments. Coercion, however, typically takes the form of restricting social contacts. On the assumption that

[390] Cf. (Dute 1994, 151): 'Van de effectieve dwangmaatregelen dient het minst ingrijpende middel te worden gekozen (*subsidiariteitsbeginsel*), terwijl dit minst ingrijpende middel verder in een redelijke verhouding moet staan tot het nagestreefde doel … (*proportionaliteitsbeginsel*).'

[391] Cf. §3.5.2.

communitarians will typically be reserved about separating people from their community,[392] communitarians too will be inclined to hold that coercing persons to prevent harm to others who can adequately protect themselves is not the least intrusive means to effectively support the relevant communal values. This is not to suggest that libertarians, rule-utilitarians, Scanlonian contractualists, and communitarians will necessarily come to the same normative conclusions by employing HP_1 in combination with the Requisite of Reasonableness. Indeed, the consideration of proportionality constitutes a third potential problem for the feasibility of a mid-level principle in infectious disease control.

5.1.4. The Proportionality Problem

The third problem for the feasibility of a mid-level harm principle in infectious disease control is the Proportionality Problem. To understand the problem and its potential scope, note that the first two elements of the Requisite of Reasonableness (effectiveness; always choosing the least intrusive means) do not necessarily provide much additional constraint on the application of the harm principle. True, they do provide additional constraint, but this only covers "clear cases" that fall within the range of cases on which convergence can be attained, e.g. cases in which an infection risk can be effectively reduced both by a highly intrusive measure and by just asking someone to take preventive measures. Outside the range of comparable "clear cases" cases, *highly intrusive* measures can be the *most effective* means of achieving the end of preventing or reducing a certain infection risk. In those cases, additional constraint should come from considerations of proportionality.

Now, here is the Proportionality Problem. Our selection of normative theories all assign importance to individual liberty and to protecting or promoting population health, and can all support liberty restrictions on harm principle grounds in at least some cases of infectious disease control.[393] But normative theories can also assign a *different relative weight* to individual liberty compared to public health. This results in the Proportionality Problem, the problem that even if considerations of proportionality can provide additional constraint on the application of the harm

[392] See §3.4.2.

[393] See §§3.4.1 (libertarianism), 3.4.2 (communitarianism), 3.5.1 (rule-utilitarianism) and 3.5.2 (Scanlonian contractualism).

principle, normative theories can yield different judgements as to whether a preventive means (say restricting liberty) stands in the right relation to a particular aim (such as preventing or reducing infection risks).[394] It may be disproportional to crack nuts with sledgehammers, but the issue at hand is whether a specific coercive measure necessarily has to be considered a sledgehammer and, if so, whether a small infection risk must unavoidably be regarded as a proverbial nut.

How extensive is the Proportionality Problem?[395] There are several indications that it does not apply to all possible infection risks. It was argued in Chapter 3, for instance, that both a liberty-minded theory such as libertarianism and a community-minded theory such as communitarianism can justify liberty restrictions on harm principle grounds in cases with very big infection risks.[396] What about smaller infection risks? Here too, at least some convergence is to be expected. It will surely be possible to find at least some cases in which, for instance, libertarians and communitarians will agree that an infection risk is so small that preventing or reducing it by means of coercion would be disproportional, if only because aiming to prevent or reduce every infection risk imaginable would require transforming our daily lives in such a drastic way (direct contact would be possible, but perhaps only in biohazard suits). It will generally be considered disproportional for a state to aim to achieve this goal, even on a *voluntary* basis. Considering that infection risks are truly immersed in our lives, libertarians (generally not keen on government interference at all) will surely reject government involvement in the most intimate parts of their lives on such a scale. But communitarians (being keen on strong community ties) will also reject zero tolerance of infection risks across the board, if only because it is doubtful that a community would be left at all with such a policy. Likewise, precluding every possible infection risk will not be acceptable either on rule-utilitarian or Scanlonian contractualist grounds. Rule-utilitarians will reject zero tolerance of infection risks across the board because the transformation of our daily lives required to achieve this will

[394] Even if on some theories, such as utilitarianism, this is better expressed in terms of effectiveness.

[395] Differences concerning what is considered proportional do not necessarily have to be regarded as problematic. For instance, (Kass 2001, 1781–1782) argues that it may be 'indicative of a fair process, or at least a pluralistic process, steering local public health policy'. However, the criterion of proportionality *is* a problem for a mid-level harm principle, at least if we would require that different normative theories can support the same moral judgements and it would turn out that they cannot support these.

[396] See §§3.4.1 (libertarianism) and 3.4.2 (communitarianism).

probably entail such an enormous loss of aggregate well-being (on any account of well-being)[397] that this will outweigh the gain in well-being to be expected from driving out infectious diseases. Finally, zero tolerance of infection risks across the board can also be rejected on Scanlonian contractualist grounds.[398] Recall that reasons for rejecting principles must be *generic*, according to Scanlonian contractualism. Essential to the idea of a generic reason in Scanlon's sense is the need for commonly available information about what people have reason to want. In deciding whether a principle is "rejectable", we must take into account the consequences of its acceptance in general, not just the consequences of its acceptance in the particular case we happen to find ourselves in.[399] But the consequences of accepting zero tolerance of infections risks in general will mean that we will not be able to live a recognisably human life anymore (because of the radical transformations it would require). It does not seem controversial to claim that there is a generic reason not to want this – man being a social animal and "social" generally involving at least some interpersonal contacts (that inevitably entail infection risks). All of this leaves open the possibility that we may want to go a long way towards zero tolerance of infection risks in at least some circumstances, or at least with regard to some diseases.[400]

Let us return to the "Entrepreneur" case again, and inquire whether it yields the Proportionality Problem. Can libertarians, communitarians, rule-utilitarians, and Scanlonian contractualists converge on home isolation as being morally justifiable in the "Entrepreneur" case?

The "Entrepreneur" case

Recall that a couple known to be infected have almost recovered (and are nearly symptom-free) from New Influenza A (H1N1), but that based on the available evidence, it cannot be excluded that they might still be contagious. It is known that the disease spreads very easily (no intimate contact needed) and puts pregnant women (and hence their babies) and obese people at an increased risk of *dying*. It has already been established that such effects will count as severe harm

[397] See §3.5.1.

[398] Cf. (Millar 2013; Millar 2012b).

[399] See §3.5.2.

[400] For instance, in a hospital setting to prevent the spread of MRSA. See the "Medical student" case.

on all four normative theories discussed in this study (presumably on *any* theory that is at least minimally plausible).[401] There is at least a general ground, then, for liberty restriction. Since our selection of theories can also support the Requisite of Reasonableness,[402] the remaining question is this: is there reason to think that libertarians, communitarians, rule-utilitarians, and Scanlonian contractualists will *necessarily* think differently about home isolation being "reasonable" in this case?

Recall that the couple were hesitant to stay at home during the contagious period of New Influenza A (H1N1) voluntarily (10 days). To reduce their symptoms they had received antivirals. In the case discussion several options for action were mentioned:

a. Doing nothing;

b. Trying to persuade the couple to stay at home during the remainder of the contagious period, perhaps by showing up with several public health professionals (in biohazard suits – for their own protection, but this could also have the added benefit of putting at least symbolic pressure on the couple);[403]

c. Applying real pressure, for instance by threatening to only continue to provide antivirals on the condition that the couple will promise to stay at home during the remainder of the contagious period; and

d. Immediately advising the mayor to enforce home isolation (New Influenza A – H1N1 was placed in the Public Health Act's highest-ranking disease group, providing legal ground for mandatory isolation).

The first option, doing nothing (a), can be written off straight away from the perspective of all four normative theories, since we have already established that they all support the conclusion that there is at least a general ground for liberty restriction in this case.

[401] See §§3.4.1 (libertarianism), 3.4.2 (communitarianism), 3.5.1 (rule-utilitarianism) and 3.5.2 (Scanlonian contractualism).

[402] See §5.1.3.

[403] 'Benefit' from the perspective of this perhaps being instrumental to preventing the infection risk.

Since options (b) to (d) aim at the same result – having the couple stay at home during the remainder of the contagious period – these options, *if successful*, will at least be equally effective in the sense of preventing this specific infection risk. As we have seen, this leaves open the question of whether options (b) to (d), again if successful, can be regarded as equally effective in a broader sense. For instance, it is at least theoretically possible that having the mayor enforce home isolation might negatively impact the general willingness of the couple and/or others to take voluntary precautions against (other) infection risks. With this option, the burden of infection risks may even increase, on balance. Reducing infection risks, in turn, may require more intrusive measures (both in terms of the number of interventions and in terms of their nature). This connects to a second sense in which preventive measures may be more or less effective in a broader sense. Neither individual nor aggregate well-being is determined solely by the potential effects of infectious diseases. Indeed, preventive measures themselves will probably also have effects on aspects of well-being other than those directly or necessarily health-related. For instance, the more pressure that is exerted on the couple's will, the more negative (individual) well-being this will yield. On a utilitarian perspective, all such effects are relevant for determining whether a preventive measure is *effective*. I will return to this shortly.

Which of the remaining options is the *least intrusive* means that will or may yield a specific effect? I submit that options (b) to (d) represent an increasing level of intrusiveness: persuasion combined with symbolic pressure (b), real pressure (c), and coercion (d).[404] It was argued in Chapter 4 that it is not necessary for the required convergence that normative theories qualify preventive measures in the exact same way, for instance as restricting liberty or not.[405] Likewise, it is not necessary that they rank all options in precisely the same way based on how intrusive they are considered to be. As we will see, the conclusion in this case would still be the same if, for instance, one theory would consider option (b) more intrusive than option (c), while another theory would rank them in the reverse order. In any case, I see no reason to think that libertarians, communitarians, rule-utilitarians, and/or Scanlonian contractualists will be inclined to rank these options differently based on their intrusiveness. Still, this leaves open the possibility that different theories will deal differently with the options, even if they rank them in the same order. It should be noted, though, that generally there may be a great deal of uncertainty as to

[404] It was shown in §4.3.4 that option (d) is coercive on all accounts of coercion discussed in this study.

[405] See §4.4.

what will be the precise effects of a range of preventive measures that are considered. And that means that even if we can rank the options according to their level of intrusiveness, it will be more difficult to decide which of the options is the least intrusive means to attain a certain effect.

In the retrospective case discussion it was argued that option (c) is unacceptable. Applying pressure to prevent infection risks can be morally acceptable, and *could* have been acceptable in the "Entrepreneur" case, but only if the antivirals had been distributed conditionally *beforehand*. Having first received the antivirals unconditionally, introducing conditions at a later stage was considered problematic. In principle this can be objected to on *moral* grounds, for example that having first received the antivirals unconditionally created a legitimate expectation in the couple that they would continue to receive them unconditionally. Another example is that libertarians – typically assigning great value to agreements made under conditions of liberty – might object to the ad hoc introduction of such conditions on the basis that they were violating a binding agreement. Surely similar counter-arguments are available to the other normative theories in our selection as well. In short, communitarians can argue, for example, that keeping agreements is part of the cement of any community and hence that the prior agreement should not be violated; rule-utilitarians could support keeping the agreement by arguing that general adherence to such a rule will maximise utility (even if, in particular cases, there may be better consequences if an agreement is violated); finally, Scanlonian contractualists can argue that people generally have reason to want agreements to be kept and that a strong complaint by the couple against a principle allowing option (c) would constitute a *generic* reason against such a principle and *could* therefore serve as a reasonable ground for rejecting any principle allowing option (c). Interestingly, option (c) can also be rejected for non-moral reasons, namely that the threat would probably not be very effective at this stage in keeping the couple indoors for the remainder of the contagious period. Recall that the couple were almost symptom-free.[406] It is unlikely that threatening to withhold the antivirals would have provided much leverage. Hence, there was no reason to fear normative theoretical divergence on this issue to begin with.

This leaves options (b) and (d) – persuasion combined with symbolic pressure, and advising the mayor to enforce home isolation. If (b) could effectively reduce the infection risk, this option is to be preferred over (d). For the reasons mentioned above, this option would also be

[406] See (Krom et al. 2012, 43) for an additional objection to option (c).

preferable to (d) on broader interpretations of effectiveness. However, option (b) would probably not be very effective, because the couple's opposition to staying at home during the contagious period was strong indeed. As indicated, the entrepreneur was about to close an important business deal that could have been vital to the continued existence of his company and to the employment security of his staff.

It was concluded in the retrospective case discussion that if persuasion and symbolic pressure (option b) were expected to fail, it could, in the end, be justified to advise the mayor to enforce home isolation. A distinction was made between the proportionality of this intervention, focusing on the *effects on the couple*, and the proportionality of home isolation to prevent the infection risk, incorporating *wider societal considerations*. It was argued that home isolation to prevent infection risk in this case was *not* proportional if we were to focus on the effects of this measure on the couple. Home isolation is a very intrusive liberty-restricting measure that would strongly impair the well-being of the couple. Moreover, while the couple had almost recovered and were almost symptom-free, the continued existence of the entrepreneur's company, as well as the security of employment of his staff, would be jeopardised by the home isolation. Finally, and crucially, the case occurred at a stage in the 2009 New Influenza Pandemic when public health professionals themselves (and the general public) began to doubt the seriousness of the pandemic (the number of fatal cases in the Netherlands was still and also remained well below the number of fatal cases of the 'seasonal flu', in which home isolation is typically not considered). This doubt is relevant both practically and morally. It is practically relevant in connection with option (b) – persuasion combined with symbolic pressure. For if public health professionals themselves could not be convinced of the seriousness of the pandemic, this would probably affect the extent to which they would have been able to successfully persuade the couple to remain indoors. And *this* is also morally relevant, since it was determined that if option (b) would not be successful, the more intrusive option (d) could be justified.

The more fundamental moral question is: how should we deal with crumbling support for government policy amongst public health professionals? (Home isolation during the contagious period of New Influenza A – H1N1 was government policy at that time.) This question is especially relevant since public health professionals are themselves *representatives* of the state. A public health professional who doubts government policy may end up in a situation of conflicting duties. On the one hand, as a representative of the state s/he should, in principle, execute standing

government policy. But public health professionals are also health *professionals*. As health professionals, they should always make a medical judgement about a case and about the content of professional guidelines. Executing policies that one doubts on medico-technical grounds entails what may be called the "self-respect of professionals". It was argued, however, that this argument need not be decisive, especially because there is a strong additional moral argument in *favour* of executing standing government policy. Unequivocal national policies prevent citizens from being treated unequally in comparable circumstances. It would be unacceptably arbitrary if an entrepreneur were forced to stay indoors (with all its consequences) in one county, but be allowed to leave his/her house in another county. Taking such aspects into consideration, it was concluded that home isolation *was* proportional.

Can this conclusion be supported by our selection of theories? Libertarians, even those generally in favour of free-market capitalism, might support executing standing government policy in this case, on the grounds that not doing so would create unequal business opportunities.[407] Communitarianism generally attaches great importance to customs and standing practices, for example.[408] I take it, then, that it would not be very difficult to support the conclusion drawn in this case on communitarian grounds. What about rule-utilitarians? This depends on whether equal treatment and legal security are among the rules, general adherence to which can be expected to maximise aggregate well-being. This is a matter of empirical speculation, but I take it that it would not be far-fetched to assume that they are, especially if additional measures could be taken to alleviate the negative consequences of adhering to standing policy.[409] Finally, Scanlonian contractualists can probably support this measure as well. There is, I believe, reason to think that people generally have strong reason not to want to be treated unequally. Hence, a complaint against a principle that would allow a person to be treated unequally constitutes a *generic* reason, based on which a principle allowing for unequal treatment in this case can be reasonably rejected.

[407] Perhaps complemented by the claim for compensation for any loss of income.

[408] See §3.4.2.

[409] In the retrospective case discussion several options were mentioned that could alleviate the potentially serious consequences, such as offering financial or organizational help or offering to deliberate with the entrepreneur's business partners (Krom et al. 2012, 44).

Note that if the argumentation above is sound, the weak convergence alluded to in §2.1.2.1 is hereby secured: at least some normative theories can support the same version of the harm principle and the same moral judgement in at least some cases. There is, however, no basis for believing that such convergence is always possible. Hence, I will assume in the remainder of this study that there will at least be some cases in which it can be shown that diverging normative theories necessarily *cannot* support the same moral judgements, even if they can support the same version of the harm principle and the Requisite of Reasonableness.[410] Would this necessarily undermine the feasibility of a mid-level principle in infectious disease control? I hope to show in the remaining paragraphs that this is not the case.

The "Entrepreneur" case is an extreme one because of the highly intrusive measure that was considered, among other reasons. Extreme cases are easy, in a sense. It is not difficult to find normative theoretical convergence in extreme cases that include either very high infection risks or very low infection risks. But there are many cases in between these extremes. For instance, in the Netherlands, many cases involve relatively unintrusive measures against risks that are relatively minor, but that do not clearly belong to the category of risks that are widely accepted given, for example, the way we live.[411] Can convergence be expected in these cases as well?

A key difference between rule-utilitarianism and Scanlonian contractualism is important here. Utilitarianism is a *maximising* theory. Other things being equal, utilitarianism can support liberty restrictions as long as this will maximise aggregate well-being. Hence, compared to a non-maximising theory, such as Scanlonian contractualism, utilitarianism may set the bar higher to begin with concerning the prevention of infection risks.[412] Unless non-coercive options can yield the same result (maximise aggregate well-being) as coercive options, it is at least theoretically possible that a coercive measure is the least intrusive way to effectively (and proportionally)

[410] See (Gostin 2003, 1141–1158) for a discussion of libertarianism and communitarianism concerning the justification of liberty restrictions on harm principle grounds to counter a bioterrorist attack. For critical responses see (Annas 2003); (Childress and Gaare Bernheim 2003); (Parmet 2003).

[411] See Annex 2: Case selection – methodology.

[412] Cf. (Verweij 2005), who argues that Scanlonian contractualism may be more demanding than utilitarianism in terms of obligatory prevention against infection. Whether it is will depend, at least in part, on our approximation of the scope of the *generic* reasons that people have to want to avoid infections. In any case, whether utilitarianism is more demanding than Scanlonian contractualism or the other way around, *both* cases suggest a potential for normative theoretical divergence. That is all that is required at this stage of the argument.

reduce the relevant infection risk from a utilitarian perspective, but cannot be justified from a Scanlonian contractualist perspective.

But we should not overestimate the potential for divergence. Like utilitarianism, Scanlonian contractualism allows for aggregation, at least in cases where the harms involved are "relevant" to one another.[413] The basic idea seems to be that we can identify broad categories of moral seriousness of harms.[414] Two harms, then, are "relevant" to one another if they belong in the same category of moral seriousness. These categories being *broad* suggests that harms on either side of the equation (the way to avoid a certain harm itself involving some harm) do not have to be of the same magnitude for aggregation to be appropriate on a Scanlonian contractualist account. Aggregation may thus be appropriate, for instance, if the harm we aim to prevent through public health measures is more serious than the harm entailed in applying those measures (on the condition that the two harms belong in the same broad category of moral seriousness). There is no space here to determine the exact boundaries of different categories of moral seriousness of harms. Suffice to say that aggregation may be considered appropriate if highly intrusive measures are considered to prevent very serious infection risks, but also if relatively unintrusive measures are considered to prevent relatively mild infection risks. In both cases, the harms arguably belong to the same broad category of moral seriousness. Scanlon explicitly leaves open the possibility of incorporating aggregative principles in his account of contractualism that go beyond the idea of "relevance".[415]

But this, in turn, suggests that Scanlonian contractualism and utilitarianism may go hand in hand a long way as far as allowing for aggregation is concerned. True, the emphasis on the rejectability of principles from various *individual* standpoints seems to rule out at least some instances of aggregation on contractualist grounds. And while every individual counts for one, and nobody for more than one, on a utilitarian account, it being a *collectivist* theory implies that individuals are only justifiably protected to the extent that this amounts to maximising aggregate well-being. However, assuming that at least some protection of individual liberty is required for maximum aggregate well-being, utilitarianism too will place limits on the use of coercion to

[413] (Scanlon 1998, 239ff).

[414] (Ibid., 238).

[415] (Ibid., 240–241).

protect population health, not just in the form of generally objecting to zero tolerance of infection risks across the board (let alone by coercive means), but also on the use of coercion to prevent relatively mild infection risks. Assuming that coercion will *generally* have a rather negative impact on a person's well-being – it is not coincidental that imprisonment is used as *punishment* – a practice of enforcing a rule that coercion is justified to prevent relatively mild infection risks will probably not maximise aggregate well-being. Hence, such a rule, as well as a practice enforcing such a rule, will also be rejected on rule-utilitarian grounds.[416]

The discussion so far has pertained primarily to the aggregative dimension of population health.[417] It was shown, however, that infectious diseases can affect all three dimensions of population health. This means that the possibilities for normative theoretical convergence should be explored with regard to the other dimensions of public health as well. There is also reason to expect at least some convergence regarding the *distributive* dimension of population health. It was previously noted that not every health inequality is necessarily problematic and that we need a concept of justice to determine which health inequalities *are* morally problematic. At least at first sight, concepts of justice are a potential source of divergence. Suppose at time t_2 the distribution of illness among the constituent members of a population is rather different compared to t_1. Take the example that was mentioned in §3.1.2 about the much higher percentage of malaria deaths in Africa (about 90% in 2010) compared to the rest of the world. On a Scanlonian contractualist account, the complaint of any individual can be enough to reasonably reject a principle that would allow for the situation that the individual objects to. We can easily imagine an individual objecting to a principle allowing for a situation in which s/he would be far worse off than others vis-à-vis contagious diseases.[418]

A common criticism of utilitarian theories is that they cannot incorporate *independent* considerations about uneven distributions.[419] If an uneven distribution of, for instance, infection risks is the way to maximise utility, then we *ought* to unevenly distribute infection risks. Theoretically, then, convergence on the justifiability of measures aimed at preventing such

[416] Cf. §3.5.1.

[417] Different dimension of population health are discussed in §3.1.2.

[418] I am assuming that the reason to object to such health inequalities is also generic.

[419] This is related to utilitarianism being a monistic theory, allowing for only one basis basic moral principle – that of maximising utility. See e.g. (Rawls 1999, 23).

uneven distributions may be impossible between rule-utilitarianism and Scanlonian contractualism. However, is it likely that an action that leads to an uneven distribution of contagious diseases and/or infection risks will maximise utility? To start with, note that *not every* uneven distribution of infection risks/contagious diseases is necessarily compatible with utility being maximised. If 90% of the people have a severe case of a contagious disease or are at an increased risk of contracting that disease, while 10% is well-protected, this constitutes an uneven distribution. But it need not maximise utility. In fact, it is doubtful that it will. It seems safe to assume that having a severe case of a contagious disease will result in overall negative *individual* well-being. But if this is the case, then being well-protected against this disease would have to generate an enormous quantity of positive individual welfare to yield a higher *aggregate* well-being compared to all other possible scenarios. Importantly, unless there is a correlation between the net positive individual well-being for those who are well-protected and the net negative individual well-being for those who either have a severe case of the disease or are at an increased risk of contracting it, it is easy to imagine many alternative scenarios that are likely to be more beneficial to aggregate well-being than this uneven distribution. But this holds for any uneven distribution, even if we reversed the numbers in our example.

The point is, we do not necessarily have to rely on notions of unfairness to counter uneven distributions of infection risks. Hence, to the extent that utilitarian theories cannot incorporate considerations that uneven distributions are morally problematic *independent* of considerations of utility-maximisation, this need not pose problems for attaining convergence on the justifiability of preventive measures that have the *effect* of decreasing uneven distributions of infection risks.[420] We should not overestimate the scope of the Proportionality Problem.[421]

To summarise, the version of the harm principle on which our normative theories converge (HP_1) is still rather general. This creates the Constraint Problem, entailing that as of yet there is much room for liberty restriction, and it is doubtful that there will be convergence on that. The Constraint Problem can be 'solved' by finding additional mid-level considerations (such as the Requisite of Reasonableness). However, this created the Proportionality Problem, entailing

[420] This puts in perspective the question raised in §3.1.2 about the distributive dimension of population health potentially presupposing a specific concept of justice, and hence potentially posing problems for the feasibility of a mid-level harm principle in infectious disease control.

[421] I will 'solve' the Proportionality Problem in §5.3.1.

that different normative theories may constrain the application of the harm principle to a different extent, resulting in *divergence*. I have given some reasons not to overestimate the scope of the Proportionality Problem, but nevertheless, the problem is inevitable. Finally, the Trade-off Problem may result in the conclusion that not *all* common measures in infectious disease control can be morally justified by a mid-level harm principle.[422]

All three problems have to do with a tension between the theoretical convergence that can be attained on any version of the harm principle, on the one hand, and the normative guidance that can be expected from a version of the harm principle on which normative theories *can* converge, on the other hand. In the remainder of this chapter, I will present a structure for ethical decision-making that can help deal with this tension, and include this in a proposal for a general "division of normative labour" between applied ethicists/philosophers, on the one hand, and public health officials, on the other.

5.2. Existing framework for decision-making by public health professionals

Decision-making by public health professionals is typically embedded in a framework of public health bills and other legal documents, as well as guidelines and protocols. Internationally, for instance, the WHO issued the International Health Regulations (IHR).[423] The 2009 Dutch Public Health Act was drafted mainly to conform to the IHR.[424] Moreover, underlying the Public Health Act is the normative framework formulated by the Dutch Health Council,[425] in which a version of the harm principle plays a central role, supplemented by, among other things, the Requisite of Reasonableness. Here is an example of the way that these considerations are incorporated in the Public Health Act. The Act specifies that, for instance, (mandatory) isolation of a patient in a hospital can only be issued by the mayor of a municipality if, among other things, there is serious danger to the health of the public through transmission of a contagious disease. This is testimony to the incorporation of the *harm principle* in the Public Health Act. Additional requirements entail that this danger cannot effectively be averted by other means and that the person is not

[422] Those measures might of course still be justifiable on other grounds.

[423] (WHO 2005).

[424] (Kamerstukken II 2007/08, 31 316, nr. 3, 1).

[425] (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996).

disposed to remain in isolation voluntarily. This shows that the considerations of *effectiveness* and always choosing *the least intrusive means* are included in the Health Act as well.[426]

The notion of proportionality is not mentioned explicitly in the Health Act. However, the Act distinguishes several disease groups (A, B1, B2, and C),[427] and determines that specific measures can only be applied to prevent the spread of diseases in certain groups.[428] For instance, isolation is only legally allowed to prevent diseases in groups A and B1, whereas quarantine is only allowed to prevent diseases in group A.[429] One way of understanding why quarantine is not allowed to prevent diseases in disease groups other than group A, I submit, is that it is not, for example, considered to be *proportional* to mandate quarantine to prevent the spread of diseases in groups B1, B2, and C.[430] The Public Health Act also allows for the placement of diseases in 'higher' disease groups (allowing for a broader range of preventive measures and requiring more detailed information to be shared with more authorities) and for the inclusion of new diseases and syndromes.[431] We could understand this as reflecting the judgement that while at time t_1 it is considered never to be proportional to use quarantine to prevent the spread of, for instance, viral haemorrhagic fever, it *may* be proportional at time t_2. Viral haemorrhagic fever was previously in group B1, and is now placed in group A.

In addition to the Act, public health officials in the Netherlands have at their disposal, among others things, guidelines for specific diseases and contexts (such as health care), and even more detailed directives for how to act after notification of a specific case of disease, to foster standardisation.[432] To the extent that they are truly action-guiding (i.e. prescribe specific courses of action, such as disease notification), they presuppose certain ethical considerations and

[426] (Wet publieke gezondheid, subsection 1b–d of section 31).

[427] Disease groups A, B1 and B2 are specified in (Wet publieke gezondheid, subsections e–g of section 1). To give an example, on 4 August 2013 disease group A included: small pox, poliomyelitis, SARS (Severe Acute Respiratory Syndrome), and viral haemorrhagic fever. Which diseases are included in disease group C is determined by Order in Council (Wet publieke gezondheid, section 12).

[428] Specific requirements for notification of diseases are a second rational behind the grouping of diseases. (Kamerstukken II 2007/08, 31 316, nr. 3, 9).

[429](Wet publieke gezondheid, subsection 1 of sections 31 and 35).

[430] Other considerations are relevant for the classification of diseases as well, such as whether measures to prevent infection risks are effective, and whether less intrusive options are available.

[431](Wet publieke gezondheid, section 20).

[432] These are the so-called nursing directives infectious disease control (in Dutch: "Verpleegkundige Stappenplannen Infectieziektebestrijding", VSI) (LCI 2010b).

viewpoints. Generally, however, statutes and guidelines, et cetera, limit the range of permissible action (e.g. no mandatory quarantine to prevent the spread of diseases in groups B1, B2, and C), but do not prescribe exactly what public health professionals ought to do. *Additional* ethical reflection by public health professionals is required to determine what to do to prevent specific infection risks.[433] By connecting specific measures to disease groups, the Public Health Act limits the range of permissible actions of public health professionals. And by incorporating the Requisite of Reasonableness, the Act leaves it to public health professionals to determine what is the least intrusive measure to effectively prevent an infection risk (harm to others) and whether this measure is proportional to that aim. For example, the legal option to quarantine a person suspected of having a group A disease still requires an ethical judgement about whether to utilise that option.[434] As mentioned in the general introduction to this study, weighing the moral pros and cons of different options to prevent or reduce infection risks is implied in everyday decision-making by public health officials, but often remains implicit. Moreover, the focus is often on issues of evidence-based risk assessment and management. How can such deliberation of the moral aspects of infectious disease control be incorporated in a systematic way in the everyday deliberations by public health officials?

5.2.1. A structure for ethical decision-making

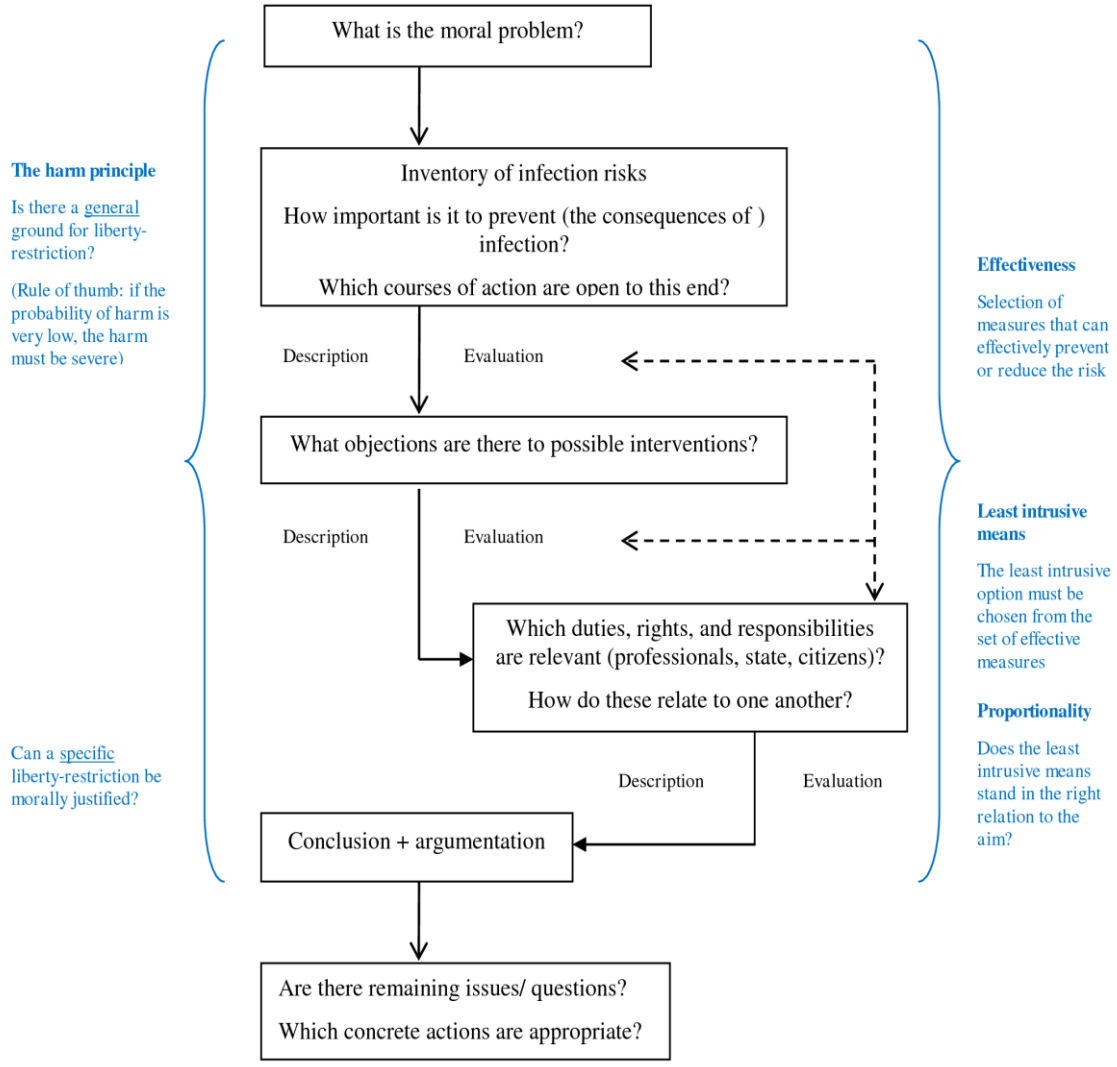
As part of the project "Infectious Disease Control and the Harm Principle", a series of case discussions was organised between public health professionals and ethicists,[435] with the aim of offering a practical format for incorporating explicit ethical reflection in day-to-day decision-making in infectious disease control.

[433] This study focuses on *ethical* reflection. This is not to suggest that no other types of reflection are required. For instance, and importantly, *legal* reflection will also be required from public health professionals (their advice ought to be legally tenable). I thank Jos Dute for raising this point. Cf. the general Introduction to this study on the relation between ethical reflection and legal constraints.

[434] (Verweij, Krom, van Steenbergen 2011, 6). This article was also published separately in 2009. The 2011 version includes an updated version of the structure for ethical decision-making.

[435] See Annex 1: Case discussions and Annex 2: Case selection – methodology.

Figure 2: A structure for ethical decision-making in infectious disease control



First, the moral problem is identified, and formulated in an action-oriented way.[436] This is because it must be decided whether certain infection risks must be reduced or not and, if so, how. After listing the courses of action that are open to public health officials in the case at hand, possible objections to these alternative options are drawn up. Including 'doing nothing' as a possible

[436] See Table 1: The moral problem in the retrospective case discussions for the moral problems that were considered in the different cases.

option forces professionals to really argue for the case of intervening. Then, the pros and cons of the different options are evaluated, keeping in mind any duties, rights, and responsibilities of those involved. These moral norms could, for example, lend further support to certain courses of action (e.g. if someone had special responsibilities in that direction) or, conversely, weaken a specific option (e.g. if the option would violate certain rights). This does not produce *the* right answer. Responsible decision-making may allow for several decisions that can be well-supported, even if the arguments that can be offered in support of one option may be relatively stronger than the arguments that can be offered in support of another option. That does not make the latter option morally wrong or indefensible.[437] Finally, it is determined who should do what, based on the discussion.

Note that the structure incorporates both the harm principle and the Requisite of Reasonableness. The harm principle is applied in the second step of our model, where the infection risks are described and evaluated. Following what has been set out by the Health Council of the Netherlands, we could distinguish between the general question of whether an infection risk is such that there is a general ground for coercion and the question of whether a *specific* liberty-restricting measure (such as quarantine) can be morally justified. Determining whether there is a general ground for liberty restriction requires an assessment of the magnitude of harm that might ensue without further interference by public health professionals, but also how probable it is that this harm will actually ensue. The magnitude of the risk is then determined by multiplying the severity of the harm by the probability that this harm will actually ensue.

When is a risk big enough to provide a general ground for liberty restriction? The Health Council uses the level of (un)certainty about harm ensuing to formulate a rule of thumb: if the chance of harm occurring is very small, the harm must be 'considerable' for there to be a ground for liberty restriction. Note that this rule of thumb is compatible with both a moralised and a non-moralised account of harm. Moralised accounts of harm use a moral criterion to determine which harms are relevant for the purposes of the harm principle. For instance, Joel Feinberg, whose moralised account of harm revolves around specific setbacks to the interests of others that constitute a moral 'wrong', argues that minor harms *are* harms (in the sense of setting back the interests of others), but not *wrongs*. Consequently, infection risks below a certain threshold do

[437] (Verweij, Krom, van Steenbergen 2011, 6).

not have to count as harms for the purposes of the harm principle, and hence there is no general ground for liberty restriction.[438] It then follows that specific liberty restrictions can also not be morally justified on harm principle grounds.

The claim that there is no general ground for liberty restriction in the case of low infection risks is also available on a *non-moralised* account of harm. Non-moralised accounts of harm do not use moral criteria to determine what counts as a harm for the purposes of the harm principle. Suppose we hold that low infection risks *are* harms relevant for the purposes of the harm principle. We could then still argue that low infection risks do not provide a general ground for liberty restriction, if we allow for considerations of *proportionality* at this general level. That is, if we relax the idea that we should first apply the harm principle, and only then apply the considerations of reasonableness sequentially (with 'proportionality' coming last).[439] By also allowing considerations of proportionality at the level of a general assessment of infection risks, we could hold that liberty restriction generally does not have the right relationship with our aim of preventing or reducing at least some (e.g. very low) infection risks, even if we think that those risks are, in principle, relevant for the purposes of the harm principle.[440]

This brings us to the connection between the structure for ethical decision-making and the considerations of *reasonableness*. Public health *professionals* are not very likely to mention ineffective measures, but this does not make redundant making explicit the requirement that infectious disease control measures should be effective. Even if the list of possible courses of action contains only measures that are expected to be effective to some extent, it is doubtful that all measures on the list will be equally effective. In the end, it must be determined *how effective* exactly we want a measure to be.

Objections to the possible courses of action may include, for instance, that a measure would restrict liberty or would otherwise be intrusive.[441] This is where the requirement of always having to choose the *least intrusive means* (out of the set of options that are expected to be

[438] (Feinberg 1984, 216).

[439] Cf. the discussion of the Requisite of Reasonableness in §5.1.3.

[440] Feinberg argues that harms below a certain threshold (of magnitude) are not to count as harms for the purposes of the harm principle, 'for legal interference with trivia is likely to cause more harms than it prevents'. I agree, but I do not see why we should think the argument is necessarily tied to a moralised account of harm.

[441] See e.g. (Krom et al. 2012, 43).

effective) becomes relevant. If the courses of action open to a public health official all differ in terms of their expected effectiveness, then assuming at least a weak correlation between the effectiveness and the intrusiveness of preventive measures, always choosing the least intrusive option might also mean always opting for the least effective option. Again, this raises the question of how effective we want a preventive measure to be.

This is where considerations of 'proportionality' become relevant, for this entails assessing the relation between our aim (preventing or reducing a certain infection risk) and our considered means (that may be more or less effective, but also more or less intrusive). In order to arrive at the 'right' relation between means and aim, we might have to choose an option that is somewhat less effective than perhaps we would have wanted it to be, because more effective options would be too intrusive. But there will surely be limits to how much less effectiveness we can allow by demanding that our measures are as unintrusive as possible. If the infection risk (harm to others) we want to prevent and have good reason to prevent is very severe, it may be proportional (and hence reasonable) to choose very effective measures that are also very intrusive.

5.3. It is justified to let public health professionals make moral choices

Public health professionals are legally allowed to make a whole range of moral decisions of precisely the kind discussed here. Formally, the mayor of the relevant municipality is responsible for decisions such as mandatory isolation or quarantine and mandatory medical examination, and these decisions are subject to judicial review. But it is *public health officials* who must make the moral decision of whether or not to advise the mayor to take certain preventive measures. While mayors and judges enjoy independent powers to decide on (certain) courses of action to prevent infection risks, the opinion of the health professional will surely be an important factor in the mayor's final decision and in the process of judicial review.[442] The question I want to address in this paragraph is this: what role(s) can normative theories of the kind discussed in this study have in the justification of preventive measures by public health officials? And does this amount to his/her decisions being *morally* justified?

[442] See (Wet publieke gezondheid, sections 31, 35 and 39–41, especially subsection 3 of section 41 on expert testimonies). Cf. §5.5.

Assume, for the sake of argument, that it cannot be shown that only one normative theory is 'correct' (whatever that may mean exactly), and hence that there is an irreducible set of normative theories that may all have their weaknesses, but are all at least minimally plausible. Thus, after applying our 'correctness' test, several theories will remain on the table that we cannot ignore in ethical reflection about what is the morally right thing to do. Now imagine two scenarios. In Scenario 1 none of the candidate theories can converge on *anything*. In Scenario 2, some of the candidate theories can converge on at least some things – e.g. on the relevance of certain moral considerations, or on concrete moral judgements in some cases of infectious disease control, or on both.

The examination so far suggests that, regarding the moral justifiability of common measures in infectious disease control, we are in Scenario 2 rather than Scenario 1. For there are at least some normative theories that can support at least some normative considerations and/or moral judgements in at least some cases of infectious disease control. Can we conclude, then, that public health professionals would do well to opt for the common measures supported by the set of converging theories? I think so, but two complications must be addressed.[443] First, nothing I have said so far excludes the possibility that we are actually in a (slightly) different scenario when it comes to justifying common measures in infectious disease control. For instance, it is possible that *two* sets of at least minimally plausible theories can be identified for which it holds (i) that the theories in each set can converge on certain moral considerations and concrete moral judgements, but also (ii) that the sets of theories among themselves can converge neither on certain moral considerations nor on specific moral judgements. Call this Scenario 3.

Note that Scenario 3 is actually quite similar to Scenario 1. In Scenario 3 the same problem arises as would have arisen had we been in Scenario 1: how is it possible to choose between the available options? Call this complication (a). But there is a second, related, complication. Complication (b) entails that one way to deal with complication (a) is to come up with a new normative theory to tip the balance. Suppose we start with two sets, each containing an equal number of normative theories, for which it holds that there is convergence between the theories *in* each set but not *between* the sets. This yields complication (a). But if, as I have

[443] This position differs from (Krom 2011a). There, I argued in effect that the Proportionality Problem provided reason to move *beyond* the mid-level harm principle. I now think that the Proportionality Problem can be dealt with while maintaining a mid-level harm principle in infectious disease control. See §5.3.1ff.

suggested, we ought to rely on the set of converging theories that can be challenged from the least competing perspectives, then we can simply tip the scale, and hence force a decision between the competing sets by coming up with a new normative theory that can be included in the set of theories that supports, for example, our preferred moral judgements. But if that is true, does not the model suggested here leave open the possibility of "stacking the deck"? Call this complication (b). Both complications are duly noted. Note too, however, that neither the possibility of actually being in Scenario 3 instead of Scenario 2 (complication a) nor the option of "stacking the deck" (complication b) precludes that we can still maintain that acting *as if* we were in Scenario 2 (based on the results of this study) is less controversial normative theoretically than justifying common measures in infectious disease control in ways that would ignore this convergence. We know that we are not in Scenario 1!

My claim that it is less controversial to rely on possible convergence between normative theories than on one normative theory rests crucially on the *assumption* stated at the beginning of this section, namely that it cannot be shown that only one normative theory is 'correct' – and hence that there is an irreducible set of normative theories that may all have their weakness, but are all at least minimally plausible.[444]

Now suppose that, in Scenario 2, there is convergence on the relevance of certain moral considerations, but absolutely no convergence whatsoever on *any* concrete moral judgements in cases of infectious disease control. Suppose, for example, that my analysis of the "Entrepreneur" case in this chapter is simply mistaken, and that no alternative examples can be produced where convergence of the justifiability of specific preventive measures is possible. What role can there be for normative theories in determining the morally right thing to do, then? I submit that the same logic applies here. Here too, it would be less controversial to determine the morally right thing to do by relying on moral considerations that can be supported by several theories than to employ moral considerations that can only be supported by one normative theory from a range of

[444] The notion of being 'less controversial' is not supposed to represent a new "deontic" category. Assuming that perfect convergence and absolute consensus are impossible, whatever justification we give for our actions, this choice can always be challenged from at least some perspectives; be it normative theoretical or practical perspectives. A choice being less controversial than other choices, then, merely entails that our choice can be challenged from less competing perspectives (that are all at least minimally plausible). In this sense a choice that can be supported both by a range of normative theories (that are all at least minimally plausible) *and* by consensus among infectious disease officials is less controversial than, for example, a choice that can only be supported by one normative theory (out of a range of theories that are all at least minimally plausible).

(all at least minimally plausible) competing theories and that lead to moral judgements that (supposedly) can only be supported by this particular theory.

Public health professionals, then, faced with the situation in which they have to choose between relying on one non-converging theory or on moral considerations on which there is convergence, would do well to take the latter route. Convergence between a selection of at least minimally plausible normative theories provides (perhaps moderate) support for thinking that specific choices are indeed morally defensible.

5.3.1. Convergence and consensus

I now want to broaden the discussion about moral justification by introducing the notion of consensus. By consensus I mean factual agreement between people.[445] I want to propose that consensus can play a role in moral justification of preventive measures in infectious disease control *in addition to* normative theoretical justification. What I have in mind is the following. In Scenario 1 (no convergence whatsoever), any choice of theory will necessarily yield different moral judgements. By assuming that all competing theories are at least minimally plausible, we have excluded the possibility of resolving this controversy on a deeper theoretical level. Now imagine two situations. In one it is possible to reach consensus on a specific preventive measure in infectious disease control that can only be morally justified by one of the competing normative theories. And in the other, reaching consensus on this preventive measures is impossible. Call these situations A and B, respectively. Other things being equal, I would think that the preventive measure is less controversial in Situation A compared to in Situation B. It is not less controversial *normative theoretically* (in this respect Situation A and B are similar), but less controversial *practically*. Whatever we may think of consensus as a *basis* for moral justification in general, I can think of no reason to deny that in the absence of normative theoretical convergence on the justifiability of specific actions, the possibility of reaching factual agreement can have a legitimate place in moral justification.[446] Given that the consensus is reached under fair conditions,

[445] If normative theories leave at least some room for moral judgement it could be argued that there is a need for a fair procedure in which professionals can reach consensus. I submit that this does not preclude the possibility of that consensus playing a role in the *moral justification* of preventive measures.

[446] The need for professional consensus is not an end in itself. It can, for example, also be supported by the importance of unity of policy.

of course. Conditions I have in mind here include, for example, that all participants count equally and that others are not forced, intimidated or manipulated, et cetera.[447]

Let us return to Scenario 2, in which there is at least some normative theoretical convergence, either on certain moral considerations (e.g. on a specific version of the harm principle and on the Requisite of Reasonableness), or on concrete moral judgements, or on both. Again, imagine two situations, one in which the factual agreement that can be reached matches this convergence, and one in which it does not. Call these Situation C and D, respectively. Other things being equal, it seems to me that in Situation C (convergence plus consensus), a specific public health measure has a stronger moral justification than in Situation D (convergence, but no consensus).

At this point we must further qualify the relation between convergence and consensus, for as it stands, Situations C and D leave out an important option, namely a situation in which there is both convergence and consensus, but the two are in conflict. Call this Situation E. It entails, for example, that there is normative theoretical convergence on the justifiability of a measure to prevent infection risks, but also factual agreement that this measure should not be executed. What should be done? In order to determine whether convergence or *consensus* should prevail, should the two conflict, we must be more precise in terms of what they entail. To be able to conflict, convergence and consensus must have the same object. There may, for instance, be a conflict about which moral considerations are relevant, or about specific moral judgements. But we must also specify whose consensus we are talking about. Note that, for instance, the Dutch Public Health Act containing certain moral considerations reflects a certain consensus, arrived at through a democratic process. Since our selection of normative theories can support the same moral considerations, we can conclude that there is a match between the convergence and the consensus on these moral considerations (consensus referring, for example, to the representatives of the people, who passed the bill). What if there were to be a mismatch? Surely, in a constitutional democracy, qualified majorities in parliament can change the formal norms. In this case, consensus trumps convergence should the two conflict. This study is not about potential

[447] Which conditions for deliberation ought to count as 'fair' is of course debatable. I cannot solve this issue here. To avoid circularity we cannot decide that by way of consensus. Perhaps it is possible to find convergence on this between different normative theories?

conflicts between convergence and consensus on this scale.[448] It is about the possibility of morally justifying *common measures* in infectious disease control by referring to a mid-level harm principle. Hence, we should be focusing on potential conflicts between convergence and consensus on this issue. But again, consensus amongst whom? Public health professionals? The general public? Both?

Let us start with public health professionals. It follows from my approach that if there would be a conflict between convergence and consensus regarding the moral *considerations* that must be used to determine what is the morally right thing to do in infectious disease control (the harm principle, and the Requisite of Reasonableness), convergence trumps consensus. These considerations are embedded in the law, and can be supported by diverging normative theories. What if there is a conflict between convergence and consensus regarding specific preventive *measures*? Note that the potential for such conflicts depends, at least in part, on the extent to which normative theories can single out specific measures as the only ones that are justifiable. If normative theories generally leave open a set of actions that can be morally justified, there will at least be several options for a match between the actions that can be morally justified on normative theoretical grounds and factual agreement that can be reached among public health professionals. It was argued in Chapter 2 that, typically, the most fundamental considerations in normative theories are rather general and in need of specification. Specification can proceed in several ways. This, it was argued, leaves room for convergence between normative theories.[449] But in the same vein it also leaves room for a match between convergence and factual agreement, at least potentially. For if the general considerations of normative theories can be specified in different ways, and this leaves room to find overlap between normative theories, this may, in concrete cases, leave several options on the table on which there is convergence. Public health professionals, in turn, might be able to reach consensus on at least one of these options.

We should be careful not to overestimate the potential for conflict between convergence and consensus. As we have seen, even utilitarian theories, prescribing that we *must* do that which maximises aggregate well-being, may leave open several options for action. This is because it is generally either impossible to determine which option exactly would maximise utility, or it is

[448] Note that even if it were, there would be no such conflict concerning the harm principle and the Requisite of Reasonableness.

[449] See §2.1.3.

possible only by making such enormous efforts that aggregate well-being would not be maximised in the end. But we should not *underestimate* the potential for conflict between convergence and consensus on the moral justifiability of specific preventive measures either. In fact, we have already encountered a possible example: the "Entrepreneur" case, in which there was increasing doubt amongst public health professionals about the public policy at that time: home isolation during the contagious period of New Influenza A (H1N1). It was argued in §5.1.4 that there was good moral reason to enforce home isolation in this particular case, and that this can be supported by our selection of normative theories.[450]

I submit that it is not just legally but also morally justified to let public health professionals make moral decisions in the practice of infectious disease control. There is convergence on the moral considerations that have to be taken into account in this (the harm principle and the Requisite of Reasonableness).[451] At least to this extent, justifications by public health professionals are instances of *moral justification*, in the sense that there is a connection between normative theories and the moral judgements arrived at in the practice of infectious disease control. It was argued that if there is no convergence on the justifiability of measures to prevent infection risks, then relying on consensus is less controversial normative theoretically than just picking one normative theory from a range of non-converging theories (that are all presumed to be at least minimally plausible).

Note that this more or less solves the Proportionality Problem.[452] For we can now say with confidence that if normative theories cannot converge on the justifiability of specific measures to prevent infection risks, because they assign a different relative weight to, for example, individual liberty compared to public health, it is normative theoretically justifiable (or at least less controversial) to rely on consensus amongst public health professionals. Consensus can play a legitimate role in moral justification, at least in the absence of convergence. Moreover, if convergence on the moral justifiability of measures to prevent infection risks *is* possible, then also being able to reach consensus on these measures can add to the strength of their moral justification, I would say.

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[450] This is consistent with the claim that convergence trumps consensus in conflicts like these.

[451] Again, there may be another set of normative theories that yields a different convergence. However, based on the conclusions of this study we are justified in acting under the assumption that we are in Scenario 2.

[452] The Proportionality Problem is explained in §5.1.4.

5.4. Division of normative labour: a proposal[453]

Many if not most of the conclusions from the previous paragraph rest on the assumption that there is in fact a range of normative theories that are all at least minimally plausible. This assumption can be challenged. If there were only one plausible normative theory, then mid-level principles as envisioned here would cease to exist. Convergence between theories presupposes that there are at least two competing theories that are at least minimally plausible.

Discussing the relative merits of normative theories and meta-ethical theories is part of the domain of ethicists and philosophers. Such discussions have a value of their own, but they also have value to the extent that we think that there should be a connection between normative theories and moral decision-making in concrete practices such as infectious disease control. For if one of the normative theories in our set of converging theories turns out to be implausible altogether, there being convergence between this theory and other theories loses its force. Relying on convergence between two theories, one of which is implausible altogether, is not less controversial normative theoretically than just picking one theory from a range of at least minimally plausible theories. Hence, the *normative force* of mid-level theorising depends crucially on in-depth discussions of the relative merits of competing normative theories by, for example, applied ethicists and philosophers.

There is both a practical reason why such discussions should perhaps not take place in infectious disease practice (in the case of a pandemic, there is only limited time for discussion and normative reflection) and a methodological reason why discussions about the relative merits of competing normative theories need not take place in infectious disease practice. The practical reason for this is to do with, for example, time and money (there is only so much time in infectious disease control, for example, to patiently consider our options).[454] The methodological reason is the possibility of mid-level theorising: public health officials can take whatever normative theoretical convergence is possible as a *starting point* for their moral deliberations.

[453] See (Krom 2011c) for a first exploration of this model.

[454] For this reason the structure for ethical decision-making in infectious disease control (§5.2.1) was drafted in such a way that public health professionals can incorporate the structure in their day-to-day work relatively easy.

If the normative force of moral mid-level theorising depends crucially on in-depth discussions of the relative merits of competing normative theories by, for example, ethicists and philosophers, and public health professionals are allowed to make moral decisions against the background of possible normative theoretical convergence, then a "division of normative labour" suggests itself.[455] What would be the respective tasks as far as the moral justification of concrete measures in infectious disease control is concerned? I will set out my proposal in the next section.

5.4.1. The tasks of applied ethicists and philosophers

The tasks of applied ethicists and philosophers will include at least the following elements. First, to discuss the relative merits of competing normative theories. This may either result in the conclusion that there is only one plausible or correct normative theory, or it may leave several competing theories on the table. If several competing theories are left that are at least minimally plausible, a second task is to examine whether convergence between these theories is possible, to map this convergence, and to communicate it to public health professionals. I have attempted this with regard to a selection of normative theories.

5.4.2. The tasks of public health professionals

Public health professionals, in turn, *ought* to take whatever convergence between normative theories can be attained (as mapped by applied ethicists and philosophers) as a starting point for their moral deliberation. For instance, employing a specific formulation of the harm principle (HP_1) and the Requisite of Reasonableness in determining what is the morally right thing to do. In case there is convergence on specific measures to prevent infection risks, a distinction must be made between situations in which normative theories converge on one option for action only and those in which several options for action are left on the table that are considered morally justifiable. In the first case (convergence on one option only), public health professionals ought,

[455] This study focuses on the connection between the *practice* of infectious disease control and normative ethical theorising. For that reason I zoom in on the division of normative labour between infectious disease professionals, on the one hand, and applied ethicists/philosophers, on the other hand. This is not to suggest that their respective roles *exhaust* the normative labour needed to justify specific measures to reduce infection risks. For instance, in that liberty restrictions require a legal ground, jurists have an essential part in the normative labour that is needed as well. I thank Jos Dute for pressing me on this point. Also see §5.3.1 on the relation to constitutional democracy.

in principle, to execute *this* particular measure. In the latter case (convergence on several options for actions being morally justifiable), public health professionals must at least choose one of these options (that may also include the option to do nothing).[456] If public health professionals can reach consensus on an option on which there is also convergence, this adds to the strength of the moral justification of that option. We could call this an instance of "normative collaboration", if you will.[457] Given the potentially intrusive interventions that may be needed to prevent or reduce infection risks, it is crucial that public health officials can provide strong justifications for their choices. Whatever convergence between normative theories is possible provides a good foundation for this.

Where normative theoretical convergence on the justifiability of specific preventive measures ends, professional autonomy begins, I am inclined to say. By professional autonomy I mean the leeway that professionals have by virtue of being a member of a certain profession. The claim that professional autonomy begins where convergence on preventive measures ends is consistent with the fact that although at least in the Netherlands it is public health professionals that develop the guidelines for how to deal with, for example, outbreaks of certain diseases, these guidelines are constrained by the general considerations embedded in the Dutch Public Health Act, on which there is also normative theoretical convergence. It is also consistent with the conclusion arrived at in the "Entrepreneur" case above (that home isolation could be justified).

Consensus-building is important in both cases (convergence, no convergence), for in both cases it adds to the strength of the moral justification of measures to prevent infection risks. If consensus can be achieved in addition to convergence, this provides stronger moral support for a public health measure.

I will assume that perfect convergence is impossible. Perfect convergence would entail, for example, that all possible and existing normative theories will converge on all moral judgements in all cases of infectious disease control. But if perfect convergence is impossible, *every* moral decision made in the context of infectious disease control will always be controversial from at least *some* perspective. For instance, a specific measure to prevent infection risks on which there is both convergence and consensus amongst public health professionals can

[456] See e.g. (Verweij, Appels, Riesmeijer, et al. 2011).

[457] Consulting colleagues is also a standard part of common professional ethics.

still be challenged from the perspective of a non-converging normative theory, by the general public, or by those who are confronted with a specific public health measure. Surely the use of *liberty restriction* almost automatically implies that people who are confronted with such measures do not agree with them.[458] Still, while such decisions may be controversial from at least some perspectives, relying on convergence and consensus yields strong moral justification of such measures.

I have claimed that explicit reference to normative theories is not required in moral deliberations in the practice of infectious disease control. This does not mean, of course, that discussion of normative theories can have no place whatsoever in moral deliberations. To the extent that there is convergence on specific measures, normative theories implicitly already *have* a role in those discussions. And there is no harm in making this role explicit. Moreover, if there is no convergence on a specific measure in a particular case, then reference to normative theories may be very useful in making moral arguments and thereby trying to convince others that a specific course of action would be the morally right thing to do. However, if that normative theory cannot support the moral considerations that must be used in order to determine what is the morally right thing to do (because there is convergence on these considerations), I submit that it cannot play a role in the *moral justification* of preventive measures.[459] At best, it can have a heuristic role, as a means to sharpen our arguments.

5.4.3. Can the harm principle function as a mid-level principle in this model?

The harm principle can function as a mid-level principle in a model in which the normative labour is divided between ethicists/philosophers and public health professionals. Recall that mid-level principles aim to fulfil three functions: identification, convergence, and constraint. Employing HP_1 in the context of infectious disease control, i.e. the principle according to which it is justified to restrict the liberty of A to prevent A from causing harm to B, can surely help identify more easily what are some of the relevant moral characteristics of cases in infectious disease control. It suggests that what is important is to prevent harm to others. This is, for

[458] This is not necessarily implied if, in order to prevent or reduce a specific infection risk, it is practically impossible to first try non-liberty restricting options.

[459] Note that this claim differs from the claim that specific preventive measures can be challenged from the perspective of non-converging normative theories.

instance, more action-guiding than being told that we must maximise utility or aggregate well-being.[460] As such, the harm principle also provides a bridge between people with different backgrounds or a common language in which, for example, public health professionals can communicate with policymakers, citizens and ethicists about liberty restrictions potentially being morally justifiable.

Common terminology may hide from view many underlying differences. However, it has been shown that our selection of normative theories can support both HP_1 and the Requisite of Reasonableness, and the same moral judgement in at least some cases (I gave one example, but this is enough to establish my point). Hence, HP_1 can fulfil the second (and central) function of a mid-level principle as well: enabling or expressing convergence. The model for ethical decision-making presented in §5.2.1 summarises this convergence, and by doing so provides a bridge between normative theories and the practice of infectious disease control.

Finally, it was shown not only that HP_1 can help constrain more fundamental and more general considerations within separate normative theories,[461] but also that the Constraint Problem that the harm principle itself faces can be solved by finding additional mid-level principles (the Requisite of Reasonableness: effectiveness, always choosing the least intrusive means, and proportionality).[462] Hence, the last function of a mid-level principle, that of "constraint", can be fulfilled by HP_1 (and the Requisite of Reasonableness) as well.

5.5. Controversial, not arbitrary

I argued that if perfect convergence is implausible, *every* moral decision made by public health professionals will be controversial, in a sense. Even moral decisions on which at least a subset of plausible normative theories converge, and on which public health professionals can reach factual agreement, can be challenged. This would come either from the perspective of some normative theory outside the set of converging theories or from everyday life, for instance by those who are confronted with potentially very intrusive liberty-restricting measures. Still, relying on the combination of convergence and consensus is a defensible option, or so I have tried to argue. It

[460] Cf. §2.1.3.

[461] §§3.4.1 (libertarianism) and 3.4.2 (communitarianism).

[462] See §1.3 for an explanation of these and other measures in infectious disease control.

allows public health officials to provide strong justifications of the potentially intrusive interventions that may be needed to prevent or reduce infection risks.

Now while something that is controversial can also be arbitrary, the former does not necessarily imply the latter. For instance, there are several ways to prevent decisions in infectious disease control that we *know* can be regarded as controversial (e.g. because they are very intrusive) from also being arbitrary. Indeed, we could even require safeguards to that effect as part of the *moral justification* of specific measures in infectious disease control. The Dutch Health Council has argued, for instance, that for a liberty restriction to be morally justified it must not only prevent harm to others and be reasonable (i.e. effective, the least intrusive, and proportional), but there should also be *legal provision* for these measures, and procedural safeguards.[463]

The Dutch Public Health Act serves both criteria. First, it ensures that there is legal provision for, among other things, mandatory isolation and medical examination, mandatory quarantine and medical oversight, and for enforcing work restrictions.[464] Second, the Act includes a range of procedural safeguards to prevent intrusive preventive measures from being taken arbitrarily or in an arbitrary fashion. Procedural safeguards include, for instance, the requirement of judicial authorisation for invasive medical examination as part of mandatory isolation,[465] being offered a counsellor after having received the order for mandatory isolation or mandatory quarantine,[466] the possibility of requiring through an Order of Council that mandatory isolation has to meet certain conditions, [467] and the legal option for an individual who is placed in mandatory isolation or quarantine to make a request to a judge that these measures be discontinued.[468] Finally, there are also legal provisions for filing for compensation for damages connected to being placed in mandatory isolation or quarantine. [469] Surely such procedural

[463] (Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding 1996, 45–49).

[464] (Wet publieke gezondheid, sections 31, 35 and 38).

[465] (Wet publieke gezondheid, subsection 3 of section 31).

[466] (Wet publieke gezondheid, subsection 3 of sections 32 and 36).

[467] (Wet publieke gezondheid, subsection 3 of section 34).

[468] (Wet publieke gezondheid, subsection 1 of section 42).

[469] (Wet publieke gezondheid, sections 43–44).

guarantees can go a long way indeed in preventing public health measures from being arbitrary, even if they remain controversial.

5.6. Conclusions

A mid-level harm principle in infectious disease control faces several problems. I discussed the Constraint Problem (§5.1.1), the Trade-off Problem (§5.1.2), and the Proportionality Problem (§5.1.4). The Constraint Problem entails that while normative theories will probably converge on a version of the harm principle that is formulated very generally, this leaves a lot of room for liberty restriction. The application of the harm principle can be constrained by finding additional considerations on which normative theories can converge. I argued that our selection of normative theories can also converge on the Requisite of Reasonableness (§5.1.3), and presented a structure for ethical decision-making in infectious disease control that serves as a bridge between normative theories and the practice of infectious disease control (§5.2.1). Solving the Constraint Problem this way, however, creates the Proportionality Problem: the problem that normative theories can assign a different relative value to, for example, liberty compared to public health, potentially resulting in the impossibility of attaining convergence on the justifiability of specific preventive measures in infectious disease control.

I presented some reasons for putting the Proportionality Problem in perspective, and argued that it can be *solved* by choosing the least controversial option in the face of possible divergence between normative theories on the justifiability of measures to prevent infection risks: relying on a combination of convergence and consensus. Convergence here refers to our selection of normative theories being able to support the same moral considerations for determining what is the morally right thing to do.[470] I discussed one example in more detail, and argued that our selection of theories can support not just a specific version of the harm principle and the Requisite of Reasonableness, but also the same moral judgement (the "Entrepreneur" case) (§5.1.4). After arguing that it is justified to let public health professionals make moral decisions using whatever convergence is possible (§5.3), I proposed a model of a division of normative labour between ethicists/philosophers and public health professionals that is consistent with the way that infectious disease control is organised in the Netherlands (§5.4.2).

[470] Cf. §2.1.2.

Mid-level theorising rests on the assumption that there are at least several plausible normative theories. One of the tasks of ethicists/philosophers, then, is to discuss the relative merits of competing normative theories. I have explicitly left open the possibility that it can be shown that there is in fact only one plausible normative theory. But until this has been convincingly shown, we are justified, based on the analysis and argumentation in this study, to regard relying on a combination of convergence and consensus in infectious disease control as the least controversial way of giving strong moral justifications for preventive measures in infectious disease control. Assuming that perfect convergence is impossible, every decision in infectious disease control can be regarded as controversial from at least *some* perspective. This does not necessarily mean however, that such decisions are also arbitrary. I mentioned several possibilities that prevent controversial decisions from being arbitrary, possibilities that are explicitly incorporated in, for example, the Dutch Public Health Act, and that may even be considered a necessary requirement for the moral justification of liberty-restricting measures (§5.5).

I argued that HP_1 can fulfil all functions of a mid-level principle in a model of a division of normative labour between applied ethicists/philosophers and public health professionals. And that answers our central question, namely whether common measures in infectious disease control can be morally justified by a mid-level harm principle (“yes”).

6. Conclusions and further thoughts

Instead of repeating what was already said in previous chapters, this final chapter focuses on further reflection on the main outcomes of this study, and tries to explicate some of their implications along the lines of the proposed model of a "division of normative labour". The discussion will yield several recommendations: for further theoretical research, for the organisation of infectious disease control in the Netherlands, and for advancing the division of labour between ethicists/philosophers and infectious disease professionals (§6.1). In closing I will defend our mid-level harm principle against a potentially devastating criticism that has been charged against the harm principle in general, namely that the harm principle is *obsolete* (§6.2).

6.1. Main outcomes and implications: dividing the normative labour

The central question of this study was whether common measures in infectious disease control can be morally justified by appealing to a mid-level harm principle. This question was prompted by, among other things, the consideration that – especially given the potentially intrusive measures that may need to be taken – public health officials must be able to give strong justifications for measures they take to prevent or reduce infection risks. Convergence between different normative theories provides a good foundation for that. It was argued that common measures in infectious disease control can indeed be justified by appealing to a mid-level harm principle, but that conclusion was duly qualified. Regarding the central function of mid-level principles – to express and/or enable *convergence* between normative theories – I distinguished between (i) convergence on a specific version of the harm principle, and (ii) convergence on the justifiability of specific preventive measures in concrete cases of infectious disease control.[471] Discussing only a selection of normative theories and a handful of cases at best supports the conclusion that there is what I have called "weak convergence". Weak convergence suffices, however, for the harm principle to function as a mid-level principle in infectious disease control. Or so I have argued. Weak convergence between a range of theories that are at least minimally plausible still provides a stronger justification than basing preventive measures on one normative

[471] §2.1.2.1.

theory only, especially in the absence of convincing reasons to believe that this theory is to be preferred over others. At the very least, appealing to convergence is less controversial, in the sense that preventive measures that can be supported by a range of different theories can be challenged from less competing perspectives than preventive measures that can be supported by one normative theory only.

It is perhaps relatively easy to attain convergence on a particular version of the harm principle, such as HP_1: 'It is justified to restrict the liberty of A to prevent A from causing harm to B.' We just have to make sure that we leave out controversial claims in formulating whatever principle we would like to use as a mid-level principle. Left at this, mid-level theorising would amount to no more than sweeping differences between theories under the carpet. However, the model of moral justification proposed here entails that a mid-level principle has to be given (additional) content from the different normative theories under consideration. It was argued that our selection of normative theories can support not just HP_1 and the Requisite of Reasonableness (considerations of effectiveness, always selecting the least intrusive means, and proportionality), but an additional constraint as well, namely that coercing person A to prevent harm that A may cause to B cannot be justified if B can adequately protect himself.[472]

This leaves three differences between our mid-level harm principle HP_1:

> It is justified to restrict the liberty of A to prevent A from causing harm to B, who cannot adequately protect himself

and the harm principle as formulated by the Dutch Health Council:

> Liberty restriction is only justified if the unlimited exercise of someone's liberty rights threatens to harm others, who cannot adequately protect themselves.

First, the Health Council's formulation is narrower than HP_1 because it refers to *rights*. This difference, however, is rather superficial. In a constitutional democracy, individual liberty will surely be protected by rights. HP_1 does not explicitly refer to rights, but covers appeals to rights as well. Second, the Health Council in effect states that liberty restriction is *only* justified to prevent harm to others. HP1 leaves open the possibility that there may be other legitimate reasons

[472] §§5.1.2 and 5.1.3.

to restrict someone's liberty (in the context of infectious disease control) as well. I did not examine the tenability of other potential liberty-restricting principles. At present, then, I cannot fully assess the significance of the second difference between the Health Council's formulation of the harm principle and HP_1. The difference may turn out to be insignificant. The third and final difference, however, may be substantial, *especially* if coercion in infectious disease control can only be justified on harm principle grounds. The difference is that while HP_1 is origin-centred (requiring that A is the cause of harm to others for coercion to be justifiable), the formulation by the Health Council seems to suggest an origin-neutral version of the harm principle – strictly speaking, the phrase 'if the unlimited exercise of someone's liberty rights threatens to harm others' leaves open the possibility that a person may be restricted in his/her liberty to prevent the harmful conduct of others. I have argued that our selection of normative theories cannot support an origin-neutral version of the harm principle. This seems to suggest that a slight reformulation of the harm principle as employed in Dutch health policy is required for it to be able to function as a mid-level principle in infectious disease control.

It was constantly brought to the fore that possibilities for convergence between normative theories cannot preclude differences between normative theories turning up again at some point, undoubtedly when we contemplate the full range of possible cases in infectious disease control. There will thus surely be limits to the normative theoretical convergence that can be attained on the justifiability of the full range of specific measures to prevent infection risks. This is mainly to do with what I have called the Proportionality Problem – the problem that normative theories will assign different relative weights to the value of liberty and the value of population health.[473]

How can we deal with differences between normative theories without sweeping relevant differences under the carpet? I have argued that, where convergence between normative theories breaks off, the professional responsibility of public health officials *takes over* concerning the moral justification of preventive measures. This is at the heart of the proposed "division of normative labour" between applied ethicists/philosophers, on the one hand, and public health officials, on the other hand.[474] In this model, public health officials have a certain amount of leeway to make moral decisions. This model is consistent with the way that infectious disease

[473] §5.1.4. The Proportionality Problem is a problem from the perspective of aiming at convergence between normative theories.

[474] §5.4.

control policy is organised in the Netherlands, for example. The harm principle is the central argument in Dutch infectious disease control policy, and the Requisite of Reasonableness serves as a side-constraint to the application of the harm principle (involving considerations of effectiveness, always choosing the least intrusive means, and proportionality). We have seen that our selection of theories can support the same version of the harm principle (HP_1),[475] as well as the Requisite of Reasonableness.[476] Employing these considerations, Dutch public health officials do indeed have a certain amount of leeway to make moral decisions. What about the differences between normative theories? I have argued that the possibility of mid-level theorising fully depends on in-depth discussion of the relative merits of competing normative theories. For instance, if it can be shown that some normative theories are (for whatever reasons) inadequate, then these theories should not be taken into account in our search for convergence. Convergence between a range of inadequate normative theories would not provide a very solid foundation for public health officials to take as the starting point for their moral deliberations about what preventive measures to take, if any. But neither would appealing to one normative theory out of a set of (non-converging) theories that are at least minimally plausible.[477] Differences between competing normative theories should be properly discussed, just not by public health officials. Instead of sweeping differences between normative theories under the carpet,[478] the proposed division of normative labour entails the condition that differences between normative theories can only play a role in the *justification* of preventive measures if it can be shown that, for example, one theory is somehow more adequate than others or inspires more confidence that the preventive measure it designates is indeed the morally right thing to do.

In this study I have been discussing the harm principle in relative isolation from other moral considerations. However, in the world outside this study, moral choices are based on more than a version of the harm principle. Indeed, there may be moral principles that yield conclusions that are contrary to the convergence that can be reached between normative theories on harm principle grounds. Admittedly, this increases the complexity of morally justifying preventive

[475] §§3.4.1, 3.4.2, 3.5.1 and 3.5.2.

[476] §5.1.3.

[477] Unless it can be shown that this theory is to be preferred over others, that choice would not just be controversial (in the sense that it can be challenged from many competing perspectives), but arbitrary as well.

[478] I thank Joel Anderson for raising this point.

measures in infectious disease control. But it need not affect the basic approach suggested here. Other principles yielding conclusions contrary to any convergence between normative theories on harm principle grounds are examples of (moral) pluralism, just as different normative theories potentially yield different normative conclusions via the harm principle. At least in theory, the proposed division of normative labour seems adequate to deal with these and other instances of moral pluralism.[479]

Policy support with a (potential) twist

The model of a "division of normative labour" is consistent with the way that infectious disease control is organised in the Netherlands,[480] but there is also a crucial difference. Inherent in the proposed model is the idea that the leeway of public health officials to make moral decisions is *constrained* by any convergence that can be attained between diverging normative theories. This holds both for preventive measures that can be justified in specific cases and for measures that *cannot* be morally justified.

I have discussed only a selection of normative theories and a handful of cases in more detail. We have seen, for instance, that our selection of theories can support (mandatory) home isolation in the "Entrepreneur" case but rejects using liberty restrictions to prevent or reduce very small infection risks.[481] To test whether convergence can be attained more generally, a wider range of normative theories should be examined, as well as a wider range of cases. I have argued that pending further research along these lines, the convergence attained in this study can serve as a starting point for moral decision-making by public health officials. This leaves open a rather wide range of cases in which it is currently *unclear* whether the moral decisions that public health officials make on a day-to-day basis can be supported by diverging normative theories (including the selection of theories discussed in this study). Does this matter? One reason for thinking that it does not matter is that if we accept the proposed "division of labour", normative theories are *discharged* as sources of moral justification of preventive measures when it is impossible to find

[479] The basic structure of moral justification employed here is also consistent with such broader moral pluralism. Cf. note 217.

[480] I focus here on the Dutch context, but the difference presumably applies to many other countries as well where public health officials have a certain leeway for making moral decisions.

[481] §5.1.4.

convergence.[482] In that case, the leeway of public health professionals to make moral decisions is still constrained, by the boundaries set by the Public Health Act, for example, entailing (among other things) that specific liberty restrictions are only allowed to prevent or reduce the risks connected to diseases in specific disease groups.[483] *Within* these boundaries, public health officials would still have to (be able to) justify potentially highly intrusive preventive measures. Normative theories can have a *heuristic* function in these deliberations,[484] but in the absence of convergence moral justification ultimately comes down to a combination of authority and (professional) consensus.[485] Given that these deliberations may include highly intrusive measures, it *does* matter whether a wider range of normative theories can support specific measures in a wider range of actual cases of infectious disease control. Preferably, such measures require strong support. The conclusion that preventive measures can be supported not just by a group of public health officials (the composition of which is always random to at least a certain extent) but also by a range of diverging normative theories increases the confidence with which we can say that actually enforcing those measures is the morally right thing to do.[486] In the interest of providing justifications that are as strong as possible for measures that will at least be met with practical opposition (by those subjected to them), applied ethicists have an important task to do in examining whether convergence can be attained between a wider range of normative theories on a wider range of cases than the ones considered in this study.

Recommendations

Based on the reflection provided above, I recommend that the Ministry of Health supports continuation of this line of applied ethical research in infectious disease control organisationally. There are at least two aspects to this, corresponding to the proposed division of normative labour. One aspect would be to actively support further research into the possibility of convergence between normative theories on the harm principle and the justifiability of specific preventive

[482] On the condition that the normative theories under consideration are at least minimally plausible.

[483] See §5.2 and Table 3: RIVM case discussions & the disease groups of the Dutch Public Health Act.

[484] §5.4.2.

[485] §5.3.1.

[486] Still assuming that the theories under consideration are at least minimally plausible.

measures in a wider range of cases. Perhaps this way it would be possible to categorise groups of cases as falling either into or outside what may be called the "convergence zone" (covering cases that involve measures that *can* be justified, and cases that involve measures that *cannot* be justified). The possibility of grouping cases in this way would greatly increase practicality for public health officials. Also, the following more specific topics would be likely candidates for further examination. To start with, it was mentioned in §5.2 that the Dutch Public Health Act employs several disease groups (A, B1, B2, and C) to regulate the content of notification duties for different diseases and to specify what liberty-restrictive measures are legally allowed for different diseases. For example, mandatory quarantine is only allowed for diseases in group A, and mandatory isolation is only allowed for diseases in groups A and B1, et cetera. An interesting project for further research on the possibility of a mid-level harm principle in infectious disease control would be to examine whether (a broader set of) diverging normative theories can support the current classification of diseases and the resulting legal limitation of the use of specific liberty-restrictive measures for specific diseases. Furthermore, the Requisite of Reasonableness that is part of the structure for ethical decision-making that was presented in §5.2.1 can (and should) be further refined. For instance, Jos Dute has discussed a list of seventeen more specific considerations that not only function as refinements of the considerations of effectiveness, always choosing the least intrusive means and proportionality, but can also be useful for setting the threshold for coercive interventions.[487] If the considerations of reasonableness have to be applied *sequentially*,[488] one of the questions to be addressed in further research is the precise relation between the separate considerations of reasonableness, on the one hand, and the more specific considerations on Dute's list, on the other hand.[489]

A second aspect of the recommendation that the Ministry of Health supports continuation of this line of applied ethical research in infectious disease control organisationally pertains to further increasing the *ethical reflection competences* of public health officials. The interdisciplinary case discussions that were organised as part of the project called "Infectious

[487] (Dute 1994, 152–155 and references). Cf. (Krom 2011b). Interestingly, Dute states for each of the considerations on the list whether it is (in my words) a *prima facie* consideration pro or contra the use of coercion. Annex 3: Refining the Requisite of Reasonableness includes a table summarising Dute's list.

[488] Cf. §5.1.3.

[489] Note that if the items on the list are indeed used to set the *threshold* for coercive interventions, it becomes more difficult to distinguish between the two steps in justifying liberty restrictions in infectious disease control as outlined by the Dutch Health Council. Cf. §5.1.3ff.

Disease Control and the Harm Principle" aimed at stimulating ethical reflection and supporting responsible decision-making in the practice of infectious disease control. As a follow-up, extra training sessions, "Ethical reflection in infectious disease control", were organised for public health officials at a number of Dutch Municipal Health Services (MHS).[490] My second recommendation would be for the Ministry of Health to arrange for ways to incorporate attention to ethical reflection competences in the *organisation* of infectious disease control. Relevant competences include being able to make explicit the moral issues at stake in any given case (starting with identifying the moral problem at hand), being able to identify the moral pros and cons of specific interventions, and being able to explicitly weigh different moral arguments in order to arrive at justified courses of action that take into account issues of evidence-based risk assessment and management, as well as (other) ethical issues of infectious disease control.

There are several options for incorporating attention to ethical reflection competences in the organisation of infectious disease control, options that are not mutually exclusive. One option would be to add a brief paragraph on the need for ethical reflection to all infectious disease guidelines issued by the National Institute for Public Health and the Environment, to complement the existing explicit attention for evidence-based risk analysis and management.[491] A structure for ethical decision-making in infectious disease control such as the one provided in §5.2.1 could be included in the guidelines to show how explicit reflection on ethical aspects can be incorporated in the decision-making process. A second option would be to install a separate section on ethical reflection in a journal aimed primarily at infectious disease professionals, such as the *Infectieziekten Bulletin*.[492] Such a construction would also provide a natural and accessible forum through which applied ethicists and public health professionals could discuss issues connected to their "division of normative labour". The third, and admittedly most demanding option, would be to facilitate *standard ethical reflection training* as part of infectious disease control practice. The interdisciplinary case discussions and the extra training already mentioned provide examples of how such training could be set up.

[490] The extra training was also financed by ZonMw, and provided for by the Ethics Institute (Utrecht University) in cooperation with MHS GGD Midden-Nederland. 58 professionals from 8 MHSs participated in the training.

[491] Cf. Introduction and (Verweij, Krom, van Steenbergen 2011).

[492] Perhaps as a leg up to the more systematic integration of ethical reflection in infectious disease control.

6.2. Is the harm principle obsolete?

In closing, I will briefly discuss a potentially forceful criticism that has been charged against the harm principle in general. By defending our version of the harm principle against this charge, I hope to instil in the reader further confidence in the mid-level methodology employed in this study. The criticism entails that any version of the harm principle faces the "Problem of Scope", i.e. the problem of 'determining the range of issues over which the Harm Principle can be legitimately invoked in order to defend individual liberty'.[493] Nils Holtug discusses six versions of the harm principle. Important for our discussion is Holtug's conclusion that all but one of these versions of the harm principle can 'solve' the problem of scope, i.e. sanction coercion in just the right cases. This, according to Holtug, is true for versions of the harm principle employing a moralised account of harm, where what counts as "harm" depends on prior moral argumentation. Other versions of the harm principle either sanction too little or too much coercion. Solving the problem of scope by *prior moral argumentation*, however, seems to render the harm principle obsolete. Holtug says:

> [I]t now seems that what is doing the work is a more or less full-blown theory of justice, rather than the Harm Principle. In order to apply the Harm Principle, we need to know what people are entitled to. And in order to know what people are entitled to, we need a theory of justice.[494]

Holtug goes on to claim that:

> [T]he Harm Principle cannot even be applied in particular cases without considerable knowledge of the theory of justice being applied. So the Harm Principle is of no use without a theory of justice, but if we have this theory, it seems that we have no need for the Harm Principle. It would seem that the theory of justice will settle the issue of coercion all by itself.

Where does this leave us? What Holtug has to say about the relation between the harm principle and more general moral theories is essential:

> The point is not just that the issue of coercion must be settled by appeal to a more general moral theory. Since we are trying to derive the Harm Principle from such a theory, this is hardly surprising.

According to Holtug, the issue of coercion must be settled by appeal to a more general moral theory. To a large extent I am in agreement with this. The difference, of course, is that on the mid-level approach employed here, the question is whether *different*, more general theories can

[493] (Holtug 2002).

[494] (Ibid., 386).

support one and the same version of the harm principle, as well as settle the 'issue of coercion'. Does this not exaggerate the problem? Surprisingly, it does not. Let me start with the matter of settling the issue of coercion. Crucially, Holtug discusses the Problem of Scope from the perspective of *liberal* theories. As a result, he has a fairly clear idea about cases in which the harm principle should sanction coercion and cases in which it should not. For Holtug, then, solving the Problem of Scope entails coming up with a version of the harm principle that sanctions coercion in just the right cases – namely in those cases in which liberals have traditionally accepted coercive state intervention. The versions of the harm principle that Holtug discusses either fail in solving the Problem of Scope or, when they do succeed, they are obsolete. A key difference is that this study is not informed by a preconceived idea about the cases of infectious disease control in which any version of the harm principle *ought* to sanction coercion. Here, settling the issue of coercion does not involve assessing different versions of the harm principle against the background of normative conclusions that are already given. Instead, it is an open examination of the possibility of regarding the harm principle as a mid-level principle in infectious disease control. The central question is *whether* common measures in infectious disease control can be justified by appealing to that principle. For the harm principle to function as a mid-level principle, it is not required that each and every normative theory can support the exact same measures via that principle. In my view, settling the issue of coercion is compatible with different theories underlying the harm principle, resulting in different *scopes* of the harm principle.

Disconnecting what it means to settle the issue of coercion from a specific preconceived scope of the harm principle may help to better understand the differences between the two approaches, but it leaves the vital part of Holtug's criticism intact. Whether or not there is a preconceived scope of the harm principle, we could argue that it is still the case that whatever scope the harm principle may have, it has this scope by virtue of its underlying moral theory. And if that is indeed the case, it is unclear what added value the harm principle has precisely, other than serving as an empty vessel that may come in handy for communicative purposes.[495]

It is in order to make several points. First, I agree that a moral principle being completely empty is problematic. Indeed, such a principle would not qualify as a *moral* principle at all.

[495] Cf. §2.1.1.

However, it would be a mistake to consider the harm principle as being nothing more than an empty vessel. As argued before, commitment to the harm principle presupposes at least a minimal commitment to liberty. It would not make much sense to require that liberty restrictions ought to be justified without a prior commitment to liberty. But this means that it would be wrong to claim that the harm principle is completely empty. At the very least we would have to say that the harm principle is 'relatively empty' – relative either to other moral principles with more content or relative to our ideal of what we expect from a moral principle. How much content a moral principle has to have surely depends on what we expect that principle to be able to *do*. This brings me to my second point.

From the perspective of mid-level moral theorising as I conceive of it, the relative emptiness of HP_1 is not to be deplored, but is rather to be welcomed. It serves as a focal point for different normative perspectives. It is still the case that each of the normative theories under consideration provides its own additional content for the harm principle. Interestingly, this does not make the harm principle obsolete as a moral principle. Far from it. Suppose convergence can be attained not just on a version of the harm principle but also on the justifiability of specific measures in infectious disease control. That would mean – to borrow from Holtug – that what is doing at least part of the work is not one theory of justice but a range of theories of justice. Note, however, that in the proposed model of a division of normative labour it is *because* there is convergence that any underlying moral theories can do their justificatory work.[496] This means that mid-level principles are not obsolete in moral justification, but *crucial*. The same holds for any situation in which there is convergence on the harm principle but no convergence whatsoever on the justifiability of specific preventive measures. In that case, too, moral theories underlying that version of the harm principle can only play a role in the moral justification of specific measures *to the extent that* the harm principle enables or expresses a certain common ground between those theories. A mid-level harm principle is not to be sneezed at.

[496] At least in the absence of convincing arguments why, in moral deliberation, we do not have to reckon with normative theories other than the one we may happen to prefer.

Literature

Allen, M. (2011). 'Is Liberty Bad for Your Health? Towards a Moderate View of the Robust Coequality of Liberty and Health'. *Public Health Ethics* 4 (3): 260–268.

Anderson, S. (2011). 'Coercion'. E.N. Zalta (ed.). *The Stanford Encyclopedia of Philosophy*. Retrieved 2 Aug, 2013 from http://plato.stanford.edu/archives/win2011/entries/coercion/.

Annas, G.J. (1982). 'Mandatory PKU Screening: The Other Side of the Looking Glass'. *American Journal of Public Health* 72 (12) (Dec): 4101–1403.

———. (2003). 'Puppy Love: Bioterrorism, Civil Rights, and Public Health'. *Florida Law Review* 55 (5): 1171–1190.

Arah, O.A. (2009). 'On the Evaluative Space for Measuring Public Health Performance'. In: A. Dawson (ed.), *The Philosophy of Public Health*, 49–61. Surrey/Burlington: Ashgate Publishing Limited.

Arras, J. (2010). 'Theory and Bioethics'. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 19 Dec, 2012 from http://plato.stanford.edu/archives/sum2010/entries/theory-bioethics/.

Baier, K. (1999). 'Egoism'. In: P. Singer (ed.), *A Companion to Ethics*, 197–204. Oxford: Blackwell Publishers Ltd.

Battin, M.P., L.P. Francis, J.A. Jacobsen, et al. (2009). *The Patient as Victim and Vector: Ethics and Infectious Disease*. Oxford/New York: Oxford UP.

Bayer, R., L. Dupuis (1995). 'Tuberculosis, Public Health, and Civil Liberties'. *Annual Review of Public Health* 16: 307–326.

Bayer, R., A.L. Fairchild (2004). 'The Genesis of Public Health Ethics'. *Bioethics* 18 (6): 473–492.

Bayer, R., L.O. Gostin, B. Jennings, et al. (eds.) (2007). *Public Health Ethics: Theory, Policy, and Practice*. Oxford/New York: Oxford UP.

Beauchamp, D.E. (1980). 'Public Health and Individual Liberty'. *Annual Review of Public Health* 1: 121–136.

———. (1985). 'Community: The Neglected Tradition of Public Health'. *The Hastings Center Report* 15 (6): 28–36.

Beauchamp, D.E., B. Steinbock (1999). *New Ethics for the Public's Health*. Oxford/New York: Oxford UP.

Beauchamp, T.L., J.F. Childress (2009). *Principles of Biomedical Ethics*. Sixth edition. Oxford/New York: Oxford UP.

Bell, D. (2012). 'Communitarianism'. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 19 Dec, 2012 from http://plato.stanford.edu/archives/spr2012/entries/communitarianism/.

Benatar, S.R. (2003). 'Public Health and Public Health Ethics'. *Acta Bioethica* 9 (2): 195–207.

Berlin, I. (2002). 'Two Concepts of Liberty'. In: H. Hardy (ed.), *Liberty: Incorporating Four Essays on Liberty*, 166–217. Oxford: Oxford UP.

Beyrer, C., S.D. Baral, F. van Griensven, et al. (2012). 'Global epidemiology of HIV infection in men who have sex with men'. *The Lancet* 380 (8939): 367–377.

Bridges, K.R. (2006). 'Blood-Borne Diseases'. *Encyclopedia of Public Health*. Retrieved 17 Aug, 2011 from http://www.enotes.com/public-health-encyclopedia/blood-borne-diseases.

Brülde, B. (2011). ‘Health, disease and the goal of public health’. In: A. Dawson (ed.), *Public Health Ethics: Key Concepts and Issues in Policy and Practice*, 20–47. New York: Cambridge UP.
Buchanan, D.R. (2008). ‘Autonomy, Paternalism, and Justice: Ethical Priorities in Public Health’. *American Journal of Public Health* 98 (1): 15–21.
Burr, C. (1997). ‘The AIDS Exception: Privacy vs. Public Health’. *The Atlantic Monthly* 279 (6): 57–67.
Callahan, D. (1990). *What Kind of Life?* New York: Simon & Schuster.
Campbell, R. (1988). ‘Moral Justification and Freedom’. *The Journal of Philosophy* 85 (4): 192–213.
Carter, I. (2012). ‘Positive and Negative Liberty’. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 2 Aug, 2013 from http://plato.stanford.edu/archives/spr2012/entries/liberty-positive-negative/.
Casadevall, A., L.A. Pirofski (1999). ‘Host-Pathogen Interactions: Redefining the Basic Concepts of Virulence and Pathogenicity’. *Infection and Immunity* 67 (8): 3703–3713.
———. (2000). ‘Host-Pathogen Interactions: Basic Concepts of Microbial Commensalism, Colonization, Infection, and Disease’. *Infection and Immunity* 68 (12): 6511–6518.
Cherry, M.J. (2009). ‘UNESCO, ‘Universal Bioethics,’ and State Regulation of Health Risks: A Philosophical Critique’. *Journal of Medicine and Philosophy* 34: 274–295.
Childress, J.F., R.R. Faden, R.D. Gaare, et al. (2002). ‘Public Health Ethics: Mapping the Terrain’. *Journal of Law, Medicine & Ethics* 30 (2): 170–178.
Childress, J.F., R. Gaare Bernheim (2003). ‘Beyond the liberal and communitarian impasse: a framework and vision for public health’. *Florida Law Review* 55 (5): 1191–1219.
Coker, R. (2001). ‘Just Coercion? Detention of Nonadherent Tuberculosis Patients’. *Annals of the New York Academy of Sciences* 953b (1) (Dec): 216–223.
Colgrove, J., R. Bayer (2005). ‘Manifold Restraints: Liberty, Public Health, and the Legacy of Jacobsen v Massachusetts’. *American Journal of Public Health* 95 (4): 571–576.
Cox, P.N. (1997). ‘The Public, the Private and the Corporation’. *Marquette Law Review* 80 (2): 393–530.
Cozzi, D. (2004). ‘Chain of Infection’. *Wisc-Online*. Retrieved 15 Aug, 2011 from http://www.wisc-online.com/Objects/ViewObject.aspx?ID=NUR1603.
Cribb, A. (2010). ‘Why ethics? What kind of ethics for public health?’ In: S. Peckham, A. Hann (eds.), *Public health ethics and practice*, 17–31. Bristol: The Policy Press.
Crisp, R. (2008). ‘Well-being’. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 19 Dec, 2012 from http://plato.stanford.edu/archives/win2008/entries/well-being/.
Dancy, J. (2009). ‘Moral Particularism’. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 7 Dec, 2011 from http://plato.stanford.edu/archives/spr2009/entries/moral-particularism/.
Darwall, S. (1998). *Philosophical Ethics*. Dimension of Philosophy Series. Boulder, CO/Oxford: Westview Press.
Dawson, A. (2007). ‘Herd Protection as a Public Good: Vaccination and our Obligations to Others’. In: A. Dawson, M. Verweij (eds.), *Ethics, Prevention, and Public Health*, 160–178. Oxford/New York: Oxford UP.
———. (2010). ‘Theory and practice in public health ethics: a complex relationship’. In: S. Peckham, A. Hann (eds.), *Public health ethics and practice*, 191–209. Bristol: The Policy Press.

———. (2011a). ‘Resetting the parameters: public health as the foundation for public health ethics’. In: A. Dawson (ed.), *Public Health Ethics: Key Concepts and Issues in Policy and Practice*, 1–19. New York: Cambridge UP.
———. (2011b). ‘Vaccination ethics’. In: A. Dawson (ed.), *Public Health Ethics: Key Concepts and Issues in Policy and Practice*, 143–153. New York: Cambridge UP.
Diekmann, O., J.A.P. Heesterbeek, J.A.J. Metz (1990). ‘On the definition and the computation of the basic reproduction ratio R0 in models for infectious diseases in heterogeneous populations’. *Journal of Mathematical Biology* 28: 365–382.
Doshi, P. (2011). ‘The elusive definition of pandemic influenza’. *Bulletin of the World Health Organization* 89 (7 Jul): 532–538.
Dute, J.C.J. (1994). *De wetgeving ter bestrijding van infectieziekten*. Proefschrift Vrije Universiteit van Amsterdam. Nijmegen: Ars Aequi Libri.
Düwell, M. (2006). ‘One Moral Principle or Many?’ In: C. Rehmann-Sutter, M. Düwell, D. Mieth (eds.), *Bioethics in Cultural Contexts. Reflections on Methods and Finitude*, 28:93–108. International Library of Ethics, Law, and the New Medicine. Dordrecht: Springer.
Engelhardt, Jr., H. Tristam (1986). *The Foundations of Bioethics*. New York: Oxford UP.
Faden, R., S. Shebaya (2010). ‘Public Health Ethics’. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Stanford Encyclopedia of Philosophy. Retrieved 19 Dec, 2012 from http://plato.stanford.edu/archives/sum2010/entries/publichealth-ethics/.
Feinberg, J. (1984). *Harm to Others*. The Moral Limits of the Criminal Law. New York: Oxford UP.
———. (1996). *Harm to Self*. The Moral Limits of the Criminal Law. New York: Oxford UP.
Gert, B. (2012). ‘The Definition of Morality’. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 19 Dec, 2012 from http://plato.stanford.edu/archives/fall2012/entries/morality-definition/.
Gewirth, A. (1978). *Reason and Morality*. Chicago/London: The University of Chicago Press.
Gezondheidsraad: Commissie Ethische en juridische aspecten van TBC-bestrijding. (1996). *Dwang en drang in de tuberculosebestrijding*. Publicatie nr 1996/07. Den Haag: Gezondheidsraad.
Gostin, L.O.(2003). ‘When Terrorism Threatens Health: How Far Are Limitations on Personal and Economic Liberties Justified?’ *Florida Law Review* 55 (5): 1105–1170.
———. (2008). *Public health law: power, duty, restraint*. Revised and expanded second edition. Milbank Books on Health and the Public 3. Berkeley: University of California Press.
———. (2010). *Public Health Law & Ethics: A Reader*. Revised and updated second edition. California/Milbank books on health and the public 4. Berkeley/Los Angeles/London: University of California Press.
Gray, J. (1999). *Mill on Liberty: A Defence*. 2nd edition. New York: Routledge.
Grill, K. (2011). ‘Individual liberty in public health – no trumping value’. In: *Public health - ethical issues*, 21–33. TemaNord 535. Copenhagen: Norden. Retrieved 16 Apr, 2012 from http://ncbio.org/nordisk/arkiv/public-health-rapport.pdf.
Hann, A., S. Peckham (2010). ‘Politics, ethics and evidence: immunisation and public health policy’. In: S. Peckham, A. Hann (eds.), *Public health ethics and practice*, 137–154. Bristol: The Policy Press.
Hart, H.L.A., T. Honoré (2002). *Causation in the Law*. 2nd ed. Oxford: Oxford UP.
Hartogh, G.A. den (1985). *Wederkerige verwachtingen : konventie, norm, verplichting*. Amsterdam: Universiteit van Amsterdam (dissertatie).

Hartogh, G.A. den (2008). *Farewell to non-commitment. Decision systems for organ donation from an ethical viewpoint*. Vol. 1. Monitoring Report Ethics and Health. The Hague: Centre for Ethics and Health.
Health Council of the Netherlands (2009). *General vaccination against hepatitis B revisited.* 2009/03. The Hague: Health Council of the Netherlands.
Henley, K. (1993). 'Abstract principles, mid-level principles, and the rule of law'. *Law and Philosophy* 12 (1): 121–132.
Hirsch, A. von (1996). 'The Harm Principle: 'Remote' Harms and Fair Imputation'. In: A.P. Simester, A.T.H. Smith (eds.), *Harm and Culpability*, 259–276. New York: Oxford UP.
Hogerwerf, L., R. van den Brom, H.I.J. Roest, et al. (2011). 'Reduction of Coxiella burnetii Prevalence by Vaccination of Goats and Sheep, the Netherlands'. *Emerging Infectious Diseases* 17 (3): 379–386.
Holland, S. (2007). *Public Health Ethics*. Cambridge/Malden: Polity Press.
———. (2010). 'Public health ethics: what it is and how to do it'. In: S. Peckham, A. Hann (eds.), *Public health ethics and practice*, 33–48. Bristol: The Policy Press.
Holtug, N. 2002. 'The harm principle'. *Ethical Theory and Moral Practice* 5 (4): 357–389.
Institute of Medicine (1988). *The future of public health*. 88-02. Washington D.C.: IoM/Committee for the Study of the Future of Public Health Division of Health Care Services.
Jacobsen, J.A., M.P. Battin, J.R. Botkin, et al. (2007). 'Vertical Transmission of Infectious Diseases and Genetic Disorder: Are the Medical and Public Responses Consistent?' In: A. Dawson, M. Verweij (eds.), *Ethics, Prevention, and Public Health*, 145–159. Oxford/New York: Oxford UP.
Jaffe, H.W., T. Hope (2010). 'Treating for the Common Good: A Proposed Ethical Framework'. *Public Health Ethics* 3 (3): 193–198.
Jennings, B. (2007). 'Public Health and Civic Republicanism: Toward an Alternative Framework for Public Health Ethics'. In: A. Dawson, M. Verweij (eds.), *Ethics, Prevention, and Public Health*, 30–58. Oxford/New York: Oxford UP.
———. (2009). 'Public Health and Liberty: Beyond the Millian Paradigm'. *Public Health Ethics* 2 (2): 123–134. doi:10.1093/phe/php009.
Jurling, B., L. Koster, M. Batterink, et al. (2012). 'Praktijkkosten- en inkomensonderzoek huisartsenzorg'. Barneveld: Nederlandse Zorgautoriteit.
Kamerstukken II 1996/97, 25 336, nr. 3. 'Regels ter afwending van de gevaren van infectieziekten (Infectieziektenwet)'.
Kamerstukken II 2002/03, 28 868, nr. 3. 'Wijziging van de Infectieziektenwet en de Quarantainewet ter bestrijding van de gevaren van pokken'.
Kamerstukken II 2007/08, 31 316, nr. 3. 'Bepalingen over de zorg voor de publieke gezondheid (Wet publieke gezondheid)', Memorie van Toelichting'.
Kass, N.E. (2001). 'An Ethics Framework for Public Health'. *American Journal of Public Health* 91 (11): 1776–1782.
Klaassen, C.H.W., M.H. Nabuurs-Franssen, J.J.H.C. Tilburg, et al. (2009). 'Multigenotype Q Fever Outbreak, the Netherlands'. *Emerging Infectious Diseases* 15 (4): 613–614.
Korsgaard, C.M. (1986). 'The Right to Lie: Kant on Dealing with Evil'. *Philosophy & Public Affairs* 15 (4): 325–349.
Krom, A. (2011a). 'The harm principle as a mid-level principle? Three problems from the context of infectious disease control'. *Bioethics* 25 (8): 437–444.

———. (2011b). ‘Vrij besmettelijk. Over de rechtvaardiging van dwingend infectieziektebeleid’. In: M.A. van den Hoven, C.J. Kessler (eds.), *Preventie en ethiek*, 63–67. Den Haag: Boom Lemma Uitgevers.
———. (2011c). ‘Normatieve arbeidsdeling in de infectieziektebestrijding’. *NVBe-Nieuwsbrief* 18 (5): 34–36.
———. (2013). ‘From Facebook to Tracebook: A Justified Means to Prevent Infection Risks?’ *Public Health Ethics*. doi: 10.1093/phe/pht036.
Krom, A., B. Rump, M.F. Verweij, et al. (2012). ‘Thuisisolatie tijdens de Nieuwe Influenza A (H1N1)-pandemie: bij twijfel toch doen?’ *Infectieziekten Bulletin* 23 (2): 42–45.
Krom, A., M.F. Verweij, M.J.M. te Wierik, et al. (2011). ‘Shigellose na terugkomst vakantie’. *Infectieziekten Bulletin* 22 (9): 319–322.
Kymlicka, W. (1990). *Contemporary Political Philosophy. An introduction*. New York: Oxford UP.
Landelijk Centrum Hygiëne en Veiligheid (2009). ‘Hygiënerichtlijnen voor GGD’en’. Retrieved 30 Dec, 2011 from http://www.rivm.nl/cib/binaries/Hygienerichtlijnen%20voor%20GGD%20(jan%202009)_tcm92-44324.pdf.
Lappé, M. (1986). ‘Ethics and Public Health’. In: J.M. Last (ed.), *Maxcy-Rosenau Public Health and Preventive Medicine*, 12th ed., 1867–1877. Norwalk, CT: Appleton-Century-Crofts.
Last, J.M. (2002). ‘Barrier Nursing’. *Encyclopedia of Public Health*. Retrieved 4 Jan, 2012 from http://www.enotes.com/barrier-nursing-reference/barrier-nursing.
———. (2006). ‘Waterborne Diseases’. *Encyclopedia of Public Health*. Retrieved 17 Aug, 2011 from http://www.enotes.com/public-health-encyclopedia/waterborne-diseases.
LCI (2003). ‘Standaardmethoden reiniging, desinfectie en sterilisatie in de openbare gezondheidszorg’. Retrieved 2 Jan, 2012 from http://www.rivm.nl/Bibliotheek/Professioneel_Praktisch/Richtlijnen/Infectieziekten/Standaardmethoden/.
———. (2007). ‘LCI-richtlijn Legionellose’. Retrieved 12 Aug, 2011 from http://rivm.nl/Onderwerpen/Onderwerpen/L/LCI_Richtlijnen.
———. (2008). ‘LCI-richtlijn Hepatitis B’. Retrieved 12 Aug, 2011 from http://rivm.nl/Onderwerpen/Onderwerpen/L/LCI_Richtlijnen.
———. (2009). ‘LCI-richtlijn Staphylococcus aureus-infecties’. Retrieved 12 Aug, 2011 from http://rivm.nl/Onderwerpen/Onderwerpen/L/LCI_Richtlijnen.
———. (2010a). ‘LCI-richtlijn Mazelen (morbilli) B05’. LCI. Retrieved 12 Aug, 2011 from http://rivm.nl/Onderwerpen/Onderwerpen/L/LCI_Richtlijnen.
———. (2010b). ‘Verpleegkundige Stappenplannen Infectieziektebestrijding (VSI). Toelichting op het gebruik van VSI’. RIVM.
———. (2010c). ‘LCI-richtlijn Influenza (draft)’. Retrieved 12 Aug, 2011 from http://rivm.nl/Onderwerpen/Onderwerpen/L/LCI_Richtlijnen.
———. (2011a). ‘LCI-richtlijn Herpessimplexvirusinfecties’. LCI. Retrieved 27 Nov, 2012 from http://www.rivm.nl/Bibliotheek/Professioneel_Praktisch/Richtlijnen/Infectieziekten/LCI_richtlijnen/LCI_richtlijn_Herpessimplexvirusinfecties.
———. (2011b). ‘LCI-richtlijn Hepatitis C’. Retrieved 1 Aug, 2013 from http://rivm.nl/Onderwerpen/Onderwerpen/L/LCI_Richtlijnen.
———. (2011c). ‘LCI-richtlijn Q-koorts’. Retrieved 28 Dec, 2011 from http://www.rivm.nl/Bibliotheek/Professioneel_Praktisch/Richtlijnen/Infectieziekten/LCI_richtlijnen/LCI_richtlijn_Q_koorts.

Lescano, A.G., J.M. Montgomery, D.L. Blazes (2010). 'Outbreak Investigation'. In: G.L. Mandell, J.E. Bennett, R. Dolin (eds.), *Mandell, Douglas, and Bennet's principles and practice of infectious diseases*, 7th ed, 193–197. Philadelphia: Churchill Livingstone/ Elsevier.

Levine, C., R. Bayer (1989). 'The Ethics of Screening for Early Intervention in HIV Disease'. *American Journal of Public Health* 79 (12): 1661–1667.

Lippmann, M. (2006). 'Airborne Particles'. *Encyclopedia of Public Health*. Retrieved 17 Aug, 2011 from http://www.enotes.com/public-health-encyclopedia/airborne-particles.

Lovett, F. (2010). 'Republicanism'. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 12 Oct, 2012 from http://plato.stanford.edu/archives/sum2010/entries/republicanism/.

Lyons, D. (1997). 'Liberty and Harm to Others'. In: G. Dworkin (ed.), *Mill's On Liberty: critical essays*, 115–136. Maryland: Rowman & Littlefield Publishers, Inc.

MacCallum, Jr., G.C. (1967). 'Negative and Positive Freedom'. *The Philosophical Review* 76 (3): 312–334.

Mah, C.L. (2008). 'What's Public? What's Private? Policy Trade-offs and the Debate Over Mandatory Annual Influenza Vaccination for Health Care Workers'. *Revue Canadienne de Santé Publique* 99 (3) (Jun): 192–194.

Mann, J.M., L. Gostin, S. Gruskin, et al. (1994). 'Health and Human Rights'. *Health and Human Rights* 1: 7–23.

Mariner, W.K., G.J. Annas, L.H. Glantz (2005). 'Jacobsen v Massachusetts: It's Not Your Great-Great-Grandfather's Public Health Law'. *American Journal of Public Health* 95 (4): 581–590.

Mill, J.S. (1998 [1861]). *Utilitarianism*. R. Crisp (ed.). Oxford Philosophical Texts. New York: Oxford UP.

———. (2003 [1859]). *On Liberty*. D. Bromwich, G. Kateb (eds.). Rethinking the Western Tradition. New Haven/London: Yale UP.

Millar, M. (2012a). 'Moral Permissibility and Responsibility for Infection'. *Public Health Ethics* 5 (3): 314–317. doi:10.1093/phe/phs025.

———. (2012b). 'Constraining the use of antibiotics: applying Scanlon's contractualism'. *Journal of Medical Ethics* 38 (8): 465–469. doi:10.1136/medethics-2011-100256.

———. (2013). ''Zero tolerance' of Avoidable infection in the English National Health Service: Avoiding the Redistribution of Burdens'. *Public Health Ethics* 6 (1): 50–59.

Munthe, C. (2008). 'The Goals of Public Health: An Integrated, Multidimensional Model'. *Public Health Ethics* 1 (1): 39–52.

Nelson, E. (2005). 'Liberty: One or Two Concepts Liberty: One Concept Too Many?' *Political Theory* 33 (1) (Feb 1): 58–78. doi:10.1177/0090591704268179.

Newson, A.J. (2011). 'Population screening'. In: A. Dawson (ed.), *Public Health Ethics: Key Concepts and Issues in Policy and Practice*, 118–142. New York: Cambridge UP.

Nuffield Council on Bioethics (2007). *Public health: ethical issues*. London: Nuffield Council on Bioethics.

Nussbaum, M. (2006). *Frontiers of Justice: Disability, Nationality, Species Membership*. Cambridge, MA: Harvard UP.

Osterholm, M.T., C.W. Hedberg (2010). 'Epidemiological Principles'. In: G.L. Mandell, J.E. Bennett, R. Dolin (eds.), *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*, 7th ed., 1:179–191. Philadelphia: Churchill Livingstone.

Parmet, W.E. (2003). 'Liberalism, Communitarianism, and Public Health; Comments on Lawrence O. Gostin's Lecture'. *Florida Law Review* 55 (5): 1221–1240.
Paul, C. (2009). 'The Common Good Argument and HIV Prevention'. In: A. Dawson (ed.), *The Philosophy of Public Health*, 171–180. Farnham, UK; Burlington, VT: Ashgate.
Pettit, P. (1997). *Republicanism: A Theory of Freedom and Government*. Oxford: Oxford UP.
Pope, T.M. (2000). 'Balancing Public Health Against Individual Liberty: The Ethics of Smoking Regulations'. *University of Pittsburgh Law Review* 61: 419–498.
Rawls, J. (1999). *A Theory of Justice*. Revised edition. Cambridge MA: Harvard UP.
Raz, J. (1986). *The Morality of Freedom*. Oxford: Clarendon Press.
Relman, D.A., S. Falkow (2010). 'A Molecular Perspective of Microbial Pathogenicity'. In: G.L. Mandell, J.E. Bennett, R. Dolin (eds.), *Mandell, Douglas, and Bennet's principles and practice of infectious diseases*, 7th ed, 1:3–13. Philadelphia: Churchill Livingstone/ Elsevier.
Richardson, H.S. (1990). 'Specifying Norms as a Way to Resolve Concrete Ethical Problems'. *Philosophy & Public Affairs* 19 (4): 279–310.
Robeyns, I. (2011). 'The Capability Approach'. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 1 Aug, 2013 from http://plato.stanford.edu/archives/sum2011/entries/capability-approach/.
Rose, G. (1985). 'Sick Individuals and Sick Populations'. *International Journal of Epidemiology* 14 (1): 32–38.
Ross, W.D. (2002). *The Right and the Good*. P. Stratton-Lake (ed.). Oxford/New York: Oxford UP.
Rump, B., M. Wassenberg, E. Fanoy, et al. (2011). 'Stoppen met studie geneeskunde omwille van MRSA-dragerschap?' *Infectieziekten Bulletin* 22 (8): 279–281.
Scanlon, T.M. (1998). *What we Owe to Each Other*. Cambridge, MA: Belknap Press of Harvard UP.
Selgelid, M.J. (2009). 'A Moderate Pluralist Approach to Public Health Policy and Ethics'. *Public Health Ethics* 2 (2): 195–205.
Selgelid, M.J., M.P. Battin, C.B. Smith (2006). *Ethics and Infectious Disease*. Malden/Oxford/Victoria: Blackwell Publishing Ltd.
Selgelid, M.J., A.R. McLean, N. Arinaminpathy, et al. (eds.) (2011). *Infectious Disease Ethics: Limiting Liberty in the Context of Contagion*. Dordrecht/New York: Springer.
Sinnot-Armstrong, W. (2012). 'Consequentialism'. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 13 Dec, 2012 from http://plato.stanford.edu/archives/win2012/entries/consequentialism/.
Sockett, P.N. (2006). 'Food-Borne Diseases'. *Encyclopedia of Public Health*. Retrieved 17 Aug, 2011 from www.enotes.com/public-health-encyclopedia/food-borne-diseases.
Stangl, R.L. (2006). 'Particularism and the point of moral principles'. *Ethical Theory and Moral Practice* 9 (2): 201–229.
Steiner, R. (1920). 'Spiritual Science and Medicine. Lecture II' March 22, Dornach. Retrieved 26 Nov, 2012 from http://wn.rsarchive.org/Lectures/SpiSciMed/19200322p01.html.
Sutrop, M. (2011). 'Changing Ethical Frameworks: From Individual Rights to the Common Good?' *Cambridge Quarterly of Healthcare Ethics* 20 (4): 533–545.
Sutton, E., R. Upshur (2010). 'A call for clearer vaccine exemption typology to improve population health'. In: S. Peckham, A. Hann (eds.), *Public health ethics and practice*, 171–187. Bristol: The Policy Press.

Taylor, C. (1979). ‘Atomism’. In: A. Kontos (ed.), *Powers, Possessions, and Freedom*, 39–62. Toronto: University of Toronto Press.
Ten, C.L. (1980). *Mill On Liberty*. Oxford: Clarendon Press.
Ten Have, M. (2011). *Prevention of Obesity: Weighing Ethical Arguments*. Rotterdam: Erasmus Universiteit Rotterdam (dissertation).
Timmons, M. (2002). *Moral Theory: An Introduction*. Oxford: Rowman & Littlefield Publishers, Inc.
Upshur, R. (2010). ‘What does it mean to ‘know’ a disease? The tragedy of XDR-TB’. In: S. Peckham, A. Hann (eds.), *Public health ethics and practice*, 51–64. Bristol: The Policy Press.
Urbanus, A.T., N. Moorer, C. Swaan (2012). ‘Een kijkje in de keuken van de LCI in 2011’. *Infectieziekten Bulletin* 23 (9): 321–323.
Vallentyne, P. (2012). ‘Libertarianism’. E.N. Zalta (ed.). *Stanford Encyclopedia of Philosophy*. Retrieved 19 Dec, 2012 from http://plato.stanford.edu/archives/spr2012/entries/libertarianism/.
Van den Broek, P.J. (2011). ‘Commentaar bij ‘Stoppen met de studie geneeskunde omwille van MRSA-dragerschap?’ *Infectieziekten Bulletin* 22 (8): 282–283.
Van Lier, E.A., P.J. Oomen, H. Giesbers, et al. (2012). *Vaccinatiegraad Rijksvaccinatieprogramma Nederland*. Verslagjaar 2012. 201001001/2012. Rijksinstituut voor Volksgezondheid en Milieu (RIVM). Retrieved 26 Nov, 2012 from http://www.rivm.nl/bibliotheek/rapporten/201001001.pdf.
Verbrugh, H. (2004). ‘Antroposofische geneeskunde’. *TIG* 20 (4): 307–322 .
Verweij, M. (2000). *Preventive Medicine Between Obligation and Aspiration*. International Library of Ethics, Law, and the New Medicine. Dordrecht/Boston/London: Kluwer Academic Publishers.
———. (2005). ‘Obligatory precautions against infection’. *Bioethics* 19 (4): 323–335.
———. (2007). ‘Tobacco Discouragement: A Non-Paternalistic Argument’. In: A. Dawson, M. Verweij (eds.), *Ethics, Prevention, and Public Health*, 179–197. Oxford/New York: Oxford UP.
———. (2011). ‘Infectious Disease Control’. In: A. Dawson (ed.), *Public Health Ethics: Key Concepts and Issues in Policy and Practice*, 100–117. New York: Cambridge UP.
Verweij, M., A. Dawson (2007). ‘The Meaning of ‘Public’ in ‘Public Health’’. In: A. Dawson, M. Verweij (eds.), *Ethics, Prevention, and Public Health*, 2009 paperback, 13–29. Oxford/New York: Oxford UP.
Verweij, M.F. (2001). ‘Individual and Collective Considerations in Public Health: Influenza Vaccination in Nursing Homes’. *Bioethics* 15 (5-6): 536–546.
Verweij, M.F., R. Appels, R. Riesmeijer, et al. (2011). ‘Hepatitis B-preventie na de vliegramp’. *Infectieziekten Bulletin* 22 (4): 129–131.
Verweij, M.F., E. de Coster, J. Klomp, et al. (2010). ‘Mogen gezinsleden van een mazelenpatiënt geweerd worden van school om introductie van de ziekte te voorkomen?’ *Infectieziekten Bulletin* 21 (8): 273–274.
Verweij, M.F., A. Krom, J.E. van Steenbergen (2011). ‘Ethische kwesties in de infectieziektebestrijding’. In: H. Ruijs, L. van Dooren, M. Bouwer, et al (eds.), Ethiek in de infectieziektebestrijding. Speciale uitgave Infectieziekten Bulletin met casusbesprekingen uit de GGD-praktijk: 6–7.
Verweij, M.F., A.J.M.M. Oomen, O.F.J. Stenvers, et al. (2010). ‘Bijtende katten op Schiphol’. *Infectieziekten Bulletin* 21 (10): 359–361.

Verweij, M.F., B. Rump, A. Krom, et al. (2010). ‘Vlekjes op het kinderdagverblijf’. *Infectieziekten Bulletin* 21 (7): 219–220.
Verweij, M.F., M.-C. Trompenaars, J. Donkervoort, et al. (2012). ‘Legionella-preventie bij een hoogrisicopatient: wiens verantwoordelijkheid?’ *Infectieziekten Bulletin* 23 (4): 106–108.
Verweij, M.F., S. van Bergen, B.J. Bos, et al. (2011). ‘Een callgirl met hepatitis B?’ *Infectieziekten Bulletin* 22 (1): 12–14.
Viens, A.M., C.M. Bensimon, R.E.G. Upshur (2009). ‘Your Liberty or Your Life: Reciprocity in the Use of Restrictive Measures in Contexts of Contagion’. *Bioethical Inquiry* 6 (2): 207–217.
Wertheimer, A. (1987). *Coercion*. Studies in Moral, Political, and Legal Philosophy. Princeton, N.J.: Princeton UP.
Wet publieke gezondheid. ‘Wet van 9 oktober 2008, houdende bepalingen over de zorg voor de publieke gezondheid’. Retrieved 2 Aug, 2013 from http://wetten.overheid.nl/BWBR0024705.
WHO (2005). *International Health Regulations*. 2nd edition. Geneva: World Health Organization. Retrieved 9 Dec, 2012 from http://www.who.int/ihr/en/.
———. (2009). *Pandemic influenza preparedness and response: a WHO guidance document*. Geneva: World Health Organization.
———. (2012). *World Malaria Report 2012.* Geneva: World Health Organization.
Wikler, D., D.W. Brock (2007). ‘Population-Level Bioethics: Mapping a New Agenda’. In: A. Dawson, M. Verweij (eds.), *Ethics, Prevention, and Public Health*, 78–94. Oxford/New York: Oxford UP.
Wilkinson, T.M. (2009). ‘Contagious Disease and Rights’. In: A. Dawson (ed.), *The Philosophy of Public Health*, 181–190. Farnham, UK; Burlington, VT: Ashgate.
Wilson, J. (2011). ‘Why It’s Time to Stop Worrying About Paternalism in Health Policy’. *Public Health Ethics* 4 (3): 269–279.
Wong, D.B. (1996). ‘Pluralistic Relativism’. *Midwest Studies in Philosophy: Moral Concepts* (20): 378–399.
Wynia, M.K. (2005). ‘Oversimplifications II: Public Health Ethics Ignores Individual Rights’. *The American Journal of Bioethics* 5 (5): 6–8.
Yoder, S.D. (2002). ‘Individual Responsibility for Health. Decision, not Discovery’. *Hastings Center Report* 32 (2) (Apr): 22–31.
Zimmerman, D. (1981). ‘Coercive Wage Offers’. *Philosophy & Public Affairs* 10 (2): 121–145.

Judgments

HR 27 maart 2012, ECLI:NL:HR:2012:BT6362.
HR 27 maart 2012, ECLI:NL:HR:2012:BT6397.
PHR 27 maart 2012, ECLI:NL:PHR:2012:BT6362.
PHR 27 maart 2012, ECLI:NL:PHR:2012:BT6397.

Annex 1: Case discussions

This annex contains nine short articles based on case discussions with public health professionals that were organised in the course of the ZonMw project "Infectious Disease Control and the Harm Principle".[497] To stimulate ethical reflection in infectious disease control practice all articles were published in the Dutch journal for infectious disease professionals *Infectieziekten Bulletin* (peer reviewed). The original articles (in Dutch) will be preceded by a brief description (in English) of the case – what was considered to be the moral problem, and the conclusion that was reached using the structure for ethical decision-making that was outlined in §5.2.1.

[497] I thank Marion Bouwer, editor of the *Infectieziekten Bulletin* (IB) for kindly allowing for the IB articles to be included in this study.

Anthroposophic school

Case description	Moral problem	Conclusion
The younger brother of a girl who tested positive for measles may be infected as well. Both attend the same anthroposophic school.	Can it be justified to ban the younger brother from the school during the incubation period to prevent transmitting the disease to others?	Yes (even though anthroposophic parents who choose to forego vaccination of their children bear responsibility for their choices).

Mogen gezinsleden van een mazelenpatiënt geweerd worden van school om introductie van de ziekte te voorkomen?[498]

M.F. Verweij, E. de Coster, J. Klomp, L.D. Isken, A. Krom, J.E. van Steenbergen

Een zesjarig meisje blijkt na haar zomervakantiekamp in Frankrijk mazelen te hebben. Haar ouders hebben haar op antroposofische gronden niet tegen mazelen laten vaccineren. Ze heeft een eveneens ongevaccineerd broertje van 8. Hij is vooralsnog niet ziek en zal vanaf de volgende week weer naar school gaan. In dezelfde periode zijn er ook enkele gevallen van mazelen in Den Haag. Het is nog niet duidelijk of het om hetzelfde virustype gaat. Het zomerkamp blijkt mede door de moeder van de 2 kinderen te zijn georganiseerd, maar zij is erg terughoudend in het verschaffen van meer informatie over het kamp, bijvoorbeeld uit welke landen en regio's de kinderen kwamen. Het broertje gaat naar een Vrije School, waar hoogstens tweederde van de kinderen is gevaccineerd. Aangenomen mag worden dat veel ouders van kinderen op deze school er nadrukkelijk voor hebben gekozen om hun kinderen niet te vaccineren. De arts infectieziektebestrijding overweegt om te adviseren het broertje gedurende de incubatieperiode thuis te houden, en zo te voorkomen dat hij mazelen op school introduceert.

Stap 1: De morele vraag

Een ethische vraag die zich in een situatie als deze voordoet is in hoeverre de arts infectieziektebestrijding nadrukkelijk moet ingrijpen, gegeven het feit dat sommige antroposofische ouders er voor kiezen om hun kinderen niet tegen mazelen te beschermen. Dat hangt mede af van hoe groot het risico is op ernstige complicaties en welke andere handelingsopties openstaan.

Stap 2: Inventarisatie van risico's en handelingsopties

Mazelen is een zeer besmettelijke, ernstige aandoening. Ernstige complicaties zijn pneumonie en encefalitis. Mortaliteit in ontwikkelde landen is 1 op 1000 gemelde gevallen. Op het werkelijke aantal zieke kinderen is de mortaliteit in rijke landen wellicht lager. In ontwikkelingslanden sterft 5 tot 10% van alle besmette kinderen. (1) Vaccinatie biedt effectieve, maar geen perfecte bescherming: bij ongeveer 5% van de kinderen die na hun eerste levensjaar worden gevaccineerd, wordt geen seroconversie gevonden. (2) Dat betekent dat tijdens een grote mazelenuitbraak ook gevaccineerde kinderen ziek kunnen worden.

[498] (Verweij, Coster, Klomp, et al. 2010).

Om besmetting te voorkomen staan verschillende handelingsopties open. Een van de stappen is om het broertje – ook al is hij niet ziek – voor de zekerheid voorlopig (1 à 2 weken) thuis te houden. Dat betekent aan de ouders adviseren om hun kind niet naar school te laten gaan. Het advies kan ook *met klem* gegeven worden, waarbij bijvoorbeeld de school wordt gevraagd het advies te ondersteunen. (De optie om het kind pas thuis te houden indien het zich onwel zou voelen is niet aan de orde: kinderen kunnen al besmettelijk zijn 4 dagen voordat symptomen optreden.) Daarnaast is het een mogelijkheid om via de school alle ouders te benaderen met een extra vaccinatieaanbod.

Stap 3: Bezwaren tegen mogelijke interventies

Het voorstel om het broertje thuis te houden is niet zonder bezwaren. Voor een kind van 8 jaar geldt natuurlijk de leerplicht. Daarbij kan het vervelend zijn om juist de eerste weken na de zomervakantie – misschien in een nieuwe groep – te missen. Voor de ouders kan het betekenen dat een van hen overdag bij het kind moet blijven. Daarbij is het verder maar de vraag óf het jongetje wel besmettelijk is of zal worden. Het doen van een vrijwillig vaccinatieaanbod laat geen bezwaren zien, al leert de ervaring dat hiervan meestal weinig gebruik wordt gemaakt.

Stap 4: Plichten, rechten en verantwoordelijkheden

Een andere overweging is dat de (antroposofische) ouders van andere kinderen hun eigen verantwoordelijkheid hebben voor het beschermen van hun kind. Een aantal van hen heeft er voor gekozen om hun kinderen niet te vaccineren. Daarmee lijken ze ook de bijbehorende risico's te aanvaarden. Kan dat reden zijn voor de GGD om minder actief op te treden?

Verschillende argumenten pleiten er sterk voor om wel actief op te treden. In de eerste plaats kunnen ook de gevaccineerde kinderen besmet worden, met name als zij nog geen boostervaccinatie hebben gekregen. Dit is individuele ziektelast, met kans op verdere verspreiding buiten de school. Als gevaccineerde kinderen toch mazelen krijgen, kan dat bovendien ten koste gaan van het vertrouwen in het Rijksvaccinatieprogramma.

Een tweede argument is dat weliswaar antroposofische *ouders* afzien van vaccinatie maar dat het gaat om de gezondheid van hun *kinderen* die deze keuze niet zelf maken. Verplichte vaccinatie is niet aan de orde, maar het is op z'n minst redelijk om ouders de kans te geven om – gegeven het acute risico – alsnog te kiezen voor vaccinatie. Door de moeder van het broertje te adviseren haar kind thuis te houden, kan bovendien het risico op een uitbraak verder verkleind en mogelijk weggenomen worden.

Stap 5: Conclusie en argumentatie

Kortom, het gegeven dat in antroposofische kringen ouders vaker afzien van vaccinatie – en daarmee een keuze maken waarvoor zij zelf verantwoordelijkheid dragen – is nog geen reden voor de GGD om terughoudend te zijn in het voorkomen van mazeleninfecties. In deze casus is het dan ook zinvol om de moeder te adviseren om haar (nog) niet zieke kind 10 dagen thuis te houden. De moeder kan daarbij op de risico's voor andere kinderen – gevaccineerd en ongevaccineerd – worden gewezen. Met de school moet eventueel besproken worden hoe te handelen als dit advies niet wordt opgevolgd. Via de school kan een extra vaccinatie tegen mazelen worden aangeboden aan ongevaccineerde kinderen en eventueel zelfs aan kinderen die pas één keer gevaccineerd zijn. Voor het broertje is het vervelend om de eerste weken op school te missen, maar het is in de eerste plaats aan de school en de ouders om die problemen te verzachten.

Stap 6: Concrete maatregelen

In deze situatie is de moeder inderdaad verzocht haar zoon thuis te houden, en zijn andere ouders, via de school gewezen op de mogelijkheid om hun kinderen alsnog te laten vaccineren. Er zijn verder geen afspraken gemaakt met de school hoe te handelen als de moeder het verzoek niet zou opvolgen. Het broertje is uiteindelijk niet thuisgebleven, maar heeft ook geen mazelen gekregen.

Literatuur

1. LCI 2006. Landelijke Coördinatiestructuur Infectieziektebestrijding: Protocollen Infectieziekten. Editie 2006, RIVM-CIb-LCI.
2. C. R. Sudfeld, A. M. Navar and N. A. Halsey,2010. Effectiveness of measles vaccination and vitamin A treatment. *Int J Epidemiol*, 39 Suppl 1, i48-55.

Call girl

Case description	Moral problem	Conclusion
A man who regularly orders the same call girl tested positive for hepatitis B.	Should the MHS contact the escort service to inform them that one of their employees might be infected and pose a risk to other clients?	Only if a less intrusive option fails (asking the known infected client to inform the call girl).

Een callgirl met hepatitis B?[499]

M.F. Verweij, S. van Bergen, B.J. Bos, A. Krom, J.E. van Steenbergen

De GGD Hart voor Brabant krijgt een melding van een acute hepatitis B-infectie bij een alleenstaande, 40-jarige man die bij zijn ouders woont. De anamnese bevat slechts 1 aanwijzing voor een potentiële bron: een callgirl uit Litouwen, die hier in Nederland werkt via een escortbureau. De man heeft al vaker van haar diensten gebruik gemaakt, maar hij stelt dat hij steeds alleen onbeschermde orale seks met haar heeft gehad. Overdracht van hepatitis B via de orale route is beschreven bij mensen met een zeer hoge *viral load.* (1, 2, 3). Hoewel dit geen voor de hand liggende transmissieroute is, wil de GGD via de soa-afdeling de potentiële bron onderzoeken op hepatitis B. De klant lijkt niet bereid om zelf (via het escortbureau) contact te zoeken met de prostituee en haar te informeren dat de GGD haar zou willen testen. Zijn verhaal roept nogal wat vragen op. Heeft hij echt geen andere onbeschermde seksuele contacten gehad? En is er werkelijk alleen sprake geweest van onbeschermde orale seks? De soaverpleegkundige zoekt contact met het escortbureau. Met het oog op privacy noemt de verpleegkundige geen namen. Het escortbureau is vooralsnog weinig coöperatief en het contact levert dan ook niet meer op dan de bevestiging door het bureau dat de dames voor wie bemiddeld wordt 'waarschijnlijk wel gevaccineerd' zijn.

Stap 1: De morele vraag

De centrale vraag is in hoeverre actie ondernomen moet worden om de identiteit van de prostituee te achterhalen, ook al zal dat ten koste van haar privacy gaan, terwijl het onzeker is of de klant wel de waarheid heeft gesproken.

Stap 2: Inventarisatie van risico's en handelingsopties

Hepatitis B is een potentieel gevaarlijke infectie die niet alleen tot acute ziekte kan leiden, maar ook tot chronisch dragerschap, waardoor weer veel andere mensen besmet kunnen worden. Een chronische infectie leidt na tientallen jaren in 15-25% van de patiënten tot ernstige complicaties, met name levercirrose en hepatocellulair carcinoom, die uiteindelijk ook tot de dood kunnen leiden. (4) Indien het verhaal van de man klopt, en hij de infectie heeft opgelopen via orale seks met deze prostituee, zou dit betekenen dat de vrouw een zeer hoge *viral load* heeft en dus zeer besmettelijk is. Gezien haar beroep is er dan een zeer grote kans op verspreiding van het virus. Daarnaast zijn er tegenwoordig goede resultaten van de behandeling van chronische infecties, waardoor de kansen op levercirrose en carcinoom sterk gereduceerd kunnen worden. De prostituee zou dus ook zelf baat bij opsporing kunnen hebben.

[499] (Verweij, van Bergen, Bos, et al. 2011).

Als de vrouw getraceerd wordt en ze is inderdaad zeer besmettelijk, kan de burgemeester een verbod opleggen om beroepsmatige werkzaamheden te verrichten (artikel 38, Wet publieke gezondheid). Dit is in de casus nog niet aan de orde; in eerste instantie is er reden om de vrouw op te sporen en onderzoek te doen in haar eigen belang (reduceren kans op ernstige ziekte) en dat van potentiële klanten (reduceren besmettelijkheid). Drie mogelijkheden doen zich voor om in te grijpen:

1. Het opsporen van de prostituee via het escortbureau, hetgeen betekent dat de werknaam waaronder zij bij haar klanten bekend staat doorgegeven moet worden.
2. De cliënt toch overhalen haar opnieuw uit te nodigen met het verzoek contact op te nemen met de GGD.
3. Een heel andere mogelijkheid, is om af te zien van actief opsporen, en alleen het bureau te informeren dat één van de prostituees mogelijk risico heeft gelopen en wellicht een bron is. Ook kan haar werknaam bij de soapoli's worden genoemd, voor het geval dat zij zich daar zou melden; het is echter niet vanzelfsprekend dat ze daar dezelfde naam zou gebruiken.

Stap 3: Bezwaren tegen mogelijke interventies

Indien er voor wordt gekozen om via het escortbureau de identiteit van de vrouw te achterhalen, is haar privacy en die van haar klant in het geding. Immers, het bureau zal moeten worden verteld dat zij contact heeft gehad met een man die een seksueel overdraagbare aandoening heeft. Medische informatie wordt bij uitstek gezien als iets wat tot de privésfeer behoort, en zeker voor zorgverleners geldt dat zij dergelijke informatie niet met anderen moeten delen. De inbreuk op de privacy van de callgirl is op zich beperkt: dat zij mogelijk is blootgesteld aan en/of bron is voor een seksueel overdraagbare aandoening is immers een risico dat in de prostitutie algemeen bekend is. Het prijsgeven van die informatie kan echter wel nadelige gevolgen voor de vrouw hebben, bijvoorbeeld omdat het escortbureau zou kunnen besluiten niet meer van haar diensten gebruik te maken; indien er een pooier in het spel is zou dat haar nog verder in een moeilijke situatie kunnen brengen. Ook is het niet zeker of de klant de waarheid sprak, en of hij wel via haar besmet is.

In geval het bureau wel meewerkt en de identiteit van de vrouw prijsgeeft, of haar het verzoek overbrengt om contact op te nemen met de GGD, dan is er een enigszins problematisch maar ook niet helemaal onwenselijk neveneffect. De vrouw zal mogelijk druk ervaren om mee te werken met de GGD, om zo (hopelijk) richting het bureau haar naam te zuiveren.

Al deze gevolgen kunnen vermeden worden als de vrouw via de klant bereikt kan worden. Dat betekent dat hij haar opnieuw via het bureau moet 'bestellen', en haar vervolgens het verzoek van de GGD overbrengen. In eerste instantie bleek de man niet bereid daar aan mee te werken. Kan meer druk op hem worden uitgeoefend? Enige overredingskracht is wel op z'n plaats, bijvoorbeeld in de vorm van een moreel appèl: als de man niet meewerkt dan moet er gekozen worden voor een alternatief dat nadelig kan zijn voor de prostituee. Soaverpleegkundigen zullen echter terughoudend zijn met aandringen: het is de bedoeling dat de man niet wordt afgeschrikt en ook in de toekomst de weg naar de GGD weet te vinden.

Stap 4: Plichten, rechten en verantwoordelijkheden

Als het verhaal van de man klopt en de prostituee mogelijk een zeer hoge *viral load* heeft, is dat een belangrijke zorg voor de GGD. Immers, het zou betekenen dat ook andere klanten besmet kunnen raken met hepatitis B bij handelingen waarvan over het algemeen wordt uitgegaan dat ze veilig zijn. Gegeven dat risico heeft de GGD reden om de vrouw actief te proberen op te sporen, en haar eventueel te testen. Daarmee vervalt de derde mogelijkheid van het afzien van actief opsporen.

Het grootste probleem, schending van de privacy van de prostituee, wordt vermeden als de klant haar opnieuw uitnodigt en inlicht. (Als hij dat louter op verzoek van de GGD doet en niet om van haar diensten gebruik te maken, is het overigens fair dat de eventuele kosten gedragen worden door de GGD!) Toch is deze optie niet helemaal bevredigend omdat de GGD de cruciale stappen – het benaderen van de vrouw – in handen van de klant legt. Er waren al vragen over de betrouwbaarheid van het verhaal van de man. Voor deze optie kan dus eigenlijk alleen maar gekozen worden als de soaverpleegkundige, na opnieuw overleg, er op kan vertrouwen dat de man de callgirl ook echt zal informeren.

Stap 5: Conclusie en argumentatie

Het verdient de voorkeur om alsnog een moreel appèl te doen op de klant, opdat hij de prostituee waarschuwt. Op die manier wordt de inbreuk op privacy van de prostituee vermeden. Deze aanpak is echter alleen zinvol als de soaverpleegkundige er ook voldoende op kan vertrouwen dat de man dit zal doen. Mocht dat niet het geval zijn, dan lijkt nader contact via het escortbureau de enige weg te zijn.

Deze laatste conclusie blijft overigens met onzekerheden omgeven. Als de verpleegkundige uiteindelijk toch niet gelooft dat de man echt zal meewerken, waarom zou ze dan wel de rest van zijn verhaal – met de implicatie dat de prostituee zeer besmettelijk is – geloven? En is er dan nog voldoende grondslag om via het bureau contact met haar te zoeken?

Het opsporen van de vrouw via het escortbureau kan ook tot nieuwe problemen leiden. Wat als het bureau niet wil meewerken? Moet er met juridische stappen gedreigd worden? Gegeven alle eerder genoemde onzekerheden en het ontbreken van een tweede geval van besmetting dat mogelijk tot dezelfde prostituee kan worden herleid, is de grondslag voor dwang niet sterk.

Stap 6: Concrete maatregelen

In werkelijkheid is – zonder succes – geprobeerd de klant er van te overtuigen dat hij de prostituee informeert. Hier houden de wettelijke mogelijkheden in deze casus op, voor zover ze gericht zijn op de klant. De Wet publieke gezondheid biedt meer opties die gericht zijn op de prostituee. Er is dan ook nogmaals contact gelegd met het escortbureau. Het bureau verstrekt nu meer informatie: de prostituees voor wie het bureau bemiddelt komen bij een GGD in een andere regio voor periodiek soaonderzoek en hepatitis B-vaccinaties. De soaverpleegkundige belt haar collega bij deze GGD. Het blijkt dat de prostituee in kwestie daar onder haar werknaam bekend is en dat ze volledig is gevaccineerd tegen hepatitis B. Ze heeft ook recent soaonderzoek laten doen. Dat lijkt dus een goede afloop. Zekerheid is er overigens nog niet omdat het feit dat zij gevaccineerd is niet uitsluit dat ze toch drager is. Verder onderzoek was dus nog denkbaar.

Tenslotte, was dit overleg, buiten medeweten van de prostituee, niet ook een inbreuk op haar privacy? Dat hoeft niet zo te zijn. Strikt genomen is de identiteit van de call girl voor de direct betrokken verpleegkundige in deze casus onbekend gebleven. Het directe overleg heeft de prostituee bovendien voor grotere privacyproblemen behoed.

Literatuur

1. Macquarrie, M.B., Forghani, B. & Wolochow, D.A. 1974. Hepatitis B transmitted by a human bite. *JAMA,* 230**,** 723-4.
2. Stornello, C. 1991. Transmission of hepatitis B via human bite. *Lancet,* 338**,** 1024-5.
3. Van der Eijk, A.A., Niesters, H.G., Götz, H.M., Janssen, H.L., Schalm, S.W., Osterhaus, A.D. & De Man, R.A. 2004. Paired measurements of quantitative hepatitis B virus DNA in saliva and serum of chronic hepatitis B patients: implications for saliva as infectious agent. *J Clin Virol,* 29**,** 92-4.
4. Kao, J.-H. & Chen, D.-S. 2002. Global control of hepatitis B virus infection. *The Lancet infectious diseases,* 2**,** 395-403.

Cats at the airport

Case description	Moral problem	Conclusion
A customs employee is bitten and scratched by kittens from Egypt that may have rabies. The employee refuses prophylactic treatment because she is pregnant.	Should the kittens be killed and tested for rabies, in order to know whether insisting on treatment is necessary?	Only if quarantining the kittens – to see whether they develop symptoms of rabies – would expectedly be too damaging for the young animals (standard quarantine is 6 months).

Bijtende katten op Schiphol[500]

M.F. Verweij, A.J.M.M. Oomen, O.F.J. Stenvers, A. Krom, J.E. van Steenbergen

Op Schiphol wordt een douanebeambte gekrabd en gebeten door enkele jonge katjes die illegaal zijn geïmporteerd uit Egypte. In eerste instantie worden gezondheidszorgen weggenomen door de medische dienst op Schiphol. Een dag later ontstaat meer ongerustheid over het risico op rabiës, en wordt er melding van het incident gemaakt bij de GGD. Er blijkt veel onduidelijkheid te zijn over de precieze herkomst van de 8 katten en over de eigenaar, die inmiddels al wel afstand heeft gedaan van de katten. Volgens de standaardprocedure worden illegaal geïmporteerde dieren waarvan de vaccinatiestatus onbekend is, 6 maanden in quarantaine geplaatst: ze worden behandeld als rabiësverdacht. Dat zal ook hier gebeuren. De douanebeambte blijkt, ondanks dat zij latex handschoenen droeg, tot bloedens toe gekrabd en gebeten te zijn. Zij zou dus blootgesteld kunnen zijn als een of meerdere katten geïnfecteerd is. Er wordt met haar gesproken over postexpositieprofylaxe (vaccinatie tegen rabiës en MARIG) maar daar ziet ze van af: haar indruk is dat het risico erg klein is. Bovendien wil ze vanwege een zwangerschapswens geen prikken of andere medische behandelingen die niet echt noodzakelijk zijn.

Stap 1: De morele vraag

De casus roept een aantal ethische vragen op. Niet alleen omdat de beambte wil afzien van de geadviseerde profylaxe, maar ook omdat overwogen zou kunnen worden om de dieren te doden, om direct te kunnen onderzoeken of er sprake is van blootstelling aan rabiës. In concreto kunnen we de vraag stellen: wat moet er gebeuren als een douanebeambte door een 'illegale' kat gebeten wordt en vervolgens het aanbod van postexpositieprofylaxe weigert?

Stap 2: Inventarisatie van risico's en handelingsopties

Rabiës is een ziekte die, indien niet tijdig (profylactisch) behandeld, tot zeer ernstige complicaties leidt waar de patiënt uiteindelijk aan overlijdt. Er zijn wereldwijd maar enkele gevallen bekend van patiënten die een rabiësinfectie hebben overleefd. In Nederland is de ziekte zeldzaam (2 gevallen in de afgelopen 20 jaar), wereldwijd zijn er ongeveer 55.000 doden per jaar.

De kans dat deze beambte inderdaad besmet is, wordt bepaald door de kans dat een van de katten hondsdol was, en vervolgens de kans dat de beet tot overdracht zou kunnen leiden. De eerste vraag – of de dieren mogelijk besmet zijn – kan op verschillende manieren beantwoord worden. Om import van rabiës

[500] (Verweij, Oomen, Stenvers, et al. 2010).

te voorkomen volgt de Nederlandse Voedsel en Waren Autoriteit (NVWA) vaste procedures voor de omgang met dieren die het land worden ingebracht. In dit specifieke geval van illegaal uit Egypte geïmporteerde katten met een niet aantoonbare vaccinatiestatus, worden de dieren zonder meer beschouwd als rabiësverdacht. Vanuit public health gezichtspunt echter, kan een risico inschatting gemaakt worden die anders uitvalt. Veel hangt af van de precieze herkomst van de katten: de kans dat raskatten hondsdol zijn is bijvoorbeeld minimaal. In dit geval is echter alleen iets bekend over de leeftijd van de katten: ze zijn hoogstens enkele maanden oud. De kans dat zij in die korte tijdspanne blootgesteld zijn aan rabiës, en ook nog besmettelijk zijn geworden, is opnieuw heel klein.

De aard van de verwondingen daarentegen, is wel duidelijk en eenduidig. Een beet door de huid of een krab, leidend tot bloeding, wordt gezien als een type III-verwonding, die zonder meer voldoende is voor overdracht van het virus – als het dier besmettelijk is.

Kortom, op basis van een risico inschatting is de kans dat de beambte is blootgesteld zeer klein. Uitgaande van de uitgangspunten van NVWA zijn de katten echter rabiësverdacht, en moet met de mogelijkheid van blootstelling rekening worden gehouden. Ook al is strikt genomen de kans op infectie heel klein, met tijdige interventie en profylaxe kan fatale ziekte worden voorkomen. Verschillende handelingsopties staan open.

1. De katten worden gedurende enige tijd geobserveerd. Zodra een van de katten symptomen heeft die op rabiës wijzen, wordt gestart met profylactische behandeling van de beambte (vaccinatie en MARIG). Voor zover bekend kan een rabiësinfectie niet asymptomatisch verlopen. Symptomen doen zich normaliter voor binnen 2 weken na infectie.
2. De beambte wordt direct vaccinatie en MARIG aangeboden; indien zij dit liever niet heeft, kan nader worden aangedrongen. Tegelijkertijd worden de katten geobserveerd, zodat, wanneer binnen 2 weken geen symptomen optreden, de beambte kan stoppen met de vaccinaties.
3. De katten worden direct onderzocht op rabiës, en er wordt alleen gestart met profylaxe als er rabiëspathologie wordt gevonden. Rabiës kan echter alleen worden vastgesteld door pathologisch onderzoek van de hersenen. De katten moeten dan eerst worden geëuthanaseerd.
4. Strikt genomen kan ook besloten worden om gezien het kleine risico geen verdere stappen te ondernemen. Maar omdat de katten toch al in quarantaine worden gehouden, ligt het voor de hand om ze in ieder geval voor enige tijd te observeren.

Stap 3: Bezwaren tegen mogelijke interventies

Direct starten met profylaxe lijkt de meest veilige optie als het gaat om maximale bescherming van de beambte. Er zijn echter verschillende bezwaren. In de eerste plaats is duidelijk dat de vrouw zelf liever afziet van behandeling als het risico toch heel klein is. In de praktijk zal een arts infectieziektebestrijding haar meestal wel kunnen overtuigen door te wijzen op de ernst van de ziekte. Maar ook al wordt ze overtuigd, het kan wel tot onrust en onzekerheid leiden: was het gezien haar zwangerschapswens wel een verstandige keuze?

Er zijn ook andere argumenten tegen het direct starten met profylaxe. Een eerste overweging is dat vaccinatie en MARIG niet te snel moeten worden ingezet als de kans op rabiësinfectie minimaal is. Het gaat hierbij niet alleen om de kosten van de behandeling; MARIG is ook relatief schaars, en moet daarom op grond van een heldere risico-inschatting worden voorgeschreven.

Een tweede punt is dat bij behandeling met MARIG, een bloedproduct, transmissie van de ziekte van Creutzfeld-Jakob of sommige andere infecties niet geheel is uit te sluiten. Het risico is (opnieuw) extreem klein, maar kan niet uitgesloten worden. Afgezien van deze specifieke risico’s kan rabiësvaccinatie – net als veel andere vaccins – tot een koortsreactie leiden, en dat is reden er terughoudend mee te zijn tijdens de zwangerschap: alleen vaccineren als het echt nodig is.

Een nadeel van de eerste optie, 2 weken observatie van de katten, is dat er mogelijk te veel tijd wordt verloren voor een goede profylaxe. Behandeling binnen 2 weken na daadwerkelijke blootstelling zal normaliter volstaan, maar het kan zijn dat in dit specifieke geval de incubatietijd voor de vrouw heel kort is. Ook die kans is echter weer heel klein, vooral gezien de plaats van de verwondingen: op handen en armen, niet in het gezicht.

Het belangrijkste bezwaar tegen onderzoek naar rabiëspathologie is dat 8 katten worden gedood. Dat mensen zorg behoren te dragen voor het leven en welzijn van (huis)dieren is een morele opvatting die breed gedeeld wordt en ook wettelijk verankerd is. Toch is het niet vanzelfsprekend dat deze optie voor de dieren de slechtste is. Als de katten blijven leven zullen ze in ieder geval 6 maanden in quarantaine moeten blijven. Afhankelijk van de omstandigheden van de quarantaine, en de aard van het dier kan dat juist zeer belastend zijn voor hun welzijn. Euthanasie is dan een minder groot probleem, en heeft misschien zelfs de voorkeur. Voor de jonge katten, die nauwelijks andere omstandigheden gewend zullen zijn, en misschien ook samen kunnen worden gehuisvest, is de quarantaine echter wellicht acceptabel.

Stap 4: Plichten, rechten en verantwoordelijkheden

De arts van het RIVM die in een geval als dit advies moet geven, heeft als primaire verantwoordelijkheid om ernstige infecties te voorkomen. Tot die verantwoordelijkheid kan ook horen het proberen te overtuigen van de vrouw dat profylactische behandeling noodzakelijk is. Het is echter zeer de vraag of behandeling echt noodzakelijk is. Verschillende factoren maken het lastig om tot een verantwoorde beslissing te komen. De risico's (blootstelling; de mogelijk korte incubatietijd; potentiële bijwerkingen van MARIG) zijn zonder uitzondering zeer klein, maar niet helemaal te verwaarlozen. Tegelijkertijd moet zorgvuldig worden omgesprongen met een relatief schaarse en kostbare medische behandeling. Daarnaast is bescherming van het leven en welzijn van de katten een relevante morele overweging die in de argumentatie een rol moet spelen.

Stap 5: Conclusie en argumentatie

Aan de verschillende overwegingen kan recht gedaan worden door te besluiten eerst de katten te observeren en pas te starten met profylaxe als een van de katten symptomen van rabiës vertoont. Deze optie doet recht aan de bescherming van de katten en er wordt zorgvuldig met vaccinatie en MARIG omgegaan. Het risico op rabiës wordt bovendien serieus genomen, maar niet overdreven. Als echter verwacht wordt dat de (verplichte) quarantaine voor de dieren belastend is, verdient de laatste optie de voorkeur: euthanasie en direct onderzoek op rabiës.

Stap 6: Concrete maatregelen

In werkelijkheid was de casus nog veel complexer en onduidelijker dan hier werd beschreven. Er waren verschillende beambten verwond; er werd niet direct melding bij het RIVM gedaan, er kwamen echter wel vragen en meldingen vanuit andere bronnen: de NVWA, de GGD (na een melding door de douane), een huisarts en een apotheek van een van de betrokken beambten. Na de aanvankelijke relativerende reactie werd uiteindelijk in overleg met de NVWA en het RIVM besloten tot volledige profylactische behandeling (vaccinatie en MARIG), met instemming van de betrokken douaniers.

Hoe verdedigbaar het voorgestelde beleid ook is, er blijven vragen over. Als pas met profylaxe was gestart als een van de katten symptomen van rabiës had vertoond, dan was er meer onzekerheid ontstaan over de effectiviteit van de behandeling. De kans op ziekte was zeer klein, wellicht bijna verwaarloosbaar, maar de gevolgen voor de vrouw zouden desastreus kunnen zijn.

Het is lastig om met dergelijke, bijna verwaarloosbare risico's om te gaan als ze een concrete persoon betreffen. Dat probleem zal er overigens veel minder zijn voor een bedrijfsarts die eerder een voorzorgsbenadering kiest en daarom misschien direct tot profylaxe zal willen overgaan. Ook de

bedrijfsarts zal echter eerst de beambte moeten overtuigen van het belang van profylaxe. De arts infectieziektebestrijding is echter nu verantwoordelijk voor het beleid, en hij of zij hoeft de bedrijfsgeneeskundige voorzorgsbenadering niet over te nemen. Natuurlijk moet wel worden voorkomen dat de betrokken douanier in grote onzekerheid komt omdat zij verschillende geluiden hoort van verschillende professionals. In zo'n geval is het begrijpelijk en redelijk dat de arts infectieziektebestrijding alsnog kiest voor een van de andere opties (euthanasie en onderzoek van de katten, of alsnog postexpositieprofylaxe). Het gegeven dat in de bedrijfsgeneeskunde een voorzorgsbenadering centraal staat en in de infectieziektebestrijding een risicobenadering, is een algemene kwestie die om een meer omvattende analyse vraagt.

Day care

Case description	Moral problem	Conclusion
A pregnant woman is anxious because several children at the day care centre at which she volunteers have spots that may be a sign of parvovirus that could have severe effects on the unborn child. Treatment is not available.	Can it be justified to test the children, a test that will not benefit them, to comfort the woman?	Testing the children can be justified, on the condition that the parents consent to this (professionals should however be reserved to persuade parents to cooperate).

Vlekjes op het kinderdagverblijf[501]

M.F. Verweij, B. Rump, A. Krom, M. van Dam, J.E. van Steenbergen

Op een kinderdagverblijf ontstaat onrust omdat een groeiend aantal kinderen vlekjes en bultjes krijgt. Drie van de in totaal 10 kinderen van één groep worden verdacht van een infectie met vijfde ziekte (parvovirus-B 19). Bij zwangere vrouwen kan parvovirus leiden tot intra-uteriene vruchtdood. Vier vrouwen, 3 leidsters en de moeder van één van de betrokken kinderen zijn op dat moment zwanger, allen tussen de 5 en 8 weken. Deze moeder is ook vaak aanwezig en betrokken bij de begeleiding van alle kinderen.

Om duidelijkheid te krijgen over de diagnose vijfde ziekte wordt vanuit het kinderdagverblijf aan de ouders van kinderen met huiduitslag gevraagd of zij een huisarts willen bezoeken. Alleen de zwangere moeder geeft hieraan gehoor. Haar huisarts vermoedt dat haar zoon inderdaad de vijfde ziekte heeft maar doet geen verder onderzoek. De arts infectieziektebestrijding van de GGD wordt nu geconsulteerd door het kinderdagverblijf. Deze arts constateert dat het exantheem van de kinderen niet bij een klassieke infectie van vijfde ziekte past, maar kan de diagnose zonder verder onderzoek niet uitsluiten en dit leidt tot nogal wat onzekerheid en onrust op het kinderdagverblijf. Besloten wordt de 4 zwangere vrouwen te onderzoeken op een reeds doorgemaakte parvovirusinfectie aangezien dit tot levenslange immuniteit leidt. Alleen de moeder blijkt nog niet eerder besmet te zijn geweest. Diagnostiek bij de moeder is nog niet mogelijk: als zij nog maar kort geleden is blootgesteld zal de test nog geen antistoffen aantonen. Pas 2 weken na infectie kunnen IgM-antistoffen worden aangetoond. Aangezien de onrust bij haar nu groot is, stelt de arts infectieziektebestrijding voor om alle kinderen met vlekjes uit te nodigen voor serologisch onderzoek.

Stap 1: De morele vraag

Een casus als deze roept de ethische vraag op of het aanvaardbaar is om een medische ingreep (namelijk bloed prikken voor diagnostiek) te verrichten bij kinderen terwijl ze daar zelf geen baat bij hebben. Het serologisch onderzoek dient immers primair het belang van de zwangere moeder.

Stap 2: Inventarisatie van risico's en handelingsopties

Infectie met parvovirus leidt bij gezonde mensen zelden tot ernstige complicaties, maar het kan wel een risico vormen voor de zwangerschap. Een parvovirusinfectie gedurende de eerste 20 weken van de

[501] (Verweij, Rump, Krom, et al. 2010).

zwangerschap kan leiden tot spontane abortus of intra-uteriene vruchtdood. (1) De mogelijkheden om die complicaties te voorkomen zijn beperkt: er is reden voor verhoogde waakzaamheid en regelmatig echografisch onderzoek. Bij complicaties (progressieve hydrops foetalis of ernstige foetale anemie) kan een intra-uteriene bloedtransfusie worden overwogen, maar dit is zeker geen routine.

Als op dit kinderdagverblijf inderdaad vijfde ziekte speelt, is de kans reëel dat ook zwangere leidsters en (in mindere mate) moeders worden besmet. Ongeveer 35-45% van alle zwangere vrouwen heeft nog geen infectie doorgemaakt en is dus niet immuun. (2)

De hier waargenomen huiduitslag zou ook veroorzaakt kunnen worden door andere potentieel gevaarlijke infecties zoals rubella en mazelen, maar dat is niet plausibel aangezien de kinderen doorgaans zijn gevaccineerd en deze infecties zich ten tijde van de casus ook niet elders in de regio voordoen. Het ligt meer voor de hand dat er een andere onschuldige verwekker in het spel is. Is het nu noodzakelijk om dit te weten te komen? Dat hangt af van de handelingsopties.

Stel dat hier inderdaad het parvovirus heerst. In dit specifieke geval heeft het weinig zin om de moeder van het kinderdagverblijf te weren, omdat haar eigen zoon dan immers ook besmet is, of besmet zou kunnen worden. Er kan besloten worden om alleen het kind van de zwangere moeder te testen – de moeder zal immers wel toestemming geven. Echter, als de uitslag negatief is, kan niet uitgesloten worden dat andere kinderen wèl parvo hebben. Een optie die parallel kan worden gevolgd is dat de moeder (ook indirecte) contacten met het kinderdagverblijf vermijdt, en dat zij getest wordt zodra dat mogelijk is (na minimaal 2 weken). Geen van deze opties neemt op korte termijn de onrust weg.

De wens om meer helderheid te krijgen, door middel van serologisch onderzoek bij de kinderen is dus wel begrijpelijk, maar ook àls er parvo heerst, zijn de mogelijkheden om ernstige gevolgen voor de zwangere moeder te voorkomen, beperkt. Daarentegen is de keuze om af te wachten, na alle onrust, ook moeilijk verdedigbaar.

Stap 3: Bezwaren tegen mogelijke interventies

Zijn er eigenlijk bezwaren tegen serologisch onderzoek? Een bloedafname is niet risicovol; hoogstens belastend voor de kinderen en voor hun ouders. Misschien dat het bloedonderzoek gedaan kan worden met een eenvoudiger vingerprikje, maar die test is op dit moment nog niet gevalideerd. Belangrijke overweging is echter dat de kinderen zelf geen baat hebben bij het onderzoek. Niettemin, als ouders instemmen met het serologisch onderzoek, dan is het, gezien de afwezigheid van risico’s voor de kinderen, wel gerechtvaardigd om het onderzoek te verrichten. Zolang er geen sprake is van overheidsdwang, is het aan ouders om te bepalen of een kleine ingreep wel of niet te belastend is.

Stap 4: Plichten, rechten en verantwoordelijkheden

Op dit punt in de bespreking benadrukt de arts infectieziektebestrijding dat hij normaliter voldoende overredingskracht heeft om ouders in een situatie als deze over te halen. Zeker in deze situatie: jonge ouders zijn gevoelig voor het argument dat er een risico is voor iemands zwangerschap.

Dat leidt tot een nieuwe discussie: is het eigenlijk wel terecht om die overtuigingskracht en het gezag als deskundige hier in te zetten, en de ouders over te halen hun kinderen te laten testen? De testuitslagen scheppen geen nieuwe mogelijkheden om zwangerschapscomplicaties te voorkomen en hebben geen voordeel voor de geteste personen zelf. Ook zonder zekerheid over de aard van de huiduitslag kan er gekozen worden voor verhoogde waakzaamheid in de begeleiding van de zwangerschap. Het serologisch onderzoek is vooral zinvol omdat het nu de zorgen bij de hulpleidster kan wegnemen: als er geen vijfde ziekte heerst, is zij gerustgesteld. Is dat een voldoende basis om een beroep te doen op medewerking van de andere ouders?

Voor een arts infectieziektebestrijding is het essentieel dat de adviezen en oordelen gezag en overtuigingskracht hebben. Dat gezag is nodig om – bij ernstige infectieziekten – het publiek te overtuigen om zich aan richtlijnen te houden, en daarmee de verspreiding van de verwekker (en daarmee morbiditeit en mortaliteit) te verminderen. Gezien het belang van die overtuigingskracht voor goede infectieziektebestrijding valt er iets voor te zeggen om niet al te makkelijk groepen mensen over te halen zichzelf of hun kind te laten testen, louter om onzekerheid bij anderen weg te nemen. Ook al is die onzekerheid voor de betrokken moeder erg vervelend. Daarbij is het ook van belang dat op kinderdagverblijven zeer geregeld meerdere kinderen (onschuldige) vlekjes zullen hebben. Als de arts nu oproept tot serologisch onderzoek, zullen leidsters en ouders bij de volgende vlekjesuitbraak des te sneller ongerust worden.

Stap 5: Conclusie en argumentatie

Serologisch onderzoek bij kinderen met vlekjes teneinde onrust weg te nemen bij derden is acceptabel als ouders er mee instemmen. Artsen infectieziektebestrijding moeten in een situatie als deze terughoudend zijn in het overhalen van die ouders om mee te werken. Als daar niettemin voor gekozen wordt, is het wel belangrijk dat ook wordt uitgelegd dat onderzoek gedaan wordt om onrust weg te nemen, en dat er niet een onmiddellijk gezondheidsbelang speelt.

Stap 6: Concrete maatregelen

In dit geval werden de betrokken kinderen uitgenodigd voor serologisch onderzoek en de ouders van deze 3 kinderen gaven aan de oproep gehoor. Besloten werd om toch vingerprikbloed te gebruiken, ondanks de vragen die er op dat moment bestonden over de test. Vanzelfsprekend is een test op basis van een vingerprik minder belastend dan een bloedafname. Dat neemt echter niet weg dat terughoudendheid bij het overhalen van de ouders op z'n plaats is. Immers, de test werd vooral gedaan om onrust weg te nemen; hij was niet noodzakelijk om de zwangere moeder te beschermen tegen de gevolgen van eventuele infectie. Dit roept de algemene vraag op: hoe ver mag je als arts infectieziektebestrijding gaan om onrust weg te nemen, als het wegnemen van onrust geen (duidelijke) bijdrage levert aan het bestrijden van infectieziekten?

Literatuur

1. Miller, E., Fairley, C.K., Cohen, B.J. & Seng, C. 1998. Immediate and long term outcome of human parvovirus 19 infection in pregnancy. *Br J Obstet Gynaecol*, 105**,** 174-8.
2. Haan T.R., de Jong E.P., Oepkes D., Vandenbussche F.P.H.A., Kroes A.C.M., en Walther F.J. Infectie met het Humaan parvovirus B19 ('vijfde ziekte') in de zwangerschap: voor de foetus soms levensbedreigend. *Ned. Tijdschr. Geneeskd*. 2008; 152(21): 1185-1190.

Entrepreneur

Case description	Moral problem	Conclusion
An entrepreneur who is about to close an important deal tested positive for New Influenza A – H1N1 – during the 2009 pandemic. Although he has recovered, it is unknown whether he and his partner can still infect others.	Should the MHS advise the mayor to impose mandatory home isolation for 10 days?	This can be justified, if options to persuade the couple fail.

Thuisisolatie tijdens de Nieuwe Influenza A (H1N1) pandemie: bij twijfel toch doen?[502]

A. Krom, B. Rump, M.F. Verweij, M. Bosschart, F. Woonink, C.J. Kessler, J.E. van Steenbergen

Begin juni 2009 krijgt een vrouw last van milde griepklachten na een reis naar de Verenigde Staten (VS). Haar huisarts verdenkt haar van een infectie met de Mexicaanse griep en stelt de GGD op de hoogte. De GGD verricht conform protocol influenzadiagnostiek, start contactonderzoek en verzoekt de vrouw om in afwachting van de diagnose thuis te blijven. (1) Haar man, die ook grieperig is teruggekomen uit de VS, voldoet tevens aan de casusdefinitie voor bemonstering. Hij zegt inmiddels klachtenvrij te zijn. De vrouw wil geen verdere contacten noemen maar verder verleent het echtpaar aanvankelijk alle medewerking: zij stemmen in met bemonstering door GGD-medewerkers en blijven thuis. Beiden blijken besmet en gaan akkoord met behandeling met Tamiflu. De man weigert echter tot 10 dagen na de eerste ziektedag thuis te blijven. Hij is zelfstandig ondernemer en werkt aan een overname waarbij grote belangen in het geding zijn. Ook de vrouw wil eerder naar buiten dan toegestaan. Ondertussen brokkelt in het land de steun voor het overheidsbeleid af, ook onder GGD medewerkers.

Stap 1: De morele vraag

Deze casus roept verschillende morele vragen op. Bijvoorbeeld of het echtpaar nadrukkelijker moet worden bewogen om mee te werken aan verder contactonderzoek. Het is immers niet uitgesloten dat zij anderen hebben besmet die nu mogelijk een verhoogd risico lopen. Tijdig ingrijpen zou eventuele schade nog kunnen beperken. Wij kiezen voor een tweede morele vraag, die vooral interessant is vanwege de afbrokkelende steun voor het beleid ten aanzien van de Mexicaanse griep (Nieuwe Influenza A (H1N1)): Moet de GGD de burgemeester adviseren om de man en vrouw desnoods in gedwongen isolatie te plaatsen? Het morele aspect schuilt niet alleen in het overwegen van vrijheidsbeperking maar ook, aan de andere kant, in de overweging om dit niet te doen want afzien van isolatie betekent dat wordt afgeweken van overheidsbeleid. Kan dat moreel worden verantwoord?

Stap 2: Inventarisatie van risico's en handelingsopties

Om het risico verbonden aan de verspreiding van de nieuwe griep te bepalen, moet een uitspraak worden gedaan over de ernst van de schade die dit kan veroorzaken, en over de kans dat deze schade optreedt. De casus speelt aan het einde van de periode waarin sprake is van 'incidentele introductie' (zie kader). In Mexico en de VS wordt melding gemaakt van ernstige casuïstiek. Tenminste 2 groepen lijken een verhoogde kans te lopen om te overlijden: zwangere vrouwen en mensen met ernstig overgewicht. (2)

[502] (Krom, Rump, Verweij et al. 2012).

Verder is nog vooral veel onbekend. De WHO schat dat 1 op de 3 mensen ziek zou kunnen worden, waarvan een deel ernstig. (3) Op basis hiervan wordt het nieuwe virus als groep A-ziekte aangemerkt, wat de weg vrij maakt voor ingrijpende vrijheidsbeperkende maatregelen.

Hoe groot is het risico dat het echtpaar het virus verspreidt? De man is klachtenvrij en bij de gewone griep wordt aangenomen dat mensen dan niet meer besmettelijk zijn. De precieze transmissie-potentie van het nieuwe virus is echter onbekend en er is tenminste een theoretisch risico dat de man het virus nu nog kan verspreiden. De vrouw vormt, als zij eerder dan toegestaan naar buiten zou gaan, waarschijnlijk een groter risico dan de man omdat zij nog symptomen heeft. In het draaiboek voor incidentele introductie van een pandemisch influenzavirus wordt zekerheidshalve een isolatieduur van tien dagen na de eerste ziektedag aangehouden. (1)

In deze context staan de volgende handelingsopties open:

1. De eerste optie is om de zaak op zijn beloop te laten, dat wil zeggen te accepteren dat het echtpaar niet de volle tien dagen vanaf de eerste ziektedag (3 en 8 juni) thuis wil blijven. Wat hiervoor kan pleiten is dat ten tijde van de casus meer en meer twijfels ontstaan over de zinvolheid van het overheidsbeleid, ook onder deskundigen.
2. De tweede optie is om te proberen het echtpaar alsnog te overtuigen van de noodzaak om thuis te blijven. Als wordt overgegaan op een ongevraagd huisbezoek, met beschermende kleding en maskers en wellicht met meerdere personen, gaat de poging tot overtuigen ook gepaard met symbolische druk. Wat voor deze optie kan pleiten is dat thuisisolatie op het moment van deze casus overheidsbeleid is. De gedachte dat men het niet op het geweten wil hebben, dat een van hen bijvoorbeeld een zwangere vrouw infecteert die vervolgens kan overlijden, kan hierbij meespelen.
3. De derde optie, waarvoor dezelfde redenen kunnen worden aangevoerd, is om echte druk uit te oefenen. Een manier om niet alleen symbolische druk uit te oefenen is door alleen nog Tamiflu te verstrekken als de man en vrouw beide toezeggen de volle tien dagen thuis te blijven. Zoals eerder gemeld zijn de man en vrouw aanvankelijk bereid om vrijwillig antivirale middelen (Tamiflu) te slikken.
4. De laatste optie is om direct alle juridische bevoegdheden te benutten en de burgemeester te adviseren om de man en vrouw in gedwongen isolatie te plaatsen.

Opties 2 t/m 4 zouden idealiter na elkaar moeten worden geprobeerd – de minst ingrijpende optie heeft in principe de voorkeur. Maar beslissingen moeten soms onder grote tijdsdruk worden genomen. Dat roept bijvoorbeeld de vraag op hoe lang geprobeerd moet worden om personen te overreden. Het is niet uitgesloten dat de tijdsdruk zo groot is dat al heel snel op andere opties moet worden overgestapt.

Stap 3: Bezwaren tegen mogelijke interventies

Tegen het op zijn beloop laten van de situatie (optie 1) kunnen verschillende bezwaren worden ingebracht: het echtpaar zou het virus nog kunnen verspreiden en hiermee risicogroepen in gevaar kunnen brengen; een ander bezwaar tegen de optie is dat daarmee tegen het landelijk geldende overheidsbeleid zou worden ingegaan.

Aan het alsnog proberen te overtuigen van het echtpaar (optie 2) kleven ook bezwaren. De vraag kan worden gesteld in hoeverre eventuele medewerking daadwerkelijk vrijwillig is. In de praktijk kan de grens tussen ‘overreden’ en vormen van ‘drang’ wel eens moeilijk te trekken zijn. Dit geldt zeker als bij het overreden meer en ‘zwaardere’ professionals worden ingezet, en de wettelijke mogelijkheden tot verdergaande maatregelen expliciet worden genoemd.

Er is ook een praktisch bezwaar: als de GGD professionals zelf niet overtuigd zijn van de zin van het overheidsbeleid, dan gaat dit mogelijk ten koste van hun overredingskracht. Dat is ook moreel relevant.

Immers, als overreden niet lukt, dan komt gedwongen vrijheidsbeperking in zicht. Dit praktische bezwaar zou er niet zijn als in dit soort situaties alleen professionals worden ingezet die overtuigd zijn dat het beleid zinvol is. Dit laat echter de meer fundamentele vraag onbeantwoord: hoe om te gaan met afbrokkelende professionele steun voor overheidsbeleid?

Hierover straks meer.

Voorwaarden verbinden aan het verstrekken van de Tamiflu (optie 3) is een vorm van 'drang', bedoeld om een bepaalde reactie onaantrekkelijker te maken – in dit geval om eerder dan toegestaan naar buiten te gaan. Vormen van drang kunnen aanvaardbaar zijn. Bezwaarlijk in dit geval is echter dat achteraf voorwaarden aan het verstrekken van Tamiflu worden verbonden. Was eerst het risico voor de man en vrouw zelf voldoende reden om het antivirale middel te krijgen, nu wordt verstrekking ineens afhankelijk gemaakt voor de risico's die zij voor anderen vormen. Daarmee zou ook een dubbel signaal worden afgegeven: de ziekte is gevaarlijk genoeg om de volle tien dagen thuis te moeten blijven, maar niet gevaarlijk genoeg om ons ervan te weerhouden u desnoods de antivirale middelen te ontzeggen.

Tegen de laatste optie – de burgemeester adviseren gedwongen isolatie toe te passen – pleit dat het een vrijheidsberoving betreft en het welzijn van het echtpaar wordt aangetast. Het is een zeer belastende maatregel die bovendien grote kosten met zich meebrengt: de man is zelfstandig ondernemer, en is hij bezig met een bedrijfsovername die cruciaal is voor het voortbestaan van zijn bedrijf en daarmee de werkgelegenheid van zijn werknemers. Voor zo'n interventie is een sterke rechtvaardiging nodig, terwijl de professionals nota bene zelf twijfelden aan het nut van de maatregel.

Stap 4: Rechten, plichten en verantwoordelijkheden

Een arts infectieziektebestrijding die medisch inhoudelijke twijfels heeft aan de ernst van de pandemie en de zin van het overheidsbeleid, staat voor een dilemma. Beleid uitvoeren waaraan men twijfelt, raakt aan wat we het 'zelfrespect van de professional' kunnen noemen. Artsen infectieziektebestrijding moeten altijd ook een inhoudelijk oordeel over een casus vellen, over wat in de richtlijnen staat. Bij medisch inhoudelijke twijfel aan het overheidsbeleid is dan echter sprake van conflicterende plichten. Een arts infectieziektebestrijding is namelijk ook ambtenaar en dient in beginsel het actuele overheidsbeleid uit te voeren. Daar kunnen in dit geval ook morele redenen voor worden gegeven: het hanteren van een eenduidig (landelijk) beleid voorkomt dat burgers in vergelijkbare situaties, verschillend worden behandeld. Het zou bijzonder onrechtvaardig zijn als een ondernemer in de ene provincie gedwongen wordt thuis te blijven (met alle gevolgen van dien) en in de andere provincie niet. Landelijke coördinatie draagt bij aan de effectiviteit, maar zorgt ook voor een rechtvaardige infectieziektebestrijding.

Stap 5: Conclusie en argumentatie

De verschillende plichten van GGD-professionals maken duidelijk dat het niet te verdedigen is om de zaak bewust op zijn beloop laten (optie 1). Ook de tweede optie, om de Tamiflu met terugwerkende kracht als pressiemiddel te gebruiken is slecht verdedigbaar. Als er al voorwaarden aan worden verbonden, dan had dat vanaf het begin moeten worden gedaan.

Het heeft in de casus de voorkeur om de man en vrouw in eerste instantie op te zoeken en te overreden om thuis te blijven. De GGD-professionals moeten dit voor hun eigen veiligheid, doen gekleed in beschermende pakken, maar dat heeft als bijkomend voordeel dat ook symbolische druk wordt uitgeoefend. Als de weigering van de man vooral wordt ingegeven door de bezorgdheid om het voortbestaan van zijn bedrijf, zou nagegaan kunnen worden of het mogelijk is om de man op enige manier tegemoet te komen (bijvoorbeeld door hem organisatorisch of financieel te ondersteunen, of door als overheid met zijn partners te overleggen). Als dit alles niet het beoogde resultaat heeft dan zou, omwille van de rechtvaardigheid, in het bijzijn van de man gemeld moeten worden dat de optie openstaat om in deze gevallen de burgemeester te adviseren over te gaan tot gedwongen isolatie. Als dat niet werkt, dan is

het in de casus verdedigbaar om de burgemeester dit advies daadwerkelijk te geven. De wet biedt daartoe ook de mogelijkheid. Het argument dat het zelfrespect van de professional/ambtenaar die twijfelt aan het overheidsbeleid in het geding komt, hoeft dus niet doorslaggevend te zijn. De steun voor het beleid brokkelde weliswaar af, in de media en onder professionals, maar niet zodanig dat de risico's voor lief genomen zouden moeten worden.

Kijken we naar het effect van de maatregel op alleen dit echtpaar, dan is thuisisolatie disproportioneel gezien de beperkte risico's van het virus. De suggestie hier is echter dat in een oordeel over de proportionaliteit van een maatregel ook het aspect van rechtvaardigheid naar de rest van de samenleving betrokken moet worden.

Ook al is er in dit geval reden om desnoods thuisisolatie af te dwingen, dit betekent niet dat er met de medisch inhoudelijke twijfel van de GGD-professional rond het infectieziektebestrijdingsbeleid niets gedaan moet worden. Integendeel. Wel valt er iets voor te zeggen dat de GGD-professional deze twijfel in eerste instantie binnen het professionele domein uit. Het breed uitmeten van verschillen tussen professionals in de media brengt het risico met zich mee dat het publieke draagvlak voor infectieziektebestrijdingsmaatregelen wordt ondergraven. Een optie is om de professionele twijfel in eerste instantie richting het RIVM te uiten, dat immers de richtlijnen maakt waar de twijfel betrekking op heeft. Via die weg zou aanpassing van de richtlijn denkbaar zijn. Of en wanneer aanpassing plaatsvindt is niet op voorhand te zeggen. Dat betekent in de praktijk dat er omstandigheden kunnen zijn waarin GGD-professionals bepaald beleid moeten uitvoeren waarvoor al goede redenen zijn om het te wijzigen.

Stap 6: Concrete maatregelen en resterende vragen

In werkelijkheid is het niet gelukt het echtpaar te overreden. Op enig moment was de periode van tien dagen al verstreken – zonder dat er bewust voor was gekozen om niet verder in te grijpen. Het is onbekend of de man en vrouw in de tussentijd naar buiten zijn geweest, en eventuele contacten hebben besmet.

Thuisisolatie is moreel verdedigbaar in de casus. Los daarvan blijven enkele vragen over. Bijvoorbeeld of dit echtpaar nadrukkelijker zou moeten worden bewogen om de contacten te noemen. Zou hierbij dwang toelaatbaar zijn?

Een andere vraag wat de afwegingen geweest zouden zijn als een huisarts een rol zou hebben in deze casus. Zou een huisarts, wiens professionele rol meer gericht is op individuele patiënten dan op volksgezondheid, eerder af mogen wijken van het overheidsbeleid dan GGD-professionals?

Tot slot, er is vermoedelijk bij de meeste GGD'en sprake geweest van dilemma's rond gedwongen (thuis)isolatie. Toch zijn er, voor zover bekend, in Nederland geen gevallen geweest van gedwongen isolatie. Werd dwang, gegeven de mate van verspreiding en de ernst van de risico's, algemeen als disproportioneel gezien?

Fasering Nieuwe Influenza A (H1N1)

De hier beschreven casus speelt begin juni 2009. In Mexico en de VS is al sprake van een landelijke uitbraak van Nieuwe Influenza A (H1N1). Het aantal bevestigde gevallen in Spanje en het Verenigd Koninkrijk neemt snel toe.

Als het hier genoemde echtpaar terugkomt uit de VS gaat het Nederlandse bestrijdingsbeleid nog uit van incidentele introductie. Het beleid is gericht op containment, waarbij besmette patiënten zo vroeg mogelijk worden opgespoord om zo verspreiding te beperken. Patiënten met een passend klinisch beeld en een recent verblijf in Mexico of de VS worden onderzocht op dragerschap van het virus en zo nodig behandeld en in thuisisolatie geplaatst. Ook directe contacten worden opgespoord en (profylactisch) behandeld met Tamiflu.

In de tweede week van juni wordt via inf@ct gemeld dat het RIVM zich beraadt op het loslaten van de containmentstatus en het advies om het beleid te richten op mitigatie. Hierbij wordt verspreiding niet meer tegengegaan maar worden alleen morbiditeit en mortaliteit beperkt. Infectie met het virus blijkt tot een mild ziektebeeld te leiden en beperkte verspreiding in Nederland is al aan de orde. Op 22 juni wordt de thuisisolatie van herstelde patiënten officieel losgelaten. (3)

Literatuur

1. LCI. Operationeel deeldraaiboek 2. Incidentele introductie nieuw humaan influenzavirus in Nederland, juni 2009.
2. Gezondheidsraad. Vaccinatie tegen pandemische influenza A/H1N1 2009: doelgroepen en prioritering. Den Haag: Gezondheidsraad, 2009; publicatienr. 2009/10.
3. RIVM. Chronologisch overzicht van de Nieuwe Influenza A (H1N1) 2009/2010 pandemie en de reactie van het Centrum Infectieziektebestrijding RIVM, 2010.

Group travel

Case description	Moral problem	Conclusion
The MHS learns that a man with shigellosis, which can lead to, for example, bloody diarrhoea and severe dehydration, was part of a group travelling to Thailand.	Should the MHS contact all group members or is it their personal responsibility to take precautions if they get sick?	There is good reason to contact all group members. By informing them on how to prevent transmission, the MHS enables them to take responsibility.

Shigellose na terugkomst vakantie[503]

A. Krom, M.F. Verweij, M.J.M. te Wierik, J.E. van Steenbergen

Na een groepsreis door Thailand krijgen 9 van de 16 leden van het reisgezelschap verschijnselen van koorts en diarree. Zes werden ziek tijdens de terugvlucht, 3 na thuiskomst. Bij één alleenstaande medereiziger is de diagnose shigellose door middel van laboratoriumdiagnostiek bevestigd. Zijn eerste ziektedag past bij een in Thailand opgelopen infectie. Als de GGD 9 dagen na terugkomst uit Thailand contact opneemt met de man over de uitslag, komt het reisgezelschap ter sprake. De man wist van vergelijkbare klachten bij 8 anderen. In geval van blootstelling aan dezelfde bron is de incubatietijd al voorbij. De GGD-arts staat voor de vraag of in dit stadium iets gedaan moet worden om verdere verspreiding van *Shigella*-bacterieën te voorkomen.

Stap 1: De morele vraag

Moet de GGD (in dit late stadium) ingrijpen om verdere verspreiding van *Shigella* in Nederland te voorkomen, of mag de verantwoordelijkheid hiervoor aan de betrokkenen worden overgelaten?

Ethisch gezien gaat het niet alleen om een risico-inschatting, het is ook een kwestie van verantwoordelijkheid. Door normale (hand- en toilet)hygiëne in acht te nemen kan verspreiding namelijk voorkomen worden. Daarbij komt dat in Nederland in principe goede diagnostiek en behandeling beschikbaar is voor het geval toch een contact van een zieke ernstige diarree zou krijgen.

Stap 2: Inventarisatie van risico's en handelingsopties

Shigellose is zeer besmettelijk, zeker tijdens de acute fase. De ziekte wordt fecaal-oraal overgedragen, dit kan direct door een geïnfecteerd persoon (handen, oro-anaal seksueel contact), en indirect door bijvoorbeeld voorwerpen (toilet) of via fecaal verontreinigd water of voedsel. Voor besmetting zijn slechts weinig bacteriën nodig: 100-200 bacteriën volstaan om de helft van de mensen ziek te maken die ermee in aanraking komen. (1)

Risico's op ernstig beloop

Hoewel ernstiger dan een 'buikgriepje', levert shigellose in Nederland meestal geen grote gezondheidsproblemen op. De ziekte begint met koorts en buikkramp. Dan volgt eerst waterdunne en daarna slijmerige diarree, vaak met bloed. In sommige gevallen ontstaat ernstige diarree, en dreigt

[503] (Krom, Verweij, te Wierik, et al. 2011).

uitdroging. Bij slijmerige en bloederige diarree is behandeling met antibiotica nodig, om complicaties te voorkomen. Vooral jonge kinderen, bejaarden en personen met onderliggend lijden hebben een verhoogde kans op een ernstig beloop. Zij zouden in het uiterste geval door uitdroging kunnen overlijden. De kans dat je in Nederland aan de gevolgen van shigellose overlijdt, is echter heel klein. (2,3) Meestal treedt na een week (5-10 dagen) spontaan herstel op.

Besmettingsrisico's

Verspreiding kan zich het makkelijkst voordoen onder slechte hygiënische omstandigheden, zeker bij bereiding van etenswaren, en in situaties van nauw lichamelijk contact. De kans op ernstige gevolgen is het grootst als jonge kinderen, ouderen of personen met onderliggend lijden worden geïnfecteerd.

Hoe groot is het besmettingsrisico in de casus? Vooralsnog is bij slechts 1 van de 9 zieken de diagnose shigellose bevestigd. Deze patiënt is alleenstaand en heeft geen huisgenoten, die gebruik maken van hetzelfde toilet. Ook werkt hij niet in een risicovolle omgeving zoals in de zorg of in de voedselindustrie. Daarom hoeft bij de man ook geen contactonderzoek te worden verricht.

We zouden kunnen aannemen dat de andere zieke reisgenoten ook een *Shigella*-infectie hebben. Daarmee sluipt een onzekerheid in de beoordeling van de situatie, maar wordt wel voor de meest veilige optie gekozen. Van alle micro-organismen die diarree kunnen veroorzaken zit *Shigella* immers aan de meer ziekmakende kant van het spectrum. Het is onbekend hoe de gezinssituatie van de andere zieken is, en of zij in de voedingsindustrie of zorg werken. De maximale incubatietijd is een week, de besmettelijke periode varieert, zonder antibiotica, van ongeveer 2 weken tot enkele maanden vanaf de eerste ziektedag. Het gezelschap is 9 dagen terug in Nederland.

Handelingsopties

Tegen deze achtergrond staan globaal drie handelingsopties open die variëren van minder naar meer ingrijpen.

1. *Niets doen*: Shigellose is een goed behandelbare ziekte, en van mensen die diarree hebben mag verwacht worden dat zij meer hygiëne in acht nemen, en zo de kans op verspreiding verminderen.
2. *Informeren*: De GGD informeert het gehele reisgezelschap per brief over mogelijke blootstelling aan *Shigella*, over de noodzaak van goede hygiëne en de mogelijke risico's voor anderen – met bijzondere aandacht voor de werksituatie. Een stap verder binnen deze optie is om in die brief te vragen om in ieder geval contact op te nemen met de GGD of de huisarts dan wel alleen bij klachten. Nog een stap verder is om de personen na te bellen, waardoor de GGD controle houdt. Naar aanleiding van de brief worden mogelijk ook mensen getest.
3. *Testen*: Een derde optie, die overigens niet wordt genoemd in de richtlijn, is alle reisgenoten testen, inclusief de 7 personen die (nog) geen klachten hebben.

Bij elke positieve feceskweek zouden, afhankelijk van de gezins- en werksituatie, gerichte adviezen gegeven kunnen worden over hygiënemaatregelen en eventueel wering. Te denken valt aan het vermijden van contact met voedsel in de voedingsindustrie, en het betrachten van goede hygiëne in de zorg (goed de handen wassen, eventueel een apart toilet gebruiken). In het – vanuit ethisch oogpunt – uiterste geval zouden beperkingen aan de persoon kunnen worden opgelegd, bijvoorbeeld een (gedeeltelijk) werkverbod gedurende de besmettelijke periode.

Stap 3: Bezwaren tegen mogelijke interventies

Shigellose is een meldingsplichtige ziekte. In een perfecte gezondheidszorg worden alle gevallen van shigellose gediagnosticeerd, gemeld bij een GGD en via Osiris bekend bij het RIVM. Er zijn geen andere

gevallen gemeld dan de alleenstaande index-patiënt. Als de GGD het verhaal van de andere zieke reizigers niet had gehoord, was er geen reden tot ingrijpen. Als de man goede hand- en toilethygiëne in acht neemt, heeft de GGD haar minimale taak na melding van een geval in formele zin volbracht.

In deze casus is niets doen echter geen reële optie. Het is immers bekend dat 9 mensen ziek zijn en van 8 van hen zijn de werk- en gezinsomstandigheden onbekend. Als zij kinderen hebben, dan lopen die mogelijk risico. Als zij in de voedingsindustrie of zorg werken, loopt een groot aantal mensen mogelijk een risico, zonder dat te weten. Omdat er meerdere mensen ziek zijn, en mogelijk een risico vormen voor anderen, is er dus meer reden om in te grijpen. Anderzijds worden werkers in de zorg of voedselindustrie door hun werkgever geïnstrueerd om bij aandoeningen met een mogelijke besmettelijk karakter dat te melden aan de werkgever of bedrijfsarts. Ook de andere 2 handelingsopties zijn echter niet zonder bezwaren.

Een bezwaar tegen zowel de derde optie (iedereen testen) als de tweede (iedereen informeren) is dat dit als een inbeuk op de privésfeer zou kunnen worden ervaren. Zou de GGD mogen weten wie aan deze reis hebben deelgenomen, om vervolgens contact met hen op te kunnen nemen? Dit privacyargument is niet zo sterk, want er is sprake van een risico voor derden, en dat is een reden om 'privé' niet altijd strikt op te vatten. De privacyinbreuk is bovendien beperkt en zou nog verder kunnen worden verkleind door niet de GGD zelf maar de reisorganisatie contact op te laten nemen met de reizigers.

Een ander mogelijk bezwaar tegen de tweede en derde optie is dat dit onrust kan veroorzaken. Ook deze overweging is weinig overtuigend: shigellose is in de meeste gevallen geen levensbedreigende ziekte, maar gegeven de kans dat kwetsbare personen worden besmet is het wel terecht dat de personen zich enige zorgen maken als ze klachten hebben en op grond daarvan proberen de kans op verspreiding te verkleinen.

Tegen het voorstel om iedereen te testen kan worden ingebracht dat kosten en inspanning om iedereen te bereiken en via een feceskweek te testen niet in verhouding staan tot het risico. Hoogstens zou men kunnen overwegen om personen die in risicovolle omstandigheden wonen of werken te testen. In de praktijk wordt in duidelijk omschreven gevallen bij een positieve feceskweek standaard voor wering gekozen. Voor de gemelde patiënt is dat hier niet aan de orde.

Ook de tweede mogelijkheid (iedereen informeren) heeft verdere beperkingen en nadelen. Een brief zal mogelijk niet door iedereen worden gelezen of voldoende worden begrepen (zo'n 10% van de volwassen Nederlanders is functioneel analfabeet). Als onduidelijk blijft of mensen zich de ernst van de situatie realiseren, kan de GGD er voor kiezen om zelf meer de regie te houden, bijvoorbeeld door de mensen na te bellen.

Stap 4: Plichten, rechten en verantwoordelijkheden

GGD'en hebben een morele en wettelijke verantwoordelijkheid om de verspreiding van infectieziekten tegen te gaan. Die verantwoordelijkheid is echter niet onbeperkt; als burgers zichzelf goed kunnen beschermen, ligt de verantwoordelijkheid in belangrijke mate bij henzelf. De overheid kan zich dan in de eerste plaats richten op het voorkomen van verspreiding van ziekten waar burgers zich *niet* afdoende zelf tegen kunnen beschermen. Dat omvat bijvoorbeeld maatregelen gericht op risicovormers – mensen die mogelijk besmettelijk zijn. Die maatregelen kunnen inhouden dat de verantwoordelijkheid voor het risico dat zij vormen voor anderen bij risicovormers zelf wordt gelegd. Om die verantwoordelijkheid te kunnen dragen moeten mensen tenminste geïnformeerd zijn over de risico's en preventiemogelijkheden. In deze casus is bij de GGD bekend dat de betrokkenen anderen kunnen infecteren met *Shigella*. Het is bekend dat risicovormers zich niet altijd bewust zijn van de gevaren van besmettelijke aandoeningen, en die ook niet altijd melden aan de werkgever. Door de leden van het reisgezelschap te informeren (per brief, eventueel via de reisorganisatie) over mogelijke risico's en adequate hygiënische zorg, worden zij in staat gesteld om verantwoordelijkheid te nemen voor hun gedrag. De informatie dat het om shigellose gaat geeft een

zwaardere lading dan de ervaren milde diarree en kan leiden tot het beter opvolgen van de bestaande maatregelen voor medewerkers met diarree.

Mag het aan individuen worden overgelaten om de gegeven adviezen al dan niet op te volgen, of moet de GGD 'er bovenop' blijven zitten? Als je mensen verantwoordelijkheid in handen geeft, moet je hen ook als zodanig behandelen. Dat betekent in dit geval: alleen bellen en controleren als dat essentieel is. Aangezien shigellose vaak vanzelf overgaat, en anders meestal goed behandelbaar is, is controle alleen zinvol in geval een besmettelijk persoon werkt/verblijft in een risicovolle omgeving, bijvoorbeeld een snackbar, een verpleeghuis of in het gezin, vooral als daar (kleine) kinderen aanwezig zijn. Overwogen kan worden om de reizigers in de brief nadrukkelijk te verzoeken om, als zij klachten hebben, of als zij in de zorg- of voedingsindustrie werken, contact op te nemen met de GGD.

Wanneer kan of moet de GGD het voorkomen van verdere verspreiding van *Shigella* loslaten? Dat geldt zeker in de volgende gevallen:

- Als het achterhalen van de namen van de reizigers buitenproportioneel veel moeite kost, ook als daardoor risicovormers niet bereikt worden. De kans dat shigellose tot ernstige complicaties leidt is beperkt. Tijd en geld kunnen dan beter worden besteed.
- Als iemand ziek is en geïnformeerd is over risico's en maatregelen, vooral als per brief is medegedeeld dat hij zelf verantwoordelijk wordt gehouden voor het wel/niet opvolgen van maatregelen.
- Als iemand zegt dat hij bepaalde preventieve maatregelen zal nemen (bijvoorbeeld toilethygiëne, niet gaan werken), dan moet de GGD er vanuit kunnen gaan dat de persoon de maatregelen ook zal nemen, tenzij er duidelijke redenen zijn om daar aan te twijfelen.
- Als iemand echter zegt dat hij geen preventieve maatregelen zal nemen, dan is er voor de GGD wel reden om een stap verder te gaan. De persoon heeft dan immers aangegeven zijn verantwoordelijkheid niet te willen nemen, en vormt daarmee een risico voor derden die zich daar zelf niet afdoende tegen kunnen beschermen.

Stap 5: Conclusie en argumentatie

Gegeven het feit dat nog andere mensen uit het gezelschap ziek zijn geworden is er goede reden om iedereen in ieder geval in te lichten over de mogelijke besmetting met *Shigella*. Door helder aan te geven wat men moet doen om verspreiding te voorkomen, geeft de GGD hen de verantwoordelijkheid in handen. Echter, als de GGD iedereen vervolgens ook nog nabelt, wordt die verantwoordelijkheid eigenlijk niet serieus genomen. Daarom valt het, als de GGD enige controle wil houden, te overwegen om de personen in de brief te verzoeken in specifieke gevallen (bij klachten, of wanneer ze in een risicovolle omgeving werken) zelf contact op te nemen. Daarmee zou het vervolgtraject bij personen met klachten in elk geval geborgd zijn.

Stap 6: Concrete maatregelen en resterende vragen

In werkelijkheid heeft de GGD het hele reisgezelschap een brief gestuurd. Omdat de indexpatiënt geen gezinsleden heeft, is bij hem geen contactonderzoek gedaan. De leden van het reisgezelschap zijn niet nagebeld.

De discussie heeft zich toegespitst op de verdeling van verantwoordelijkheden tussen de GGD en de leden van het reisgezelschap. Aangegeven werd dat als een persoon zegt dat hij preventieve maatregelen zal nemen (bijvoorbeeld niet naar het werk gaan), de GGD in eerste instantie geen reden heeft om te controleren of de persoon zich daar aan houdt. Maar hoe zit het met de werkgever? Zou de GGD een werkgever moeten bellen, als een bedrijfsarts bereikt kan worden.

Aangegeven werd dat de GGD het voorkomen van verdere verspreiding van *Shigella* kan of moet loslaten als het achterhalen van de namen van de reizigers zeer veel moeite kost. Wanneer daar precies sprake van is, is nog grotendeels een open vraag. Duidelijk is wel dat gegeven de verantwoordelijkheid die professionals nu eenmaal hebben (inclusief een meldplicht voor Shigellose), een puur subjectief antwoord (bijvoorbeeld 'Ik zie er tegenop') niet zou volstaan.

Als personen geen preventieve maatregelen willen nemen, geeft dat de GGD extra reden om in te grijpen. Maar zullen deze personen zich daarover wel uitlaten? Misschien, maar misschien ook niet. Professionals zullen altijd een inschatting moeten maken van hoe betrouwbaar de reactie van betrokkenen is.

Literatuur

1. DuPont H.L., Levine M.M., Hornick R.B., Formal S.B. Inoculum size in shigellosis and implications for expected mode of transmission. *J Infect Dis*. 1989;159(6):1126-28.
2. Van Pelt W., Wannet W.J.B., van de Giessen A.W., Mevius D.J., Koopmans M.P.G., van Duynhoven Y.T.H.P. Trends in gastro-enteritis van 1996 tot en met 2004. *Infectieziekten Bulletin*, 2005; 16: 250-56.
3. Friesema I., van Pelt W. Persoonlijke communicatie, RIVM, juni 2011.

Medical student

Case description	Moral problem	Conclusion
A medical student, who needs patient contact for his internship, remains a carrier of MRSA.	Should the student be denied all patient contact, even if this means that he cannot finish med school?	No. One way to evenly distribute the burdens of preventive care would be to examine whether part of the study can be done abroad (where the risk acceptance may be higher).

Stoppen met de studie geneeskunde omwille van MRSA-dragerschap?[504]

B. Rump, M. Wassenberg, E. Fanoy, A. Krom, J.E. van Steenbergen, M.F. Verweij

Een student geneeskunde bleef ondanks meerdere behandelingen maandenlang drager van Meticillineresistente *Staphylococcus aureus* (MRSA). Het MRSA-dragerschap werd ontdekt nadat de KNO-arts een ooruitstrijk afnam in verband met een oorinfectie. Nadat de student driemaal zonder succes was behandeld werd een contactonderzoek gestart en werden 3 MRSA-positieve familieleden gevonden met hetzelfde *Spa*-type t008. Mogelijk speelt de familie een belangrijke rol bij het in stand blijven van het dragerschap. Tijdens de vierde behandeling werden deze familieleden meebehandeld. Al in de follow-upperiode testten zij allen weer MRSA-positief. De student mag volgens de richtlijnen van de Werkgroep Infectie Preventie (WIP) geen patiëntencontact hebben. Hierdoor loopt niet alleen zijn komende co-assistentschap maar ook de rest van zijn studie geneeskunde en daarmee zijn uiteindelijke beroepsuitoefening gevaar.

Stap 1: De morele vraag

Moet de student voor de komende co-schappen ieder patiëntencontact ontzegd worden, als dit betekent dat hij zijn studie moet afbreken?

Stap 2: Inventarisatie van risico's en handelingsopties

Bestrijding van MRSA in het ziekenhuis wordt toegepast om te voorkomen dat profylaxe en behandeling van infecties met *S. aureus* niet goed meer mogelijk zijn. (1) Dit individuele geval zal deze onwenselijke situatie op populatieniveau niet teweeg brengen. MRSA-dragerschap brengt voor de student zelf weinig risico met zich mee. Het belangrijkste risico dat hier speelt is de overdracht van MRSA op ziekenhuispatiënten. Bij kolonisatie van ziekenhuispatiënten ontstaat een reëel gevaar op infectie. Infecties met MRSA gaan mogelijk gepaard met een toename in morbiditeit en mortaliteit en zijn moeilijker te behandelen omdat een beperkter arsenaal aan effectieve antibiotica beschikbaar is. (2) Bij een goede handhaving van de hygiëne door de student is de kans op overdracht binnen de relatief korte periode van de co-schappen waarschijnlijk zeer klein.

MRSA-uitbraken van dragerschap onder patiënten en personeel hebben vooral financiële en organisatorische consequenties voor het ziekenhuis. Rondom ziekenhuizen met MRSA-problematiek ontstaat soms maatschappelijke onrust. Daarnaast mogen werknemers als zij MRSA-drager zijn geen patiëntgebonden werkzaamheden verrichten. (1)

[504] (Rump, Wassenberg, Fanoy, et al. 2011). For a critical response see (van den Broek 2011).

Om verspreiding van MRSA te voorkomen staan verschillende handelingsopties open, die onder te verdelen zijn in 2 categorieën: opties die passen binnen strikte naleving van de WIP-richtlijn en opties die hierbuiten vallen.

Handelen in overeenstemming met de WIP-richtlijn betekent dat de student voorlopig geen contact met patiënten mag hebben. Tegelijkertijd kan gestart worden met een dragerschapsbehandeling. Het niet opvolgen van de WIP-richtlijn – vooral wat betreft het uitsluiten van patiëntencontact – omvat een spectrum van opties, met als uitersten: A) de student continu behandelen, hem toe laten in het ziekenhuis en vervolgens alle contacten screenen op MRSA; en B) niets doen en de student zijn co-schappen te laten lopen zonder MRSA-controle van contacten. Tussen deze uitersten zijn ook andere opties mogelijk zoals het intensief behandelen en begeleiden van de student zodat de kans op overdracht tot een minimum wordt beperkt of de student alleen contact laten hebben met mensen voor wie een eventuele MRSA-besmetting weinig gevolgen heeft, of combinaties van beiden.

Tot slot zou men de student kunnen voorstellen zijn studie te vervolgen in een ziekenhuis waar de WIP-richtlijn niet wordt gehanteerd – dus in het buitenland.

Stap 3: Bezwaren tegen mogelijke interventies

Het belangrijkste bezwaar van handelen volgens de WIP-richtlijn is dat de student zijn artsendiploma niet kan halen. De student moet nog zes weken co-assistentschappen lopen om zijn bachelor te halen en daarna nog 3 jaar voor het artsendiploma. Omdat hij steeds opnieuw besmet kan worden door zijn familie, is de kans op blijvende bacteriële eradicatie klein. Wellicht is er een kans op succes als ieder lichamelijk contact met de familie wordt vermeden. De uitkomst hiervan is echter onzeker en het is aan de student om te beoordelen in hoeverre deze belasting voor hem acceptabel is.

Handelen zonder inachtneming van de WIP-richtlijn – de student wel toelaten tot de co-assistentschappen – levert andere problemen op. In de eerste plaats is medewerking van de ziekenhuizen en afdelingen noodzakelijk. Als deze hier al mee instemmen, dan blijven strenge screenings- en controlemaatregelen noodzakelijk. Dit wordt moeilijk omdat tijdens de co-assistenschappen op verschillende afdelingen wordt gewerkt. Tenslotte is het onmogelijk om MRSA-dragerschap binnenskamers te houden waardoor niet alleen stigmatisering van de student dreigt maar ook onrust onder staf en patiënten.

Echter, ook zonder strenge screenings- en controle maatregelen is de kans op overdracht en de hieraan verbonden medische risico's voor bepaalde ziekenhuispatiënten relatief klein. Het uitsluiten van elk risico door de student elk patiëntencontact te verbieden is niet proportioneel en past moeilijk binnen de uitgangspunten van de Nederlandse infectieziektebestrijding. Met goede begeleiding en hygiënemaatregelen zouden de risico's wel zoveel mogelijk kunnen worden beperkt. De ongewenste gevolgen van een uitbraak op een afdeling zijn meer van financieel-organisatorische aard, dan dat er een acuut en ernstig gevaar is voor patiënten. Het zal echter moeilijk zijn een ziekenhuis te vinden dat bereid is de WIP-richtlijn niet te volgen en dat de kosten en publieke onrust verbonden aan een eventuele uitbraak accepteert.

Het voorstel om de studie in het buitenland af te maken is een interessante optie. De beperkte medische risico's blijven in het buitenland uiteraard onverminderd bestaan. De achtergrondincidentie van MRSA in buitenlandse ziekenhuizen is echter veel hoger dan in Nederland, waardoor de specifieke bijdrage van deze student ter aan het risico voor patiënten ter plekke aanzienlijk kleiner is.

Stap 4: Plichten, rechten en verantwoordelijkheden

MRSA-infecties kunnen nooit geheel worden uitgesloten, ook niet met de vergaande maatregelen zoals beschreven in de WIP-richtlijn. Het is goed denkbaar dat er meer studenten zijn (of zorgverleners) die MRSA-drager zijn, zonder dat dit bekend is, en wellicht ook zonder dat dit tot verspreiding leidt. Deze student had de pech dat er naar aanleiding van zijn oorinfectie een kweek werd gedaan. De betrokkenen (student, arts, ziekenhuis, opleiding) delen de verantwoordelijkheid om infectierisico's voor patiënten te beperken. Daarnaast moet de student in staat gesteld worden om zonder beperking zijn studie te volgen. Bij deze student is het denkbaar dat dit gerealiseerd kan worden door (a) verdergaande MRSA-dragerschapbehandeling, (b) goede begeleiding en hygiënemaatregelen, en (c) het mijden van contact met ziekenhuispatiënten met een hoger risico op overdracht of infectie.

Een MRSA-uitbraak op een afdeling heeft echter ook organisatorische en financiële consequenties en kan onrust opleveren en schadelijk zijn voor het aanzien van het ziekenhuis, zeker als bekend wordt dat het ziekenhuis wist dat een medewerker drager was. Echter, het vermijden van dergelijke kosten voor de zorginstelling heeft dramatische gevolgen voor de student. Als hij er zelf ook alles aan doet om MRSA-vrij te geraken – wellicht door enige tijd geen direct contact met zijn familie te hebben – dan lijkt het onrechtvaardig dat de nadelige gevolgen louter voor hem zijn. Het lijkt daarom redelijk dat de opleidingcommissie en het ziekenhuis zoeken naar een compromis waarin ook het belang van de student gehonoreerd wordt.

Stap 5: Conclusie en argumentatie

Het ligt voor de hand om in eerste instantie alles op alles te zetten om deze student MRSA-vrij te krijgen. De optie om de student toe te laten in het ziekenhuis onder de juiste begeleiding en op een geschikte afdeling lijkt het meest redelijke voorstel. Echter, in de praktijk zal dit voorstel waarschijnlijk het moeilijkst realiseerbaar zijn. Er zijn bij het lopen van de co-assistenschappen teveel partijen betrokken die moeten worden overtuigd en de WIP- richtlijn heeft teveel een bindend karakter.

De pragmatische optie om de co-assistentschappen (of een compleet deel van de studie) in het buitenland te vervolgen is dan de meest realistische optie. Op deze manier worden de nadelen van preventieve zorg niet alleen bij de student gelegd, maar gedeeld door alle betrokkenen.

Stap 6: Concrete maatregelen en resterende vragen

Uiteindelijk heeft de student zijn co-assistentschappen op een laagrisicoafdeling kunnen afronden terwijl hij wederom een dragerschapsbehandeling onderging. Voor de resterende co-assistentschappen voor het artsendiploma kon hij niet worden toegelaten zolang hij MRSA-positief was. Noodgedwongen is de student overgestapt naar een andere studie, al blijft zijn wens om arts te worden onverminderd bestaan.

Enkele vragen blijven over na de casusbespreking. Is het niet hypocriet om een student die in Nederland geen co-assistentschappen kan lopen vanwege MRSA-dragerschap, uit te laten wijken naar het buitenland met als argument dat daar minder strenge eisen gelden? Als de achtergrondincidentie hoger is, is de specifieke bijdrage van deze student aan het MRSA-probleem op populatieniveau immers nog kleiner dan in Nederland. Als ook in het buitenland bij behandelingen al standaard rekening wordt gehouden met een hogere kans op MRSA, is het misschien wel acceptabel.

Als het besmettingsrisico sowieso beperkt is, kan geredeneerd worden dat de Nederlandse WIP-richtlijn wel erg streng is en dat daar misschien flexibeler mee moet worden omgegaan. Evenzo kan een MRSA-drager wel degelijk bepaalde beroepen uitoefenen binnen de gezondheidszorg. Is het dan mogelijk om een student die MRSA-drager is een opleiding aan te bieden voor één van die specifieke beroepen?

Tenslotte, als de WIP-richtlijn strikt gehandhaafd moet worden, wat dan te doen met de medewerkers die drager zijn van (of in contact komen met) veegerelateerde MRSA en het feit dat er ook andere antibioticaresistente pathogenen zijn waarvoor richtlijnen bestaan om verspreiding te voorkomen.

Deze bespreking beperkt zich tot een ethische beschouwing van de vraag of een student elk patiëntencontact moet worden ontzegd omwille van MRSA, met het afbreken van de studie als gevolg. We concluderen dat dit moreel gezien niet goed te rechtvaardigen is. Maar wat zouden de kansen van de student zijn als hij de uitsluiting juridisch aanvecht?

Literatuur

1. Werkgroep Infectie Preventie (WIP). MRSA, ziekenhuis. Maart 2008: www.wip.nl.
2. Stichting Werkgroep Antibioticabeleid (SWAB). Optimaliseren van het antibioticabeleid in Nederland XII SWAB richtlijn behandeling MRSA dragerschap. Maart 2007: www.swab.nl.

Medical tourist

Case description	Moral problem	Conclusion
A cancer patient prefers to return to a hotel with confirmed Legionellosis, which may be dangerous for immune-compromised patients.	How far should health professionals go in protecting patients outside the hospital context?	Greater vulnerability for infections may be a side-effect of treatment, the reduction of which is part of the responsibility of doctors and hospitals. It is reasonable that the hospital provides a filter to reduce the infection risk.

Legionellapreventie bij een hoogrisicopatiënt: wiens verantwoordelijkheid?[505]

M.F. Verweij, M.C. Trompenaars, J. Donkervoort, J. den Boer, A. Krom, C.J. Kessler, J.E. van Steenbergen

Een 45-jarige patiënt uit het Caraïbisch gebied krijgt chemotherapie in een ziekenhuis in de Randstad – een behandeling die patiënten bijzonder kwetsbaar maakt voor infecties. Na enkele weken wordt de man met een Legionellapneumonie (veteranenziekte) op de afdeling intensive care opgenomen. Nader onderzoek wijst uit dat de man is besmet in het hotel waar hij gedurende de behandelingscyclus verblijft. In het hotel worden in sommige leidingen hoge concentraties *Legionella* gevonden: 30.000 kolonievormende eenheden per liter (kve/l). Het is een eenvoudig familiehotel, waar wel vaker patiënten uit het buitenland verblijven op kosten van de zorgverzekeraar. De patiënt herstelt uiteindelijk van de legionellose en de zorgverzekeraar wijst een ander hotel aan waar hij gedurende de rest van de chemotherapie kan verblijven. De man benadrukt dat hij veel liever naar zijn oude hotel teruggaat, waar het gezelliger is en lekkerder eten wordt geserveerd. In het hotel wordt, net als in alle andere hotels, twee keer per jaar een wettelijk verplicht *legionella*-onderzoek gedaan door een gecertificeerd bedrijf. Het blijkt dat het hotel naar aanleiding van deze onderzoeken, in het verleden een aantal keer verzuimd heeft actie te ondernemen na het constateren van te hoge *legionella*-concentraties.

Stap 1: De morele vraag

De casus roept op verschillende niveaus ethische vragen op. Ten aanzien van deze patiënt is het de vraag of hem niet toch de mogelijkheid moet worden geboden om naar hetzelfde hotel terug te gaan als hij dat graag wil, of dat hij juist moet worden tegengehouden. Er doet zich ook een meer algemene kwestie voor: de veiligheidseisen met betrekking tot *legionella* zijn wettelijk gezien gelijk voor ziekenhuizen en hotels. Het veiligheidsbeleid daarentegen is in ziekenhuizen vaak strikter dan in hotels. Toch verblijven sommige patiënten, met instemming van behandelaar en zorgverzekeraar, tijdens hun behandeling in hotels. Is dat aanvaardbaar? Of is verdergaande infectiepreventie geboden als een kwetsbare patiënt gedurende de behandeling in een hotel verblijft? Dit is vooral ook een ethische vraag omdat de reikwijdte van de verantwoordelijkheid van de behandelaar en het ziekenhuis ter discussie staat: zouden zij stappen moeten ondernemen om het besmettingsrisico verder te beperken? We beperken ons tot deze beleidskwestie.

Stap 2: Inventarisatie van risico's en handelingsopties

[505] (Verweij, Trompenaars, Donkervoort, et al. 2012).

Legionella-bacteriën, *Legionellacae*, zijn te vinden in waterige milieus of in de bodem. In het distributienet van de waterleiding liggen de waarden vrijwel altijd beneden de detectiegrens (50 kve/l), maar bij een eindgebruiker kunnen veel hogere waarden gemeten worden. *Legionella* kan eenvoudig groeien in stilstaand en/of lauw water.

Legionella-infecties ontstaan wanneer besmet water wordt ingeademd, bijvoorbeeld tijdens het douchen. Een *legionella*-infectie kan leiden tot een griepachtige ziekte maar ook tot een ernstige longontsteking. In dat geval is vaak behandeling op de afdeling intensive care nodig. De sterfte onder legionellosepatiënten in Nederland wordt geschat op 5-10%. Patiënten met een verzwakt immuunsysteem hebben een verhoogde kans om te overlijden aan de ziekte.

Hotels en ziekenhuizen moeten minimaal twee keer per jaar het water laten testen op *legionella*. Zij zijn daar zelf verantwoordelijk voor: sinds juli 2011 moet de Inspectie Leefomgeving en Transport (ILT) gewaarschuwd worden als er meer dan 1000 kve/l wordt gevonden maar er moeten al preventiemaatregelen genomen worden vanaf 100 kve/l. (2) In ziekenhuizen met oncologie- of transplantatieafdelingen is men in de praktijk strenger: er wordt op veel meer punten gemeten, en ook worden meestal al bij nog lagere concentraties preventiemaatregelen genomen. Dus wanneer oncologie- of andere hoogrisicopatiënten gedurende de behandeling in een hotel verblijven, kan overwogen worden om ook hen extra bescherming te bieden. Verschillende opties zijn denkbaar:

1. Omdat hotels vaak een minder streng legionella-regime hanteren, kan aan hoogrisicopatiënten die voor behandeling naar Nederland zijn gekomen aangeboden worden om gedurende hun behandeling in het ziekenhuis te verblijven of (indien beschikbaar) een aan het ziekenhuis verbonden zorghotel.
2. Het ziekenhuis of de zorgverzekeraar kan bij de wettelijke toezichthouder, de ILT informeren naar het legionellabeheer. De ILT kan indien nodig een extra controle laten uitvoeren.
3. De behandelaar kan de patiënt voorlichten over het risico van een legionella-besmetting en mogelijkheden geven om dit risico te verkleinen door bijvoorbeeld niet te douchen en zich te wassen met flessenwater.
4. De behandelaar kan het hotel of de patiënt een legionellafilter ter beschikking stellen, of aanraden deze aan te schaffen.
5. Het is ook denkbaar dat geen speciale maatregelen worden getroffen.

Stap 3: Bezwaren tegen mogelijke interventies

De eerste optie, ziekenhuisopname gedurende de hele behandeling is een zeer kostbare zaak. Voor veel patiënten zal deze optie bovendien niet aantrekkelijk zijn omdat zij, net als de patiënt in deze casus, een prettige leefomgeving prefereren boven veiligheid. Een zorghotel dat aan het ziekenhuis is verbonden biedt alleen meerwaarde boven gewone hotels als het beleid ten aanzien van legionella overeenkomstig het beleid van het ziekenhuis is.

De tweede optie is niet voor het ziekenhuis, maar voor het hotel een mogelijk dure aangelegenheid. Wanneer de leidingen in het hotel vaker of op meer plaatsten getest worden, moeten mogelijk ook vaker (en extra) maatregelen worden genomen. Het lijkt niet redelijk om van het hotel te verwachten dat het opdraait voor kosten voor maatregelen die ver uitstijgen boven die van een gewoon hotel. Bovendien is het denkbaar dat veel hotels ‘positief’ zullen zijn als zij vaker worden getest. Hierdoor is het vooraf extra testen van hotels ook onpraktisch: voordat een patiënt zijn intrek neemt in het hotel, zullen extra testen moeten worden verricht, maar als het hotel niet aan de eisen voldoet, moet tijdig een ander hotel gevonden worden. Het alternatief is dat zorgverzekeraars en ziekenhuizen een overzicht maken van alle hotels waar tijdelijk kwetsbare patiënten worden gehuisvest, en de ILT vragen om hier extra toezicht te houden. Het is echter de vraag of de ILT bereid is om verschillende controleniveaus te hanteren voor hotels – temeer daar ook voor ziekenhuizen geen strenger controleniveau geldt.

Tegen de optie om de patiënt te informeren over het risico van een *legionella*-besmetting lijkt weinig in te brengen. Echter, het advies om niet te douchen en zich alleen te wassen met flessenwater is bezwaarlijk omdat dit voor de patiënt zeer belastend kan zijn/is. Het is ook de vraag hoe lang men het volhoudt om flessenwater voor het wassen op te warmen. De extra kosten van flessenwater zijn te overzien. Dat laatste geldt echter ook voor de kosten van de vierde optie: een *legionella*-filter (ruim beneden de 100 euro).

Het bezwaar tegen de laatste optie – geen aanvullende maatregelen treffen – is vooral dat patiënten met een verzwakt immuunsysteem een verhoogd risico lopen op ernstige ziekte en daardoor kunnen overlijden. Alhoewel dit ook geldt voor patiënten die thuis verblijven tijdens de behandeling, is de kans op het oplopen van legionellose thuis kleiner dan in een hotel, en zeker in vergelijking met oudere hotels met een gedateerd leidingstelsel.

Stap 4: Plichten, rechten en verantwoordelijkheden

De kwestie is wie de verantwoordelijkheid draagt voor het beperken van het *legionella*-infectierisico bij patiënten met een verhoogd risico. Hotels moeten zich houden aan wettelijke normen met betrekking tot het *legionella*-beschermingsniveau voor de gemiddelde clientèle, maar dit niveau is niet afgestemd op hoogrisicopatiënten. De wettelijke norm voor legionellabeheer is in hotels niet anders dan in ziekenhuizen. Alleen het beleid nadat er legionella is aangetoond, is in een ziekenhuis anders: dan moeten ook niet-aerosolvormende tappunten als mogelijke besmettingsbron gezien worden. Tenzij een hotel zich nadrukkelijk zou afficheren als een verblijf voor patiënten die gedurende langere tijd behandeld moeten worden, is het niet redelijk om van een hotel te verwachten dat het ‘bescherming op maat’ biedt tegen *legionella*-infecties.

De behandelend arts en het ziekenhuis, daarentegen, hebben wel een verantwoordelijkheid om ‘bescherming op maat’ mogelijk te maken. Het verhoogde risico op een *legionella*-infectie tijdens een chemokuurbehandeling is een direct gevolg van die kuur zelf. Een arts behoort de bijwerkingen van een behandeling zoveel mogelijk te beperken. Natuurlijk is blootstelling aan *legionella* geen gevolg van de behandeling, maar de verhoogde gevoeligheid voor de infectie is dat wel.

Vanwege de kwetsbare conditie van veel patiënten worden zeer hoge eisen gesteld aan infectiepreventie in ziekenhuizen. In het verleden was het meer gebruikelijk om patiënten – ook vanwege hun kwetsbaarheid – voor langere tijd op te nemen in het ziekenhuis. Met het oog op de kosten worden opnames tegenwoordig zoveel mogelijk beperkt. Door patiënten, ook tijdens hun chemokuurbehandeling, zoveel mogelijk buiten het ziekenhuis te laten verblijven wordt echter *de facto* een verhoogd infectierisico geaccepteerd, en dat is reden om de verantwoordelijkheid van het ziekenhuis – en in het verlengde daarvan wellicht ook de zorgverzekeraar – te benadrukken. Van de arts mag in ieder geval verwacht worden dat hij goede informatie geeft over infectierisico’s tijdens de behandeling. Het verstrekken van goede informatie betekent tevens dat de patiënt een overwogen keuze kan maken voor zijn verblijf tijdens de behandeling en daarmee dus ook een gedeelte van de verantwoordelijkheid op zich neemt. Infectierisico’s zijn nooit helemaal uit te sluiten, en voor alle partijen geldt dat de kosten van infectiepreventie in verhouding moeten staan tot het risico en de effectiviteit van de maatregelen. In dat licht is het zinvol en redelijk dat het ziekenhuis voor deze specifieke patiënten, die een verhoogd risico op legionellose lopen omdat ze in een hotel moeten verblijven, een *legionella*-filter voor kraan en douche ter beschikking stelt.

Stap 5: Conclusie en argumentatie

De behandelend arts behoort patiënten met een verzwakt immuunsysteem te informeren over infectierisico’s en dat geldt zeker wanneer de gevoeligheid voor infecties het gevolg is van de gegeven behandeling. Patiënten hebben een eigen verantwoordelijkheid om infectierisico’s te vermijden, maar in sommige omstandigheden – zoals tijdens het verblijf in een hotel – is dat niet goed mogelijk. Aangezien

(a) arts en ziekenhuis verantwoordelijkheid dragen voor het beperken van bijwerkingen van een behandeling, (b) het risico eenvoudig en zonder hoge kosten kan worden beperkt met een filter voor op de kraan en douche, en (c) het jaarlijks om een klein aantal patiënten gaat die in een hotel moeten verblijven tijdens hun behandeling, is het redelijk dat het ziekenhuis de filters beschikbaar stelt.

Stap 6: Resterende vragen

De informatieplicht die artsen hebben ten aanzien van infectierisico's tijdens en na de behandeling moeten zij naar alle patiënten nakomen. Echter, ziekenhuizen die vaker patiënten hebben die gedurende een (immuniteit onderdrukkende) behandeling in een hotel verblijven, zouden het beleid moeten aanscherpen.

GGD-artsen kunnen de ziekenhuizen hierop wijzen. Verder kan onderzocht worden in hoeverre de ILT bereid en gerechtigd is om extra toezicht te houden op geselecteerde hotels.

Literatuur

1. LCI-richtlijn Legionellose.
2. Drinkwaterbesluit 2011. Besluit van 23 mei 2011, houdende bepalingen inzake de productie en distributie van drinkwater en de organisatie van de openbare drinkwatervoorziening.

Plane crash

Case description	Moral problem	Conclusion
A Turkish airliner crashed just prior to landing at Schiphol airport. The MHS learns that passengers with open wounds had crawled over each other while exiting the plane.	Should surviving travellers be offered post-exposition vaccination against hepatitis B?	There are no weighty reasons for vaccination, but also no weighty reasons not to offer surviving travellers post exposition vaccination.

Hepatitis B-preventie na de vliegramp[506]

M.F. Verweij, R. Appels, R. Riesmeijer, A. Krom, J.E. van Steenbergen

Op 25 februari 2009 crashte een passagiersvliegtuig van Turkish Airlines vlak voor de landing op Schiphol. Het toestel had 125 passagiers en 7 bemanningsleden aan boord. Negen personen overleden, 120 raakten gewond. (1) De ernstig gewonden onder hen hadden botbreuken, hersenschuddingen en open wonden; ze werden behandeld in 11 ziekenhuizen en 2 traumacentra. De dag na het ongeval sprak een van de slachtoffers bij zijn arts zijn zorg uit over het feit dat er na de crash overal bloed lag in het vliegtuig: zou dat misschien tot besmettingen kunnen leiden? Bij navraag bleek dat er inderdaad veel bloed lag, en dat passagiers met wonden over elkaar heen waren gekropen. Binnen het scala aan mogelijkheden van infectierisico's werd vooral aan besmetting met hepatitis B gedacht. In Turkije is hepatitis B endemisch, en waarschijnlijk was een relatief groot aantal van de passagiers van Turkse herkomst. Passagiers die in aanraking met bloed van anderen zijn gekomen, zouden tegen infectie kunnen worden beschermd door postexpositievaccinatie. Zo'n interventie is echter niet gebruikelijk bij rampen of ongelukken.

Stap 1: De morele vraag

Moet aan slachtoffers van de vliegramp postexpositievaccinatie tegen hepatitis B worden aangeboden? Het gaat om een ogenschijnlijk klein risico, dat in contrast staat tot de ramp die de slachtoffers hebben meegemaakt. Men zou kunnen redeneren dat de slachtoffers hier niet ook nog mee belast moeten worden, maar evengoed kan gesteld worden dat het onjuist is om hen een effectieve bescherming tegen hepatitis B te ontzeggen.

Stap 2: Inventarisatie van risico's en handelingsopties.

Hepatitis B is een ernstige infectie die kan leiden tot acute hepatitis en tot chronisch dragerschap, dat op zich weer kan leiden tot levermaligniteiten en ernstige levercirrose. De prevalentie van hepatitis B-dragerschap in Turkije wordt geschat op 2-5%. (2) Aannemende dat een groot aantal passagiers van Turkse herkomst is, mogelijk ook uit gebieden waar de prevalentie relatief hoog is, is het redelijk om te veronderstellen dat enkele passagiers HBsAg-positief waren. Mogelijk zijn slachtoffers met open wonden in aanraking geweest met het bloed van anderen – en die anderen zouden HBsAg-positief kunnen zijn. Besmetting kan bovendien via slijmvliezen plaatsvinden. Ook al was er maar een enkele HBsAg-positieve passagier of bemanningslid aan boord, het is denkbaar dat meerdere inzittenden met het bloed van die

[506] (Verweij, Appels, Riesmeijer, et al. 2011).

persoon in aanraking zijn gekomen. De kans op blootstelling aan hepatitis B tijdens en na het ongeluk zal echter waarschijnlijk klein zijn geweest. Bovendien is in hoogrisicogebieden in Turkije bijna 50% van de bevolking seropositief en dus beschermd tegen hepatitis B. (3) Niettemin, door de slachtoffers zo snel mogelijk profylactisch te vaccineren tegen hepatitis B kan wellicht een enkel geval van besmetting worden voorkomen. Dat is belangrijk vanwege de ziektelast en complicaties en het voorkomt eventuele vervolgbesmettingen via bijvoorbeeld seksueel contact. Profylaxe bestaat uit actieve vaccinatie met hepatitis B-vaccin, en op indicatie ook passieve immunisatie door antistoffen. Profylaxe dient echter wel zo spoedig mogelijk gegeven te worden, bij voorkeur binnen 24 uur maar uiterlijk binnen 7 dagen.

Globaal zijn er 3 handelingsopties:

1. Alle slachtoffers benaderen – al dan niet via hun behandelend arts – met een vaccinatieaanbod. Bij deze optie ligt het voor de hand om alleen vaccinatie te adviseren als de persoon verwondingen heeft.
2. Alle slachtoffers met verwondingen testen op HBsAg en vaccinatie aanbieden aan passagiers die dicht bij een HBsAg-positief persoon hebben gezeten.
3. Geheel afzien van een vaccinatieaanbod.

Stap 3: Bezwaren tegen mogelijke interventies

Het belangrijkste bezwaar tegen de laatste optie (afzien van een vaccinatieaanbod) is dat er nu eenmaal een kans is – zij het een kleine – dat een of meerdere passagiers zijn blootgesteld aan hepatitis B. Deze optie is alleen te verdedigen als er belangrijke bezwaren kleven aan de interventies en/of als het risico om hepatitis B op te lopen te verwaarlozen is. De bijwerkingen van het vaccin zijn minimaal. De WHO beveelt zonder meer universele vaccinatie aan, zowel in landen waar de infectie endemisch is, als in landen met een lage prevalentie. Ook in Nederland wordt universele vaccinatie ingevoerd.

Een bezwaar bij optie 2 is dat het testen van de gewonden tijd kost en dat mogelijk niet alle passagiers meer te bereiken zijn, sommigen hebben het land al weer verlaten. En de overleden passagiers – die mogelijk juist veel bloed verloren – worden niet getest. Daarnaast zou het niet wenselijk kunnen zijn om overlevenden van een ramp ook nog eens te confronteren met een positieve hepatitis B-testuitslag.

Een andere manier om een risicoselectie te maken is het benaderen van alle slachtoffers – voor zover mogelijk – en hun vaccinatie aan te bieden als zij mogelijk bloed-bloedcontact hebben gehad (optie 1). De centrale vraag is natuurlijk of de kans op besmetting voldoende groot is om hiertoe over te gaan.

Een bezwaar tegen zowel optie 1 als optie 2 is dat een postexpositie-interventie tot nog meer onrust onder de slachtoffers kan leiden. Moeten zij niet juist tegen verdere zorgen beschermd worden? Ook dit argument is te nuanceren. Na hetgeen de passagiers en bemanningsleden hebben meegemaakt – ze zijn ontsnapt aan de dood – zal die extra onrust voor velen maar een relatief klein ongemak zijn. Een andere, praktische overweging is dat beide interventies logistiek ingewikkeld kunnen zijn – slachtoffers moeten worden opgespoord en geïnformeerd, en wellicht moet voor iedere persoon een risico-inschatting worden gemaakt. Een laatste overweging is het precedentkarakter. Als nu wordt ingegrepen, betekent dit dan dat in principe altijd een vaccinatie overwogen moet worden bij grote en wellicht ook bij kleine ongevallen waarin meerdere mensen verwondingen hebben?

Stap 4: Plichten, rechten en verantwoordelijkheden

De centrale verantwoordelijkheid van de arts infectieziektebestrijding is om, waar mogelijk, infectie te voorkomen. De kwestie in deze casus is of het infectierisico van dien aard is dat ingegrepen moet worden. Een betrouwbare risico-inschatting is niet te geven. Het is aannemelijk dat enkele inzittenden HBsAG-positief positief, en dus besmettelijk waren. Het risico op besmetting is zeer klein, maar niet helemaal te verwaarlozen. Gegeven de ernst van de aandoening voor het slachtoffer, en de mogelijkheid dat ook weer

anderen (bijvoorbeeld een seksueel contact) worden besmet, is een vaccinatiestrategie te verdedigen. Echter, ook afzien van een vaccinatieaanbod kan redelijk zijn. Op dit punt is het precedentkarakter relevant. Juist omdat dit soort situaties zich vaker voor doen, op grote dan wel kleine schaal, is het niet verantwoord om nu zonder meer het zekere voor het onzekere te nemen.

Stap 5: Conclusie en argumentatie

De kans op overdracht is waarschijnlijk zeer klein, maar niet verwaarloosbaar. Omdat er geen belangrijke bezwaren zijn tegen vaccinatie, is het te verdedigen om vaccinatie aan te bieden aan de gewonde passagiers en bemanningsleden die mogelijk contact hebben gehad met het bloed van anderen (optie 1). Aan de andere kant kan, gezien het zeer kleine infectierisico, niet geconcludeerd worden dat ingegrepen moet worden. Eigenlijk zijn er dus geen zwaarwegende redenen om tot vaccinatie over te gaan, maar ook niet om het achterwege te laten.

Stap 6: Concrete maatregelen en resterende vragen

Op 27 februari, 2 dagen na de ramp, werd besloten om slachtoffers vaccinatie aan te bieden. De ziekenhuizen waar nog slachtoffers waren opgenomen werden diezelfde dag geïnformeerd, en deze groep patiënten kon dus relatief snel gevaccineerd worden. De al ontslagen patiënten konden niet meer via de ziekenhuizen worden bereikt. Het kostte enkele dagen om de lijst met namen en (telefoon)gegevens compleet te krijgen Bovendien vond men het niet wenselijk om hen in het weekend te waarschuwen, omdat zij dan niet meteen gevaccineerd zouden kunnen worden. De passagiers uit het buitenland werden door Turkish Airlines geïnformeerd over de mogelijkheid van vaccinatie. De overige slachtoffers werden benaderd via regionale GGD'en. Omdat de vaccinaties vooral op de 6e en 7e dag na de ramp werden gegeven, zal de beschermende werking waarschijnlijk beperkt zijn geweest. Dat laatste onderstreept de zin van een heldere richtlijn – ter ondersteuning van snelle besluitvorming – voor postexpositievaccinatie bij rampen en ongelukken.

In de dagen na de vliegramp – en ook in de casusbespreking een jaar later – leidde de mogelijke precedentwerking tot enige terughoudendheid. Dat is wellicht terecht, maar ook dat is reden om na te gaan of een meer algemene richtlijn geformuleerd kan en moet worden. In de Verenigde Staten is die er overigens wel: de CDC adviseert een 'liberaal gebruik' van hepatitis B-vaccin bij verwondingen na bijvoorbeeld een bomaanslag. In het advies laat de CDC zich alleen leiden door de mate van blootstelling aan met name bloed. (4)

Literatuur

1. OVV 2010. Neergestort tijdens nadering, Boeing 737-800, nabij AmsterdamSchipholAirport, 25 februari 2009. Den Haag: Onderzoeksraad Voor Veiligheid.
2. Gurol E, Saban C, Oral O, Cigdem A, Armagan A. Trends in hepatitis B and hepatitis C virus among blood donors over 16 years in Turkey. *Eur J Epidemiol*, 2006 (21): 299-305.
3. Mehmet D, Meliksah E, Serif Y, Gunay S, Tuncer O, Zeynep S. Prevalence of hepatitis B infection in the Southeastern region of Turkey: comparison of risk factors for HBV infection in rural and urban areas. *Jpn J Infect Dis* 2005;58:15-19.
4. Chapman LE, Sullivent EE, Grohskopf LA, Beltrami EM, Perz JF, Kretsinger K, et al. Recommendations for postexposure interventions to prevent infection with hepatitis B virus, hepatitis C virus, or human immunodeficiency virus, and tetanus in persons wounded during bombings and other mass-casualty events-United States, 2008: recommendations of the Centers for Disease Control and Prevention (CDC). *MMWR Recomm Rep* 2008; 57: 1-21.

Annex 2: Case selection – methodology

As part of the ZonMw project "Infectious Disease Control and the Harm Principle", a series of case discussions was organised with public health professionals from the Netherlands Centre for Infectious Disease Control (CIb/LCI) and several Dutch Municipal Health Services.[507] The discussions aimed at: (1) promoting ethical reflection and contributing to responsible decision-making in infectious disease control; and (2) creating interaction between the theoretical part of the project (this study) and the practical part of the project (the case discussions).

It was agreed beforehand that the case discussions would be submitted to *Infectieziekten Bulletin*, the peer-reviewed journal for infectious disease professionals in the Netherlands. Relevant considerations for the number of case discussions to publish included: (i) giving a sufficient overview of different types of moral problems in infectious disease control; and (ii) allowing for a learning effect in the wider community of infectious disease professionals. In the end 10 case discussions were organised, 9 of which have been published.[508] This annex describes the method by which these cases were selected.

Most cases were selected from "CRIos", a digital case register at the Netherlands Centre for Infectious Disease Control.[509] The selection was performed by (alphabetically): Aukje Kranen (student applied ethics, Utrecht University, UU), André Krom (PhD-student, Dept. of Philosophy, UU), Babbete Rump (Municipal Health Service GGD Midden-Nederland), and Marcel Verweij (senior lecturer of ethics, Dept. of Philosophy, UU). All team members signed a pledge of confidentiality.

To promote ethical reflection and contribute to responsible decision-making in infectious disease control, a selecting was made of a *diversity* of cases representing different moral problems in infectious disease control. The inventory of moral problems provided below was created in the course of examining CRIos, and is not claimed to be exhaustive.[510]

1. An intervention is considered that (negatively) affects a person's well-being;
2. An intervention is considered that (negatively) affects a person's liberty;
3. An intervention is considered that (negatively) affects a person's privacy;
4. Connection/ interference between the responsibility of citizens and responsibility of infectious disease professionals;
5. Infectious disease professionals may have a duty to inform citizens about infection risks;
6. Should small infection risks be prevented/ excluded, or are they acceptable?;
7. Treatment/ diagnostics is considered for the benefit of others;
8. Prioritisation in case of scarce resources;
9. Taking measures to reduce unrest;
10. Sacrificing animals.

[507] See Annex 1: Case discussions.

[508] To make sure that the articles submitted to the *Infectieziekten Bulletin* would sufficiently reflect the complexity of the case discussions, the discussions were recorded. All recordings were destroyed on submitting the articles. Unfortunately, one case discussion – involving the issue of priority-setting in the face of scarcity – was not recorded properly. As a result we did not submit an article on this case.

[509] The CIb/LCI is consulted over a thousand times a year by health professionals about how to deal with cases of infectious diseases, suspicions, or other preventive concerns (Urbanus, Moorer, en Swaan 2012).

[510] Preventing and combating infectious diseases is an important ethical issue in itself. However, *as such* that issue is unsuitable for case selection (because it applies to all cases). Cf. Introduction.

At the start of the selection process a *pilot* was organised.[511] The main aims of the pilot were to (A) adjust and/or refine, if necessary, our initial ideas about the moral issues involved in infectious disease control, and (B) to develop a more or less shared and standardised way of reviewing the cases. A rather loose criterion of what counts as a moral problem or aspect was employed – e.g. when a case seemed to involve a conflict of values or obligations.[512] By reflection on the overlap and differences among the results of the different researchers, the criteria could be adjusted if necessary.

To attain a more or less standardised way of reviewing the cases, all four researchers independently reviewed the first 60 cases in the relevant period (starting from 1-1-2009 and moving forward in time). Excel sheets were used to map – among other things – the case number in CRIos, the disease involved, and the moral issue at stake. Additionally, each team member had to score the case as either being a "candidate for the long list", "uninteresting", or as a "doubtful case". The results were then discussed amongst the group. As a result, the initial list of moral issues (1, 2, 4, and 6) was complemented by issues 3, 5 and 7. The list was further refined by presenting it to experienced public health professionals at the CIb/LCI, amongst others at one of the regular weekly meetings at the CIb/LCI during which (difficult) cases of the preceding week were discussed. In this stage moral issues 9 and 10 were added. The discussion also yielded a better understanding of the factual issues in specific moral problems in infectious disease control, and resulted in selecting the "Cats at the airport" case.

After the pilot the other cases in CRIos were reviewed by at least two researchers, following the same procedure as before (and pertaining to the same period as stated above). After reviewing the cases independently the cases were compared and discussed in pairs. As a final step the two researchers had to briefly explain the outcome to at least one of the other team members and to defend their choice to classify the case the way they did: What is the moral problem? Should the case be selected for further discussion?[513]

The aim of the examination of the case register was to keep reviewing cases until at least 60 cases with moral dimensions had been found, and no apparently 'new' types of moral problems had been encountered in the last 15 cases found.[514] Based on a review of all 338 cases from the period 1-1-2009 until 15-5-2009 we selected 61 cases with a clear ethical aspect. This selection included: "Call girl", and "Plane crash". The "Day Care" case was suggested by Babette Rump after further discussion. It was similar to one of the 61 cases that had been selected. The "Day care" case was chosen because it was more complex (the other case did not include a volunteering pregnant mother).

At that point we realised that we were still missing cases of infectious disease control involving large groups of people at the same time, particularly in care facilities and schools. To account for such situations it was decided to perform a *directed* search in CRIos for cases prior to 1-1-2009. We searched for (a) cases involving the norovirus as a reason for cancelling activities in a retirement home, (b) cases involving MRSA at a "care farm",[515] and (c) cases involving measles at schools attended by many children of parents choosing not to have their children vaccinated. We did not find any cases corresponding to (a)

[511] CIb/LCI, 13 May 2009.

[512] This exploratory screening of the database raises methodological questions, given that an exact and valid 'screening test' for what counts as a moral problem would perhaps require a complete philosophical discussion of the nature of morality, which goes well beyond the scope of this study.

[513] In the final stage of the selection process some cases were defended to *one* of the other team members: 24 of the 61 cases that made it to the long list. Of the other cases on the long list 21 cases were both reviewed by and defended to two team members, while 16 cases were reviewed by all four team members.

[514] A long list of 60 cases was thought to provide a large enough number of cases for the final selection.

[515] In Dutch: "zorgboerderij".

and (b). However, the search did yield three interesting cases involving MRSA. From these three cases the "Medical student" case was chosen. We also found two cases corresponding to (c). From these two cases the "Anthroposophic school" case was chosen. Decisive factors were being more complex than the alternative cases, and allowing for discussion of moral issues that were not covered by the cases that had already been selected at that stage.

Still missing about 4 cases (to cover all moral issues on the list), it was decided to also review all cases in CRIos in the period 12-5-2009 until 1-7-2009. This search did not yield any new moral issues, but also did not yield cases that were considered complex enough to serve as clear examples of how explicit ethical reflection can contribute to responsible decision-making in infectious disease control. The remaining cases – "Medical tourist", "Group travel" and "Entrepreneur" – were selected after consulting Jim van Steenbergen (head of the CIb/LCI at that time) and Babette Rump. The "Medical tourist" and "Group travel" cases were suggested for involving a clear question about the division of responsibilities between citizens and health professionals/ care facilities. The "Entrepreneur" case was suggested as a case involving a disease for which – at that time – the Dutch Public Health Act allowed highly intrusive measures including mandatory isolation during the contagious period of a disease.[516]

The table below shows that the selection of cases is representative of all "disease groups" contained in the Dutch Public Health Act.[517]

Table 3: RIVM case discussions & the disease groups of the Dutch Public Health Act

Disease group	Infectious disease	Case(s)
A	New Influenza A (H1N1)	Entrepreneur
B1	Rabies	Cats at the airport
B2	Hepatitis B Measles Shigellosis	Call girl, Plane crash Anthroposophic school Group travel
C	Legionellosis MRSA	Medical tourist Medical student
Other	Parvo virus B19	Day care

[516] New Influenza A (H1N1) had been placed in Group A as of 1 May 2009 by way of (Wet publieke gezondheid, subsection 1 of section 20). When the pandemic was over the disease was removed from Group A.

[517] See §5.2 for the rationales behind the grouping of diseases.

Annex 3: Refining the Requisite of Reasonableness

The table below summarises a range of considerations put forward by (Dute 1994, 152–155 and references) as refinements of the Requisite of Reasonableness.[518] The considerations can also be helpful in setting the threshold for the use of coercion, and must always be used in an interconnected way.

Table 4: Prima facie considerations pro or contra liberty restriction

Prima facie considerations pro or contra liberty restriction	Pro liberty restriction	Contra liberty restriction
The more serious the disease	*	
The quicker a disease can spread	*	
If the disease is transmitted through the air or faecal–orally	*	
The more persons are threatened by the disease	*	
The more behaviour-dependent transmission is	*	
The shorter a person is contagious	*	
The better a disease can be medically treated	*	*
The more a disease is socially controversial		*
The more surrounding-dependent transmission is		*
The more a disease has already spread		*
The easier one can protect him/herself against transmission		*
The more possibilities to reduce harm after contagion		*
The more individual basic rights are violated		*
If an intervention is not effective or hardly effective		*
If less intrusive interventions are effective		*
If interventions not aimed at individuals are effective		*

[518] See §5.1.3.

Annex 4: Figures and tables

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Samenvatting

Vrijwel elke situatie waarin wij als mens terecht kunnen komen, brengt een risico met zich mee om een besmettelijke ziekte op te lopen. Besmettelijke ziektes zijn er in allerlei soorten en maten. Ze verschillen bijvoorbeeld in de manier waarop ze kunnen worden overgedragen en hoe makkelijk. Veel ziektes kunnen al worden overgedragen als een besmettelijke persoon nog geen symptomen heeft. Het kan om relatief milde ziektes gaan, maar ook om ziektes die ernstige gevolgen kunnen hebben of zelfs levensbedreigend zijn. Als geen beschermende maatregelen worden genomen, dan kunnen hele gemeenschappen worden besmet, variërend van kleine gemeenschappen (gezinnen, onze vriendenkring) tot bedrijven en zorginstellingen. Als ook zorgverleners, politiemensen en brandweerlieden worden besmet, dan kan zelfs de vitale structuur van de samenleving in het geding komen. Om zulke effecten tegen te gaan hebben de meeste landen een meer of minder omvattend systeem van infectieziektebestrijding opgezet, en is wetgeving aangenomen die een juridische basis biedt voor mogelijk ingrijpende preventieve maatregelen. Als menselijk contact een bron van besmetting is, kan het bijvoorbeeld nodig zijn om contact tussen mensen te begrenzen en hun vrijheid te beperken.

Infectieziektebestrijders moeten dag in dag uit morele keuzes maken over hoe om te gaan met infectierisico's. Wettelijke regelingen, professionele richtlijnen en verpleegkundige stappenplannen geven hen daarbij een zeker houvast. Een 'zeker houvast', want hoewel de *Wet publieke gezondheid* infectieziektebestrijders bepaalde bevoegdheden geeft om preventieve maatregelen tegen infectierisico's te nemen, moeten zij nog altijd zelf een afweging maken of ze in specifieke omstandigheden van die mogelijkheden gebruik willen maken. Ook als wetten, richtlijnen en stappenplannen precies zouden voorschrijven wat infectieziektebestrijders moeten doen om infectierisico's te beperken, moeten zij nog altijd een afweging maken of het professioneel verantwoord is om de voorgeschreven handeling uit te voeren. Morele keuzes in de infectieziektebestrijding vereisen daarom hoe dan ook ethische reflectie. In de praktijk blijft deze reflectie vaak impliciet.

Deze studie is onderdeel van het ZonMw project "Infectious Disease Control and the Harm Principle". Het project had onder meer tot doel om ethische reflectie in de praktijk van infectieziektebestrijding te bevorderen. Hiertoe is onder andere een reeks interdisciplinaire

casusbesprekingen georganiseerd waarin expliciet aandacht werd besteed aan de ethische aspecten van infectieziektebestrijding en aan het afwegen van verschillende morele waarden. In deze studie onderzoek ik of de maatregelen die infectieziekebestrijders juridisch ter beschikking staan om infectierisico's te beperken, moreel gerechtvaardigd kunnen worden met een beroep op het *schadebeginsel*. Grofweg houdt het schadebeginsel in dat de overheid mensen mag dwingen om schade aan derden te voorkomen. Het schadebeginsel is sinds medio jaren '90 het centrale argument in het Nederlandse infectieziektebeleid. Ik onderzoek of het mogelijk is om een versie van dit morele principe te formuleren die door uiteenlopende normatieve theorieën kan worden ondersteund, en die als basis kan dienen voor concrete besluitvorming in de praktijk.

Normatieve theorieën bepalen elk op een andere manier wat moreel juist is om te doen. Een principe dat door verschillende normatieve theorieën wordt ondersteund, wordt een "mid-level" principe genoemd. Als ze houdbaar zijn, fungeren zulke principes als een brug. Om te beginnen vormen ze een brug *tussen mensen*, door in een gemeenschappelijk vocabulaire te voorzien – bijv. dat besmettelijk zijn als mogelijke schade aan derden kan worden gezien. Ze vormen ook een brug *tussen normatieve theorieën*, door uitdrukking te geven aan overeenkomsten tussen theorieën – bijvoorbeeld dat schade aan derden voorkomen moet worden. Tot slot beogen mid-level principes een brug te vormen *tussen theorieën en de praktijk* waarin concrete handelingen gerechtvaardigd moeten worden, door na te gaan of fundamentele verschillen tussen normatieve theorieën er ook in de praktijk toe doen. Het belang van dergelijke brugprincipes is eenvoudig in te zien. Vooral bij maatregelen die sterk in ons leven ingrijpen, is het redelijk om te eisen dat hier een sterke rechtvaardiging voor kan worden gegeven. En dat is, zo zal ik betogen, precies waar een brugprincipe in kan voorzien. Zeker als uiteenlopende normatieve theorieën via dat principe dezelfde concrete maatregelen kunnen rechtvaardigen.

In hoofdstuk 1 onderzoek ik welke vorm het schadebeginsel moet aannemen om maatregelen om infectierisico's te beperken, succesvol te kunnen rechtvaardigen. Daartoe moeten infectieziektes, en de manier waarop deze kunnen worden verspreid, verbonden worden met termen als "schade" en "schaden". Om uit te leggen hoe een besmettelijke ziekte tot een infectie kan leiden, wordt vaak de metafoor van een ketting gebruikt, de zogeheten infectieketen (*Chain of Infection*). Een infectie onstaat pas als alle schakels van deze ketting verbonden zijn. Individuen kunnen verschillende rollen hebben in de infectieketen. Ik noem dit Situaties van Besmetting (*Situations of Contagions*, SoCs). Ik onderscheid vijf van deze situaties en bespreek

een reeks van maatregelen die daarin genomen kunnen worden om infectierisico's te beperken, zoals isolatie en quarantaine. Vervolgens introduceer ik twee versies van het schadebeginsel, Schadebeginsel 1 (HP_1) en Schadebeginsel 2 (HP_2). HP_1 luidt: 'Het is gerechtvaardigd om de vrijheid van Persoon A te beperken om te voorkomen dat Persoon A schade veroorzaakt aan Persoon B'. HP_2 laat de eis vallen dat Persoon A de *oorzaak* moet zijn van mogelijk schade aan Persoon B, wil het gerechtvaardigd zijn om Persoon A te dwingen. HP_2 laat daardoor (nog) meer ruimte voor vrijheidsbeperking. Ik concludeer dat veel maatregelen om infectierisico's te beperken gerechtvaardigd kunnen worden met een beroep op HP_1, maar niet *alle* maatregelen in *alle* Situaties van Besmetting. Voor het verplicht verzamelen van niet-anonieme informatie over individuen is, denk ik, bijvoorbeeld een beroep op HP_2 nodig. Aan het einde van hoofdstuk 1 introduceer ik kort de cases uit de al genoemde casusbesprekingen. Enkele daarvan worden in latere hoofdstukken nader besproken, zoals de "Entrepreneur" casus, waarin werd overwogen om gedwongen thuisisolatie toe passen tijdens de pandemie van de "Mexicaanse Griep" in 2009.

In hoofdstuk 2 werk ik de methodologie van deze studie uit. Eén van de functies van een mid-level principe is het uitdrukken of mogelijk maken van *convergentie* tussen normatieve theorieën. Convergentie kan inhouden dat normatieve theorieën hetzelfde morele principe onderschrijven, dat de theorieën dezelfde concrete maatregelen kunnen rechtvaardigen, of beide. In deze studie bespreek ik een selectie van normatieve theorieën die in belangrijke opzichten van elkaar verschillen, bijvoorbeeld in hoe wordt bepaald wat moreel juist is om te doen: libertarisme, communitarisme, regelutilisme en Scanlon's contractualisme. Ook bespreek ik alleen enkele cases. De studie kan daardoor op zijn best tot de conclusie leiden dat "zwakke convergentie" mogelijk is. Vooral in complexe situaties – bijvoorbeeld wanneer het infectierisico en/of de kans op schade onbekend is – zal een beroep op normatieve theorieën overigens niet volstaan om te bepalen wat juist is om te doen. (Vooral) dan komt het aan op morele oordeelsvorming. De ruimte die verschillende normatieve theorieën open laten voor morele oordeelsvorming, vat ik op als ruimte waarin mogelijk convergentie tussen theorieën gevonden kan worden, en als ruimte waarin mogelijk consensus kan worden bereikt in de praktijk. Wil convergentie normatief gewicht hebben, dan moeten de theorieën waartussen convergentie mogelijk is uiteraard wel tenminste minimaal adequaat zijn (wat dat ook precies moge betekenen).

Als in de infectieziektebestrijding een beroep wordt gedaan op het *schadebeginsel*, dan wordt veronderstelt dat het nodig kan zijn om trade-offs te maken tussen het beschermen van

vrijheid en het beschermen van de volksgezondheid. Infectieziektebestrijding is tenslotte een volksgezondheidskwestie en het schadebeginsel rechtvaardigt immers dwang. Hoofdstuk 3 focust op de "volksgezondheid" kant van mogelijke trade-offs in de infectieziektebestrijding. Het beschermen van de volksgezondheid is een taak van de publieke gezondheidszorg. Ik laat zien dat infectieziekten alle dimensies van de volksgezondheid kunnen beïnvloeden en dat maatregelen om dit te voorkomen in alle relevante opzichten 'publiek' zijn. In de publieke gezondheidszorg is het vrijwel onmogelijk om te bepalen wiens gezondheid precies wordt bevorderd door preventieve maatregelen. Het resultaat van primaire preventie is namelijk dat ziekte *niet* optreedt. Maar hoe kunnen we zeker weten of iemand die na een publieke maatregel niet ziek is geworden, *zonder* die maatregel wel ziek zou zijn geworden? Doordat niet duidelijk is of individuen zelf baat hebben bij preventieve maatregelen, en deze maatregelen zelf ook nadelige gevolgen kunnen hebben (vaccinaties brengen bijvoorbeeld zelf ook risico's met zich mee), kan de motivatie laag zijn om mee te werken aan maatregelen in de infectieziektebestrijding. Vrijheidsbeperkende maatregelen kunnen dan nodig zijn om de volksgezondheid te beschermen.

Kan onze selectie van normatieve theorieën dat rechtvaardigen op basis van het schadebeginsel? Ik laat zien dat, hoewel libertarisme en communitarisme in een aantal belangrijke opzichten van elkaar verschillen, beide theorieën Schadebeginsel 1 (HP_1) kunnen onderschrijven. Ook kunnen beide theorieën tenminste in sommige gevallen van infectieziektebestrijding dwang rechtvaardigen met een beroep op HP_1. Bij Schadebeginsel 2 (HP_2) liggen de zaken anders; HP_2 kan wel door het communitarisme maar niet door het libertarisme worden onderschreven. Ik laat tevens zien dat, hoewel ook het regelutilisme en Scanlon's contractualisme in een aantal belangrijke opzichten van elkaar verschillen, beide theorieën het niet nemen van beschermende maatregelen tegen infectieziekten tenminste in sommige gevallen kunnen beschouwen als het schenden van een plicht om anderen niet te schaden. Een schending van die plicht kan vervolgens extra ondersteuning bieden aan vrijheidsbeperkingen op basis van het schadebeginsel. Alle besproken theorieën wijzen *zero tolerance* van infectierisico's af, en kunnen bij grote infectierisico's vrijheidsbeperkende maatregelen rechtvaardigen met een beroep op het schadebeginsel. Er lijkt daarom tenminste sprake te zijn van zwakke convergentie.

In hoofdstuk 4 concentreer ik me op de "vrijheid" kant van trade-offs in de infectieziektebestrijding tussen vrijheid en volksgezondheid. Ik bespreek enkele belangrijke

verschillen tussen theorieën van vrijheid en dwang, en onderzoek in hoeverre de geselecteerde theorieën maatregelen om infectierisico's te beperken kunnen beschouwen als beperking van individuele vrijheid. Theorieën van vrijheid hebben gemeen dat ze betrekking hebben op een relatie. Vrijheid is een relatie tussen *agents*, *constraints* en *purposes*. We zeggen bijvoorbeeld dat iemand vrij is als hij of zij (een *agent*) niet wordt gehinderd (door een *constraint*) om iets te doen of te worden (een *purpose*). Theorieën van vrijheid verschillen in hoe zij deze begrippen verder invullen. Voor dit onderzoek volstaat een smalle opvatting van "agents". De studie gaat immers over *personen* in verschillende Situaties van Besmetting (SoCs). Ook volstaat een smalle opvatting van "constraints". Ik concentreer me namelijk op de rechtvaardiging van *externe* beperkingen: maatregelen in de infectieziektebestrijding die worden ingezet om te voorkomen dat personen anderen besmetten. Wat verder ook de *purposes* zijn die kunnen maken dat personen geen beschermende maatregelen nemen tegen infectierisico's.

Wanneer is sprake van dwang? Theorieën van dwang vallen in drie groepen uiteen. Om te beginnen kunnen ze al dan niet een *baseline* hanteren om te beoordelen of sprake is van dwang. Het gebruik van een *baseline* houdt in dat de situatie waarin een persoon zich nu bevindt, wordt vergeleken met een andere situatie. Bijvoorbeeld een situatie waarin de persoon zich liever zou bevinden, of wat er normaal gesproken zou gebeuren. Kortgezegd: als de vergelijking negatief uitvalt, is sprake van dwang. Zo'n baseline kan vervolgens al dan niet 'gemoraliseerd' zijn. Een baseline is *gemoraliseerd* als het antwoord op de vraag of sprake is van dwang, berust op een moreel oordeel, bijvoorbeeld dat iemands rechten worden geschonden. Het Nederlandse infectieziektebeleid bevat een combinatie van deze dwangtheorieën. Het maakt onderscheid tussen dwang, drang en overreden, en gaat er van uit dat dwang en sterke drang de vrijheid beperken en een wettelijke basis nodig hebben. De *Wet publieke gezondheid* biedt die wettelijke basis. Ik pas alle besproken dwangtheorieën toe op de "Entrepreneur" casus (zie boven), en laat zien dat een dreigement om de burgemeester te adviseren om thuisisolatie op te leggen als de man en vrouw met de "Mexicaanse griep" niet thuis willen blijven, vanuit al deze perspectieven een beperking van vrijheid is. Dwangtheorieën zullen niet *altijd* hetzelfde antwoord geven op de vraag of een maatregel de vrijheid beperkt. Dat is ook niet nodig voor convergentie. Stel dat een maatregel volgens de ene theorie de vrijheid van een persoon beperkt, maar volgens een andere theorie niet. Als beide normatieve theorieën de maatregel desondanks kunnen rechtvaardigen, dan is de benodigde convergentie behouden.

In hoofdstuk 5 bespreek ik drie problemen voor de mogelijkheid van een mid-level schadebeginsel in de infectieziektebestrijding. Elk van deze problemen heeft te maken met een spanning die bestaat tussen het vinden van een versie van het schadebeginsel waarop normatieve theorieën convergeren, enerzijds, en hoeveel normatieve sturing vervolgens van dat principe verwacht mag worden, anderzijds. Een eerste probleem is dat Schadebeginsel 1 (HP_1), waar onze selectie van theorieën op convergeert, zelf nog erg algemeen is geformuleerd: 'Het is gerechtvaardigd om de vrijheid van Persoon A te beperken om te voorkomen dat Persoon A schade veroorzaakt aan Persoon B'. Zo'n algemeen geformuleerd principe laat nog tamelijk veel ruimte voor onenigheid over in welke gevallen dwang precies gerechtvaardigd kan worden. Ik noem dit het "Constraint" probleem.

Een tweede probleem komt op als we alle standaard maatregelen in alle Situaties van Besmetting (SoCs) zouden willen rechtvaardigen op basis van het schadebeginsel. Daarvoor moeten we ons, zoals gezegd, op Schadebeginsel 2 (HP_2) beroepen: 'Het is gerechtvaardigd om de vrijheid van Persoon A te beperken om schade aan Persoon B te voorkomen'. Probleem is nu dat de besproken theorieën hier niet op convergeren. HP_2 past bijvoorbeeld niet in het libertarisme. Dat we mogelijk moeten kiezen tussen het behouden van convergentie en het kunnen rechtvaardigen van alle maatregelen in alle Situaties van Besmetting met een beroep op het schadebeginsel, noem ik het "Trade-off" probleem.

Het "Constraint" probleem kan worden verkleind als we *aanvullende* mid-level overwegingen kunnen vinden die helpen om het bereik (de *scope*) van het schadebeginsel te beperken. Ik laat zien dat onze selectie van theorieën convergeren op een reeks van overwegingen die in het Nederlandse infectieziektebeleid zijn verankerd, en die inderdaad kunnen helpen om het bereik van het schadebeginsel te beperken. Het gaat o.a. om de voorwaarde dat een vrijheidsbeperkende maatregel effectief moet zijn (effectiviteit), dat het in principe de voorkeur heeft om maatregelen te gebruiken die de vrijheid niet beperken (subsidiariteit), en dat een maatregel in verhouding moet staan tot het infectierisico (proportionaliteit). Ik noem dit de "Requisite of Reasonableness". Ik presenteer een model voor ethische reflectie in de infectieziektebestrijding waarin deze overwegingen zijn opgenomen, en dat het mogelijk maakt normatieve theorieën met concrete besluitvorming te verbinden.

Het voorgestelde model voor ethische reflectie helpt om het "Constraint" probleem te verkleinen, maar confronteert ons tevens met een derde probleem voor de mogelijkheid van een mid-level schadebeginsel in de infectieziektebestrijding. Uiteenlopende normatieve theorieën kunnen namelijk heel anders oordelen over het relatieve gewicht dat aan individuele vrijheid en aan de volksgezondheid moet worden toegekend, en kunnen dus heel anders oordelen over de vraag of een vrijheidsbeperkende maatregel in de juiste verhouding staat tot een infectierisico. Ik noem dit het "Proportionality" probleem. Betekent dit het einde voor een mid-level schadebeginsel? Niet noodzakelijk. Ik bespreek verschillende scenario's waarin meer of minder convergentie haalbaar is, en betoog dat convergentie altijd de voorkeur heeft boven een beroep op een enkele normatieve theorie (aangenomen dat de theorieën tenminste minimaal adequaat zijn).

Dit onderzoek laat zien dat tenminste sprake is van zwakke convergentie op Schadebeginsel 1 (HP1) en de "Requisite of Reasonableness". Ik verbind deze uitkomsten met een voorstel voor een normatieve arbeidsdeling in de infectieziektebestrijding. Bij het rechtvaardigen van concrete maatregelen in de infectieziektebestrijding hebben toegepast ethici/filosofen in dit model onder andere de taak om de mogelijkheid van convergentie tussen normatieve theorieën te onderzoeken. Infectieziektebestrijders kunnen deze convergentie vervolgens als *uitgangspunt* nemen voor verdere ethische reflectie over concrete casuïstiek. Waar convergentie onhaalbaar is, kunnen normatieve theorieën in de praktijk alleen nog een heuristische functie hebben. Het 'normatieve werk' wordt dan overgenomen door de professionele verantwoordelijkheid van infectieziektebestrijders. Het komt dan aan op het vinden van (democratisch gecontroleerde) consensus tussen professionals. Onderdeel van het voorgestelde model is echter ook dat de convergentie die wel mogelijk is, grenzen stelt aan de professionele discretie van infectieziektebestrijders. Als zij tot een consensus kunnen komen die verenigbaar is met de convergentie, levert dat een extra sterke morele rechtvaardiging op.

Ingrijpende maatregelen (zoals vrijheidsbeperkingen) zullen ook dan in zekere zin controversieel blijven: er is altijd wel een theoretisch of praktisch perspectief van waaruit een maatregel bekritiseerd kan worden. Maar een maatregel die op basis van zwakke convergentie wordt gerechtvaardigd is mijns inziens nog altijd minder controversieel dan een maatregel die alleen vanuit één enkele normatieve theorie gerechtvaardigd kan worden. Dat een maatregel controversieel is betekent overigens niet dat de maatregel ook arbitrair is. Ter afsluiting van

hoofdstuk 5 bespreek ik enkele voorbeelden uit de *Wet publieke gezondheid* die kunnen helpen voorkomen dat controversiële maatregelen op arbitraire wijze worden genomen.

In hoofdstuk 6 maak ik de balans op. De studie begon met de stelling dat nadere reflectie nodig is op het schadebeginsel als het centrale argument in (o.a.) het Nederlandse infectieziektebeleid. De belangrijkste conclusie is dat het schadebeginsel als een mid-level principe kan fungeren in de infectieziektebestrijding, zeker als dat wordt aangevuld met een model waarin de normatieve arbeid wordt verdeeld tussen (o.a.) toegepast ethici/filosofen en infectieziektebestrijders. De uitkomsten van deze studie ondersteunen in grote lijnen hoe de infectieziektebestrijding in Nederland geregeld is. Een belangrijk verschil (in elk geval theoretisch) is het voorstel om convergentie te zien als *begrenzing* van de professionele discretie die infectieziektebestrijders nu al hebben. Ik stel een kleine aanpassing voor van de versie van het schadebeginsel die nu aan de bestrijding van infectieziekten ten grondslag ligt, om het schadebeginsel inderdaad als mid-level principe te kunnen laten fungeren (HP_1). Ook doe ik enkele aanbevelingen: voor verder theoretisch onderzoek, voor de organisatie van de infectieziektebestrijding in Nederland (o.a. het verder bevorderen van ethische reflectie vaardigheden in de praktijk), en voor hoe de voorgestelde normatieve arbeidsdeling gestalte zou kunnen krijgen. Ter afsluiting van de studie bespreek ik een potentieel desastreus argument dat tegen het schadebeginsel in het algemeen is ingebracht, namelijk dat het *overbodig* is. Ik hoop dan met het gevonden mid-level schadebeginsel inmiddels voldoende vaste grond onder de voeten te hebben om de kritiek relatief snel te kunnen weerleggen.

Curriculum Vitae

André Krom is geboren op 26 mei 1974 in Haarlem. Hij behaalde zijn havodiploma in 1991 aan Openbare Scholengemeenschap "De Rietlanden" in Lelystad. Na het doorlopen van de *colloquium doctum* procedure studeerde hij wijsbegeerte van 1998–2006. In augustus 2006 studeerde hij af aan de Faculteit der Geesteswetenschappen van de Universiteit van Amsterdam, met als specialisatie wijsgerige ethiek (*cum laude*). Zijn scriptie ging over de theorie van dwang van politiek filosoof Alan Wertheimer.

Tijdens zijn studie werkte hij o.a. bij theater "de Meervaart" (1995–2003) en bij het KIT Tropentheater (1998–2003), beide te Amsterdam. Van eind 2002 tot begin 2003 was hij student-assistent van Govert den Hartogh in een project van het Rathenau Instituut over ethische aspecten van orgaandonatie. Van 2003–2007 was hij (senior) projectmedewerker bij de afdeling Technology Assessment van het Rathenau Instituut te Den Haag. Van 2007–2008 deed hij onderzoek naar de "commodificatie" van lichaamsmateriaal (Ethiek Instituut, Universiteit Utrecht). Van 2007–2013 was hij lid van de werkgroep "Organ tourism and paid donation" van ELPAT (Ethical, Legal and Psychosocial Aspects of organ Transplantation). In 2008 assisteerde hij Govert den Hartogh bij een onderzoek van het Centrum voor Ethiek en Gezondheid (CEG) naar ethische aspecten van orgaandonatie. Van 2009–2012 werkte hij aan het project "Infectious Disease Control and the Harm Principle" (Dep. Wijsbegeerte, Universiteit Utrecht).

Vanaf 2010 is hij redacteur van het *Podium voor Bio-ethiek* (voorheen *NVBe-Nieuwsbrief*). Sinds eind 2012 is hij plaatsvervangend ethicuslid van de Regionale Toetsingscommissie Euthanasie, regio Zuid-Holland en Zeeland. Sinds begin 2013 werkt hij als onderzoeker en projectleider bij de afdeling Technology Assessment van het Rathenau Instituut, momenteel aan projecten over *public health genomics*; duurzame consumptie; en grondstoffenpolitiek.

André Krom publiceerde over o.a. ethische en maatschappelijke aspecten van orgaandonatie; betaling voor lichaamsmateriaal; intelligente zorgomgevingen; en infectieziektebestrijding.

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