From security to risk:
reframing global health threats

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In October 2014, at the height of the west African Ebola outbreak, the Director-General of the World Health Organization (WHO), Margaret Chan, commented: 'In my long career in public health … I have never seen a health event strike such fear and terror, well beyond the affected countries.'[1] The widespread sense of being at risk was remarkable because the likelihood of infection was very low. As Chan commented elsewhere: 'Experience tells us that Ebola outbreaks can be contained, even without a vaccine or cure.'[2] Although the disease had a high mortality rate, its transmission vector—mostly via bodily fluids—made it relatively difficult for individuals to become infected. Thus when the Scottish nurse Pauline Cafferkey flew from London to Glasgow while infected with the disease, no other passenger on that flight became infected as a result. Nevertheless, concern over this incident prompted the UK Department of Health (DoH) to issue no fewer than nine tweets on 29 December 2014, when the news of Cafferkey's infection was made public, in an attempt to reassure the public.[3] This was a much more intense burst than any previous Twitter activity from the DoH concerning Ebola;[4] and one of those 29 December tweets was retweeted four times more than the next most popular tweet. This tension between feeling 'at risk' and the low likelihood of infection was, we suggest, not a case of misperception of the level of risk, which had it been better communicated would have reduced society's fear,[5] but rather reflected a broader shift in society's understanding of risk, of which health threats form part.

Assessments surrounding the increased risk of, and from, outbreaks of diseases such as Ebola have been a key feature in the rise of global health on both academic

[1] Margaret Chan, 'WHO Director-General's speech to the Regional Committee for the Western Pacific', Manila, 13 Oct. 2014, http://who.int/dg/speeches/2014/regional-committee-western-pacific/en/. (Unless otherwise noted at point of citation, all URLs cited in this article were available on 7 Sept. 2017.)

[2] Margaret Chan, 'Ebola virus disease in West Africa—no early end to the outbreak', *New England Journal of Medicine* 371: 13, 2014, pp. 1183–5.

[3] From the main DoH Twitter account, @DHgov.uk.

[4] For example, only one tweet was sent from the public DoH account concerning Ebola in August 2014, the month when the British nurse William Pooley was evacuated from Sierra Leone to the UK with the disease.

[5] For a discussion of this point, see Bill Durodie, 'H1N1—the social costs of elite confusion', *Journal of Risk Research* 14: 5, 2011, pp. 511–18.

and policy agendas in the past two decades. A significant element of this discussion has focused on presenting communicable diseases such as HIV, pandemic influenza and Ebola as threats to security.[6] Even critics of this perspective, such as Elbe, Enemark and Howell, acknowledge or work with it as the dominant narrative.[7] Although the attempt to broaden the global health security agenda can be traced back over a decade,[8] the focus on communicable disease has persisted despite the fact that non-communicable diseases pose the greater threat to life and livelihoods globally.[9] In consequence, we have seen the development of a dominant narrative that frames communicable disease as a security issue. Communicable diseases are considered 'threats', requiring extraordinary responses which move them outside the realm of normal politics[10]—from the closing of borders, restrictions on travel and imposition of curfews to the deployment of militaries and other security personnel, all of which occurred during the west African Ebola outbreak of 2014–15.

In this article, however, we examine an alternative framing of global health threats, namely risk. This frame emphasizes social vulnerability through a concern over the potentially catastrophic impact of health issues such as pandemics. Whereas previous studies have discussed the changed *level* of health risks in the era of globalization,[11] we engage with the changed *meaning* of risk. The growth

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[6] For specific discussions of communicable diseases as a security issue, see e.g. David Heymann, 'The evolving infectious disease threat: implications for national and global security', *Journal of Human Development* 4: 2, 2003, pp. 191–207; Sara E. Davies, 'Securitizing infectious disease', *International Affairs* 84: 2, March 2008, pp. 295–313; Robert L. Ostergard, ed., *HIV/AIDS and the threat to national and international security* (Basingstoke: Palgrave Macmillan, 2007); Robert L. Ostergard, 'Politics in the hot zone: AIDS and national security in Africa', *Third World Quarterly* 23: 2, 2002, pp. 333–50; Laurie Garrett, *HIV and national security: where are the links?* (New York: Council on Foreign Relations, 2005); Christian Enemark, 'Is pandemic flu a security threat?', *Survival* 51: 1, 2009, pp. 191–214; Thomas Abraham, 'The chronicle of a disease foretold: pandemic H1N1 and the construction of a global health security threat', *Political Studies* 59: 4, 2011, pp. 797–812; Adam Kamradt-Scott and Colin McInnes, 'The securitisation of pandemic influenza: framing, security and public policy', *Global Public Health* 7: suppl. 2, 2012, pp. S95–110; Elizabeth M. Prescott, 'SARS: a warning', *Survival* 45: 3, 2003, pp. 207–26; David Heymann et al., 'Global health security: the wider lessons from the west African Ebola virus disease epidemic', *The Lancet*, 385: 9980, 2015, pp. 1884–901.

[7] Stefan Elbe, 'Should HIV/AIDS be securitized? The ethical dilemmas of linking HIV/AIDS and security', *International Studies Quarterly* 50: 1, 2006, pp. 119–44. See also Stefan Elbe, *Security and global health* (Cambridge: Polity, 2010); Simon Rushton and Jeremy Youde, eds, *Routledge handbook of global health security* (Abingdon: Routledge, 2015), pp. 291–348; Christian Enemark, 'Ebola, disease-control, and the Security Council: from securitization to securing circulation', *Journal of Global Security Studies* 2: 2, 2017, pp. 137–49; Alison Howell, *Madness in international relations* (Abingdon: Routledge, 2011).

[8] See e.g. Colin McInnes and Kelley Lee, 'Health, security and foreign policy', *Review of International Studies* 32: 1, 2006, pp. 5–23.

[9] This paradox is poorly explained by security theorists, although there have been attempts outside security theory to do this. See e.g. Jeremy Shiffman, 'A social explanation for the rise and fall of global health issues', *Bulletin of the World Health Organization* 87: 8, 2009, pp. 608–13; Ron Labonté and Michelle Gagnon, 'Framing health and foreign policy', *Globalization and Health* 6: 14, 2010, https://globalizationandhealth.biomedcentral.com/articles/10.1186/1744-8603-6-14; Colin McInnes and Kelley Lee, eds, *Framing global health governance* (Abingdon: Routledge, 2015), and their edited edition of *Global Public Health*, 7: suppl. 2, 2012.

[10] This analysis draws on securitization theory's foundational concerns over the negative consequences of the securitizing process. See Barry Buzan, Ole Wæver and Jap de Wilde, *Security: a framework for analysis* (Boulder, CO: Lynne Rienner, 1977).

[11] Early, agenda-setting, examples of this were [US] Institute of Medicine, *America's vital interest in global health* (Washington DC: National Academy Press, 1997); Central Intelligence Agency, *The global infectious disease threat and its implications for the United States*, National Intelligence Estimate NIE99-17D (Washington DC, 2000), https://www.dni.gov/files/documents/infectiousdiseases_2000.pdf; Jennifer Brower and Peter Chalk, *The global threat of new and reemerging infectious diseases: reconciling US national security and public health policy* (Santa

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of interest in the global health risk frame parallels the growing discontent with the negative effects of the dominant frame, that of global health security,[12] which appears to offer a less 'political' (that is, value- and/or interest-driven) approach. It draws on the technical understanding of risk prevalent in the public health arena, using advanced epidemiological methodologies and modelling techniques to assess the likelihood of the spread of disease and infection. Within this discourse, risk assessment is seen as a tool rather than a process, as objective rather than contested, and as scientific rather than political. However, we argue that, in global health, the risk frame is not an interest-/value-free approach, and that, on the contrary, politics is intrinsic to the manner in which discourses of risk are constructed. Nevertheless, the move from global health security to global health risk can help mobilize public attention and political action, because it places global health within the wider contemporary sense of society being at risk. The sense of vulnerability to health risks, especially disease outbreaks, cannot be separated from the broader feeling of social vulnerability, evident not only in public policy but also in cultural products. Risks from disease are both a reflection of and a contribution to this feeling.

At the heart of our analysis is the argument that risk is not independent but socially constructed, and part of a political process in which values and interests shape outcomes. We present this argument in two ways. First, we examine the discursive move by a number of key actors away from 'security' to 'risk'. This initially appears to be a depoliticizing move, because the use of the term 'risk' creates an aura of scientific neutrality, while the emphasis on potentially disastrous consequences evokes a moral imperative to act. Yet we maintain that the 'global health risk' frame is nevertheless intrinsically political in that it reflects the unequal abilities of actors to define what global health risks are by reference to interests and values and, therefore, to shape the policy responses promoted through this frame. Second, we demonstrate how different organizations construct risk in different ways, thereby privileging different pathways of response. To demonstrate this, we examine how different organizations framed risk during the 2014–15 outbreak of Ebola in west Africa. The understanding and assessment of risk here are characterized by organizational interests and values.

We begin, however, with two important background discussions. The first concerns the way in which the rise of global health on the international agenda has

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Monica, CA: RAND, 2003); Alan Ingram, ed., *Health, foreign policy and security: towards a conceptual framework for research and policy* (London: Nuffield Trust and Nuffield Health and Social Services Fund UK, 2004). See also Kelley Lee and David Fidler, 'Avian and pandemic influenza: progress and problems with global health governance', *Global Public Health* 2: 3, 2007, pp. 215–34; WHO, *The World Health Report 2007: a safer future. Global public health security in the 21st century* (Geneva, 2007).

[12] Concerns principally revolve around the ways in which the global health agenda is (mis)shaped by security concerns, including how some diseases are prioritized over others, how national interests override global health concerns and how health aid is directed according to national security rather than health needs. See e.g. Elbe, *Security and global health*; Joao Nuñes, 'Questioning health security: insecurity and domination in world politics', *Review of International Studies* 40: 5, 2014, pp. 939–60; Susan Peterson, 'Epidemic disease and national security', *Security Studies* 12: 2, 2002, pp. 43–81; Michael Stevenson and Michael Moran, 'Health security and the distortion of the global health agenda', and Debra DeLaet, 'Whose interest is the securitization of health serving?', both in Rushton and Youde, eds, *Routledge handbook of global health security*; William Aldis, 'Health security as a public health concept: a critical analysis', *Health Policy and Planning* 23: 6, 2008, pp. 369–75; Simon Rushton, 'Global health security: security for whom? Security from what?', *Political Studies* 59: 4, 2011, pp. 779–96.

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been accompanied by a tension between, on one hand, the technical orientation and cosmopolitan ambition of global health, and, on the other hand, the politics of global health, which is especially evident when health intersects with other sectors and interests. This discussion clarifies our position that global health is both inherently political and characterized by superordinate ambitions that often obscure or delegitimize this dimension, thereby rendering the risk frame attractive as appearing to move beyond politics. Second, we outline ideas of framing and risk, which inform our subsequent analysis. This not only makes explicit our underpinning social constructivist leanings, but gives us the theoretical tools necessary to understand risk in global health.

Politics and global health

Global health issues, and especially risks from disease outbreaks, have risen ever higher on the international political agenda in the last two decades. The harbinger for this change was the emergence in the 1980s of HIV/AIDS, a novel communicable disease which at its height led to the deaths of more than 2 million people a year, and threatened the stability of states and the security of regions. Since then, outbreaks of other infectious diseases, such as severe acute respiratory syndrome, SARS (2002–2003), Middle East respiratory syndrome, MERS (2012), Ebola (2014–15) and Zika (2015–16), recurrent alarms about pandemic forms of influenza such as avian flu (2005) and swine flu (2009), and concerns over antimicrobial resistance (AMR) have all appeared prominently on the international agenda. The UN General Assembly has held multiple meetings on health issues since 2000, including on HIV (2001, 2011, 2016), non-communicable diseases (2011, 2014), the Ebola response (2014) and AMR (2016); the HIV/AIDS pandemic and the Ebola outbreak triggered resolutions by the UN Security Council (nos 1308, 1983, 2176 and 2177), which declared that these outbreaks may constitute risks to stability as well as to national and international peace and security; and numerous new programmes, organizations and initiatives have emerged at the global level, both within the UN system (such as UNAIDS[13] and the WHO Global Outbreak Alert and Response Network[14]) and outside it, notably in the form of public–private partnerships such as the Global Fund to Fight AIDS, Tuberculosis and Malaria, and GAVI, the Vaccine Alliance.[15]

This rise was accompanied by a new narrative under the slogan that 'health is global': that in the era of globalization, health problems are increasingly global in their effect and consequently require global responses (what is frequently termed 'global health governance').[16] Outbreaks of infectious disease in particular were

[13] See http://www.unaids.org/.

[14] See http://www.who.int/ihr/alert_and_response/outbreak-network/en/. GOARN rose to prominence through its role in the 2002–3 SARS outbreak. See David P. Fidler, *SARS, governance and the globalization of disease* (Basingstoke: Palgrave Macmillan, 2004); David L. Heymann and Glenn Rodier, 'Global surveillance, national surveillance, and SARS', *Emerging Infectious Diseases* 10: 2, 2004, pp. 173–5.

[15] See http://www.theglobalfund.org/en/; http://www.gavi.org/; also Katerini Storeng, 'The GAVI Alliance and the "Gates approach" to health system strengthening', *Global Public Health* 9: 8, 2014, pp. 865–79.

[16] Jeremy Youde, *Global health governance* (Cambridge: Polity, 2012); Sophie Harman, *Global health governance*

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newly identified as being a global risk, given their potentially rapid spread between states and across continents through accelerated travel and trade. In 2002–2003, for example, the SARS outbreak demonstrated how novel viruses could spread across continents within weeks. Crucially, it also led to the WHO taking a proactive leadership role, prompting David Fidler to comment that health had moved into a 'post-Westphalian' phase.[17] Although Fidler's claim was at best premature,[18] the term 'global health' drew new political attention to, and implied the need for new political initiatives concerning, health. Not least of its effects was that this discursive shift allowed health risks to be constructed as *shared* between and across states. The potential of infectious diseases to spread quickly across the globe also meant that, for the first time in several generations, high-income states appeared vulnerable to outbreaks of infectious disease.

At the same time, the increasing prominence of global health has brought with it an increasingly prominent global health *politics*. While the HIV/AIDS pandemic was portrayed as a risk to global stability and security, it also revealed stark differences in how vulnerable populations were to becoming infected and in their ability to access treatment. Different interests, perspectives and values have also become apparent with regard to which health issues to prioritize in global health governance, with many high-income countries focusing on infectious disease outbreaks with pandemic potential and—more recently—AMR, while low-income countries are often more concerned with strengthening local health systems to address endemic diseases and the many 'neglected' diseases that kill thousands of poor people every day.[19] Furthermore, the rise of global health politics is also linked to a growing recognition that health issues have implications *beyond* the physical and mental well-being of individuals and communities. These include national and international security, macroeconomic growth, international development, human rights, and global commerce and trade. In January 2000, for example, at its first meeting of the new millennium, the UN Security Council addressed the international security implications of HIV/AIDS; later that year it passed Resolution 1308, principally concerning the risks posed by the disease to peacekeeping missions but also 'stressing that the HIV/AIDS pandemic, if unchecked, may pose a risk to stability and security'.[20] Also in 2000, the Millennium Development Goals recognized health, and especially high-incidence communicable diseases such as HIV and malaria, as risks to sustainable development and human rights; and in 2001, the Report of the Commission on Macroeconomics and Health, chaired by Jeffrey D. Sachs, identified poor health as a risk to macroeconomic growth. More

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(Abingdon: Routledge, 2012); David P. Fidler, *The challenges of global health governance* (New York: Council on Foreign Relations, 2010).

[17] Fidler, *SARS*.

[18] See Adam Kamradt-Scott, *Managing global health security* (Basingstoke: Palgrave Macmillan, 2015).

[19] WHO, *Global Action Plan for the Prevention and Control of Noncommunicable Diseases, 2013–2020* (Geneva, 2013); Lawrence O. Gostin and Emily A. Mok, 'Grand challenges in global health governance', *British Medical Bulletin* 90: 1, 2009, pp. 7–18, esp. pp. 14–15; Robert Beaglehole and Ruth Bonita, 'Global public health: a scorecard', *The Lancet* 372: 9654, 2008, pp. 1988–96.

[20] UN Security Council (UNSC) Resolution 1308, 17 July 2000, http://www.un.org/Docs/scres/2000/sc2000. htm.

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recently, in 2014 the Security Council passed Resolution 2177, identifying the west African Ebola outbreak as a 'threat to international peace and security'. Global health, then, is not a policy silo, but has become part of the business of institutions outside the narrowly defined field of international health organizations; and these institutions bring their own interests, ideas and values to debates on global health issues.[21] Indeed, such is the contemporary fungibility around the topic that interests, ideas and values from health have in turn permeated thinking in other sectors, such as security and trade.[22]

   While the rise of global health *politics* is intrinsically linked to the rise of global health more generally, there is a notable tension between these two phenomena. Politics sits uneasily with both the emphasis on the global nature of health problems and the tradition of public health as a technical field grounded in positivism and scientific rationality. The implicitly cosmopolitan notion of 'global' health establishes a normative expectation that health is superordinate. But the idea that health issues are shared in an age of globalization tends to obscure the facts that some populations are more likely to be affected by health problems than others, that some health issues are more relevant in some countries than in others, and that policy responses tend to benefit some people more than others. The field of global health and global health governance is also dominated by policy-makers and experts with a background in public health, epidemiology and medicine, long permeated by an ethos of positivism and scientific rationality.[23] In this tradition, rigorous observation, high-quality data and the application of reason can identify both the likelihood of infection and the best response to a given problem: an approach seen across health policy and practice, from the treatment of disease to the allocation of resources. The idea is that there is an optimal solution to a given problem, which can be arrived at through the use of a robust empirical methodology. Risks can be scientifically assessed through rigorous observation of events and the application of lessons derived from deductive reasoning. Failures to resolve global health risks—such as the HIV/AIDS pandemic, the west African Ebola outbreak or the rise of AMR—are therefore often ascribed to either poor data, weak reasoning, inadequate resources or interference in the scientific process by partial forces (often decried as 'political' interference).

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[21] See e.g. Sophie Harman, *The World Bank and HIV/AIDS* (Abingdon: Routledge, 2010); Douglas W. Bettcher, Derek Yach and G. Emmanuel Guindon, 'Global trade and health: key linkages and future challenges', *Bulletin of the World Health Organization* 78: 4, 2000, pp. 521–34; Youde, *Global health governance*; Sara E. Davies, *Global politics of health* (Cambridge: Polity, 2009).

[22] This line of thinking was pioneered by Stefan Elbe in *Security and global health*.

[23] An excellent recent example is Vincanne Adams, ed., *Metrics: what counts in global health* (Durham, NC: Duke University Press, 2016). The prominent journals *Global Health Policy* and *Health Policy and Planning* are largely dominated by this approach to global health, although *The Lancet* also offers comment pieces which adopt a more reflective approach or advocacy. For two examples of articles explicitly linking scientific method to global health, see Regien G. Biesma, Ruairí Brugha, Andrew Harmer, Aisling Walsh, Neil Spicer and Gill Walt, 'The effects of global health initiatives on country health systems: a review of the evidence from HIV/AIDS control', *Health Policy and Planning* 24: 4, 2009, pp. 239–52; Ophira Ginsburg, Freddie Bray, Michel P. Coleman, Verna Vanderpuye, Alexandru Eniu, S. Rani Kotha, Malabika Sarker et al., 'The global burden of women's cancers: a grand challenge in global health', *The Lancet* 389: 10071, 2016, pp. 847–60.

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Framing (and) risk

We take a different approach, arguing that global health requires a broader under-standing of the process and consequences of risk assessment. To this end, we apply insights from two sets of ideas located in social constructivism: framing, and the risk society. Framing is understood as the presentation of an issue in such a way as to tie it into a broader set of ideas about the world, and through this to gain influence and policy purchase. Gitlin, for example, defines frames as 'persistent patterns of cognition, interpretation and presentation, of selection, emphasis and exclusion, by which symbol-handlers routinely organise discourse'.[24] They may be deployed and promoted by a range of stakeholders (including transnational advocacy groups, international organizations and epistemic communities) and used by them as a tool of persuasion to generate or legitimize specific pathways of response. They may be deployed to call attention to an issue, to influence other actors' perceptions of their own interests, or to convince them of the legitimacy/appropriateness of the advocate's preferred policy response. When used success-fully in this way, the chosen frames 'resonate with public understandings, and are adopted as new ways of talking about and understanding issues', and actors will be likely to modify their behaviour accordingly.[25]

We use frames to examine two specific examples of how the concept of risk is used in global health. The first discusses how framing in terms of 'global health risks' has opened up a new discourse, distinct from that of 'global health security'. We argue that this initially appears to be a depoliticizing move, creating an aura of scientific neutrality and inclusiveness and a moral imperative to act which make the 'global health risk' frame less politically charged and divisive than the 'global health security' frame. Yet we maintain that the 'global health risk' frame is never-theless intrinsically political in that it reflects the unequal abilities of actors to define what global health risks are, and therefore to shape the policy responses promoted through this frame, and raises the question of whose health/freedom from risk matters most. Second, we move the discussion of risk on to suggest that there is no single, agreed global health risk frame, but rather that different actors frame risks from health issues differently, leading to competing understandings of the nature of the problem and the means of resolution. Unlike the first example, here 'risk' appears as one of a variety of terms, used sometimes interchangeably, to suggest societal vulnerability—the sense of being 'at risk'. Specifically, we examine how three of the key organizations involved in the global response to the west African Ebola outbreak—the WHO, Médecins Sans Frontières (MSF) and the UN Security Council—framed the problem in different ways, promoting different pathways of response based upon their own interests and values rather than on a 'scientific' understanding of risk.

Our understanding of risk is informed by the 'risk society' approach, which originated in the work of sociologists Ulrich Beck and Anthony

[24] T. Gitlin, *The whole world is watching* (Berkeley, CA: University of California Press, 1980), p. 7.
[25] Martha Finnemore and Kathryn Sikkink, 'International norm dynamics and political change', *International Organization* 52: 4, 1998, p. 897.

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Giddens.[26] In particular, we take four key insights from this approach. The first is that risk does not exist independently of observation but is socially constructed. As Durodie explains, risk is a 'socially mediated cultural product … that we come to view something as being a particularly pertinent risk, and how we respond to it, is socially mediated'.[27] This is a fundamental departure from 'scientific' calculations of risk, which assume that a risk exists whether we identify it or not, and remains unaffected by the manner in which we perceive it.

The second is that the contemporary understanding of risk is not probabilistic but possibilistic, leading to what Furedi terms a precautionary culture: 'Precautionary culture encourages society to approach human experience as a potential risk to our safety. Consequently every conceivable experience has been transformed into a risk to be managed.'[28] Risks are no longer simply a product of what people decide to do, or not to do, but are also the product of factors beyond their control. As Furedi suggests: 'Vulnerable people cannot manage the uncertainties facing them … To be at risk is no longer about what you do—it is about who you are.'[29]

This leads directly to a third key insight: the heightened sense of uncertainty and vulnerability which accompanies what Beck termed 'reflexive modernity'.[30] We see vulnerability as an enduring condition of contemporary culture, and hazards as increasingly dangerous because of the uncertainty surrounding them.[31] Both Beck and Giddens reverse Enlightenment arguments that increased knowledge leads to progress, arguing that this knowledge has created new hazards that we do not possess the ability to understand and manage.[32] Moreover, as Freedman argues, it is this sense of vulnerability, not the threat itself, that drives responses, both individual and collective.[33] However, not all risks elicit the same degree of fear;[34] and here the concept of 'dread risk' is useful to us. Understandings of dread risk vary—for Slovic and Weber, for example, it refers to a combination of lack of control and extreme potential, whereas Gizerenger uses it to refer to low-probability, high-consequence events.[35] For us, it opens up the possibility of diseases

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[26] Two of the foundational texts for the 'risk society' are Ulrich Beck, *Risk society: towards a new modernity* (London: Sage, 1992; first publ. in German, 1986); Anthony Giddens, *Consequences of modernity* (Cambridge: Polity, 1990).

[27] Durodie, 'H1N1', pp. 511–12.

[28] Frank Furedi, 'Precautionary culture and the rise of possibilistic risk assessment', *Erasmus Law Review* 2: 2, 2009, p. 200.

[29] Frank Furedi, 'Fear and security: a vulnerability-led policy response', *Social Policy and Administration* 42: 6, 2008, pp. 655–6.

[30] Perhaps the best explanation of reflexive modernity is Ulrich Beck, Wolfgang Bonss and Christoph Lau, 'The theory of reflexive modernization: problematic, hypotheses and research programme', *Theory, Culture and Society* 20: 2, 2003, pp. 1–33.

[31] See Frank Furedi, *Culture of fear revisited* (London: Continuum, 2006).

[32] Beck, *Risk society*, pp. 85, 183.

[33] Lawrence Freedman, 'The politics of warning: terrorism and risk communication', *Intelligence and National Security* 20: 3, 2005, p. 10.

[34] For an illuminating discussion on this, see Matthew W. Seeger and Timothy L. Sellnow, *Narratives of crisis* (Stanford, CA: Stanford University Press, 2016).

[35] Paul Slovic and Elke U. Weber, 'Perception of risk posed by extreme events', Center for Decision Sciences (CDS), Columbia University, 2002, p. 8; Gerd Gizerenger, 'Dread risk, September 11, and fatal traffic accidents', *Psychological Science* 15: 4, 2004, pp. 286–7, and 'Out of the frying pan into the fire: behavioral reactions to terrorist attacks', *Risk Analysis* 26: 2, 2006, pp. 347–51.

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that induce fear that is unrelated to the likelihood of infection or death. This fear may be prompted by the symptoms involved, the lack of a vaccine or cure, or the stigma associated with the disease. Ebola accordingly represented a 'dread risk' because, although the chances of infection outside west Africa were vanishingly low, the lack of an effective vaccine or cure, coupled with the gruesome symptoms, created the unprecedented levels of 'fear and terror' which Margaret Chan identified, as noted above.

Fourth and finally, we take from Beck and Giddens the idea of a precautionary culture, of 'being at risk', and of the heightened sense of vulnerability that leads us to conflate 'threat' and 'risk'. This is prompted in part by an empirical observation that the two terms are sometimes used synonymously; but also in part by the reflection, arising from the arguments above, that there is no functional difference between being 'under threat' and 'at risk'. Both are disruptive challenges to everyday life,[36] and both are reflections of the uncertainties and vulnerabilities of reflexive modernity. In so arguing we are also influenced by Giddens's distinction between risk and danger or hazard. For Giddens, danger or hazard exists independent of observation, whereas risk is socially constructed through societies' concern for the future. Implicitly, the specific use of the term 'risk' is not required; rather, what is significant is the use of terms, whatever they may be, that reflect concern for future events.[37]

Global health risks: unpredictable, unavoidable and potentially catastrophic

In this section of the article we discuss the way in which health problems, especially outbreaks of infectious disease and pandemics, have increasingly been explicitly framed as 'global risks'. We show how the 'global health risk' frame initially appears particularly suitable to promote global collective action, because it combines an aura of scientific neutrality with a moral call to action. This makes it appear less politically charged and divisive than the 'global health security' frame.[38] 'Risk' has, of course, a long history of use not only in medicine and public health, but in modern science more generally. Its most important use is to calculate the statistical likelihood (or probability) of an event happening. For instance, in medical and public health discourses, terms such as 'risk factor' and 'mortality risk' are commonly used to indicate the likelihood of individuals acquiring and dying from a disease. While this use of 'risk' as a technical term for the calculation of probabilities remains predominant among health experts, something different appears to be happening in the policy discourse on global health: here, the term 'risk' is used to refer to events that are considered *in*calculable. Portraying a health issue as a 'global risk' in this fashion is not a statistical exercise; rather, it constructs the issue as a policy problem in a particular manner and promotes a particular set of policy responses.

[36] Furedi, 'Fear and security', p. 645.
[37] See e.g. Anthony Giddens, 'Risk and responsibility', *Modern Law Review* 62: 1, 1999, pp. 3–5.
[38] Aldis, 'Health security as a public health concept'; Rushton, 'Global health security'.

Over the past decade, we have seen the emergence of a discourse that portrays certain global health issues, notably infectious disease pandemics and AMR, as global health risks. This discourse is manifest in a range of policy documents and reports and, indeed, the names of institutions that have recently been created. The Commission on a *Global Health Risk* Framework for the Future (emphasis added) starts from the premise that 'infectious diseases remain one of the biggest risks facing humankind'.[39] The World Bank's *World Development Report 2014* states that pandemics are one of the key risks facing the world today,[40] and the World Economic Forum's *Global Risks Report 2016* discusses pandemics as one of the global risks 'in focus'.[41] 'Risk' is used here to refer to events that are considered difficult or even impossible to calculate. For instance, the Commission on a Global Health Risk Framework for the Future states: 'Although there are enormous uncertainties in modelling the risks and potential impact of infectious disease crises, the case is compelling no matter how it is calculated.'[42] Bill Gates, co-chair of the Bill and Melinda Gates Foundation, which is one of the key players in global health, argues that 'even though we can't compute the odds for threats like bioterrorism or a pandemic, it's important to have the right people worrying about them and taking steps to minimize their likelihood and potential impact'.[43] By highlighting the difficulty, or even impossibility, of calculating the likelihood of an event occurring, the technical meaning of the term 'risk' as statistical likelihood is turned on its head.[44]

The use of the term 'risk' to refer to events that are considered incalculable and unpredictable is not confined to the field of global health; indeed, a 'risk discourse' has emerged in a wide range of global debates. The World Economic Forum's 2016 *Global Risks Report*, for example, identifies a 'landscape' populated by multiple, diverse risks.[45] Over a decade earlier, the OECD identified 'emerging systemic risks' posed by natural disasters, industrial accidents, infectious diseases, terrorism and lack of food safety;[46] the World Bank's *World Development Report 2014* (itself entitled *Risk and opportunity*) discusses risk management as a powerful tool

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[39] The Commission on a Global Health Risk Framework for the Future, *The neglected dimension of global security: a framework to counter infectious disease crises* (Washington DC: National Academies Press, 2016), p. 1.

[40] World Bank, *World Development Report 2014: Risk and opportunity. Managing risk for development* (Washington DC, 2014), http://siteresources.worldbank.org/EXTNWDR2013/Resources/8258024-1352909193861/8936935-1356011448215/8986901-1380046989056/WDR-2014_Complete_Report.pdf.

[41] World Economic Forum, *The Global Risks Report 2016* (Geneva, 2016), https://www.weforum.org/reports/the-global-risks-report-2016.

[42] World Economic Forum, *The Global Risks Report 2016*, p. 2.

[43] Quoted in Olga Jonas, 'Pandemic risk', background paper to World Bank, *World Development Report 2014*, Oct. 2013, p. x, http://siteresources.worldbank.org/EXTNWDR2013/Resources/8258024-1352909193861/8936935-1356011448215/8986901-1380568255405/WDR14_bp_Pandemic_Risk_Jonas.pdf.

[44] It seems impossible to predict whether a particular pandemic—i.e. a pandemic caused by a particular organism—will occur. There is a widely shared view among epidemiologists and public health experts that a pandemic of some kind is very likely to occur in the foreseeable future (though exact calculations even of this risk are difficult to come by). This assessment is based on the reasoning that, first, small outbreaks of highly contagious diseases with severe health impacts occur all the time; and, second, modern life has generated conditions that enhance the likelihood of small outbreaks spreading across countries, notably through global travel and trade, increased population density, and environmental and land-use changes.

[45] World Economic Forum, *The Global Risks Report 2016*, fig. 1, p. 3.

[46] OECD, *Emerging risks in the 21st century: an agenda for action* (Paris, 2003), http://www.oecd.org/futures/global-prospects/emergingrisksinthe21stcenturyanagendaforaction.htm. The term 'systemic risk' was also widely used to describe the 2008 financial crisis.

for development;[47] and in 2015, the UN General Assembly endorsed the Sendai Framework for Disaster Risk Reduction, which embodies a shift in terminology from disaster management to disaster *risk* management, and also includes a strong focus on health.[48]

The perception that the world faces a number of risks with potentially disastrous consequences has also been the focus of scholarly debates, driven most prominently by the works of Ulrich Beck and Anthony Giddens.[49] These authors are concerned with new forms of risk that modern societies face, notably those created by industrialization and the rise of technologies. Beck distinguishes between risks that societies and governments have found ways to cope with, such as accidents in factories or traffic, and those large-scale problems that call into question the capacity of modern societies to deal with them. Both Beck and Giddens highlight the impact of globalization on the quality of these risks, which have potentially enormous repercussions not only because they are large scale, but also because they are inherently global.

Globalization plays a key role in the 'global health risk' framing: not only in the accelerated mobility which makes it easier for pathogens to spread widely and rapidly, but in the interconnectedness of critical systems for economics, finance, communication, trade and travel.[50] In this interconnected world, the potentially catastrophic impact of pandemics on critical systems is likely to have global repercussions. Moreover, the global and catastrophic impact appears unavoidable: new pathogens with pandemic potential emerge all the time through natural evolution, and their transmission is facilitated through global systems of travel and trade, which cannot be disrupted, because they are of vital importance for the functioning of modern society.[51] Hence it is the combination of natural evolution and a social order based on global infrastructures that makes infectious disease outbreaks appear potentially catastrophic, yet unpredictable and unavoidable.

The perception of infectious disease outbreaks as global risks therefore feeds into a general sense of vulnerability to disaster in modern societies. This sense of social vulnerability is linked mainly to the potential *impact* of an event, rather than its *likelihood*, reflecting the shift from a probabilistic to a possibilistic view of risk.[52] As the report of the Commission on a Global Health Risk Framework for the Future comments: 'There are very few threats that can compare with infectious diseases in terms of their potential to result in catastrophic loss of life.'[53] Similarly, Bill Gates declared that 'bioterrorism and pandemics are the only threats I can

[47] World Bank, *World Development Report 2014*.
[48] UN Office for Disaster Risk Reduction (UNISDR), *Sendai Framework for Disaster Risk Reduction* (Geneva, 2015), http://www.unisdr.org/we/coordinate/sendai-framework.
[49] Ulrich Beck, *World at risk* (Cambridge: Polity, 2009), and *Risk society*; Anthony Giddens, *Runaway world: how globalisation is reshaping our lives* (New York: Routledge, 2000).
[50] The issue of critical or vital systems on which societies have come to depend in a globalized world is discussed also by Beck (*Risk society*, p. 30) and Stephen Collier and Andrew Lakoff, 'Vital systems security: reflexive biopolitics and the government of emergency', *Theory, Culture and Society* 32: 2, 2015, pp. 19–51.
[51] Stefan Elbe, Anne Roemer-Mahler and Christopher Long, 'Securing circulation pharmaceutically: antiviral stockpiling and pandemic preparedness in the European Union', *Security Dialogue* 45: 5, 2014, pp. 440–57.
[52] Furedi, 'Precautionary culture'.
[53] Commission on a Global Health Risk Framework for the Future, *The neglected dimension of global security*, p. v.

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foresee that could kill over a billion people'.[54] It is also worth noting that while the World Economic Forum's *Global Risks Reports* have ranked pandemics among the top five global risks in terms of impact, they have not made it into the top five in terms of likelihood.[55]

Responding to global health risks through better preparedness

If this is the perception of the problem, what does an appropriate response look like? Interesting insights into this question come from Andrew Lakoff's and Stephen Collier's work on the emergence of a new set of organizations and strategies in US security policy for the protection of transport and energy infrastructures and economic and financial systems.[56] The US government perceives the threat to these 'vital systems' as emanating from events such as terrorist attacks, pandemics and natural disasters. Because these events are deemed unavoidable, conventional security policies that focus on prevention are seen as inadequate. The US government has therefore adopted a strategy focused on mitigating the impact of such events by becoming more prepared for their occurrence. Hence, preparedness emerges as the key rationale for how to respond to the incalculable risk of unavoidable and potentially disastrous events. The basis for acting on risks framed as unpredictable, yet unavoidable and potentially catastrophic, is *not* to calculate what is more or less likely to happen, but to be prepared for whatever happens.[57]

This language and rationality of preparedness are evident beyond the United States in the international debate on global risks, including global health risks. For instance, the Commission on a Global Health Risk Framework for the Future states: 'The global community spends relatively little to protect populations from the risks of pandemics. Compared with other high-profile threats to human and economic security—such as war, terrorism, nuclear disasters and financial crises—we are underinvested and underprepared.'[58] The Global Health Security Agenda, a US-led international initiative of more than 50 countries, argues in a recent report that 'the enormous costs of pandemics can be averted with strategic investment in capacity building and preparedness'.[59] The background paper on pandemics for the World Bank's *World Development Report 2014* states: 'Active promotion of whole-of-society resilience and pandemic preparedness can benefit countries by reducing not only pandemic impact, but also the costs of other disasters and major crises.'[60]

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[54] Quoted in Jonas, 'Pandemic risk', p. x.

[55] These annual reports are available at the World Economic Forum's website, https://www.weforum.org/.

[56] Andrew Lakoff and Stephen Collier, eds, *Biosecurity interventions: global health and security in question* (New York: Columbia University Press, 2008); Andrew Lakoff, 'Preparing for the next emergency', *Public Culture* 19: 2, 2007, pp. 247–71, 'The generic biothreat, or, How we became unprepared', *Cultural Anthropology* 23: 3, 2008, pp. 299–423, and 'A dearth in numbers: the actuary and the sentinel in global public health', *LIMN*, no. 3, 2013, pp. 41–5.

[57] 'Preparedness' is distinct from 'resilience' in that the former focuses on mitigating risk, the latter on surviving with effectiveness unimpaired.

[58] Commission on a Global Health Risk Framework for the Future, *The neglected dimension of global security*, p. 1.

[59] Global Health Security Agenda, *Advancing the Global Health Security Agenda: progress and early impact from US investment*, p. 1, https://www.ghsagenda.org/docs/default-source/default-document-library/ghsa-legacy-report.pdf?sfvrsn=12.

[60] Jonas, 'Pandemic risk', p. 7.

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The language of preparedness has also featured in the names of newly created institutions, such as the Coalition on Epidemic Preparedness Innovations (CEPI), established in the aftermath of the Ebola outbreak, the WHO's 2011 Pandemic Influenza Preparedness Framework and the European Commission's 2013 Global Research Collaboration for Infectious Disease Preparedness (GloPID-R).[61] In an article in *The Lancet*, the founders of CEPI underscored the rationale behind the preparedness response: 'Although no-one knows what the next outbreak will be we must develop the required arsenal now.'[62]

The rationality of preparedness is manifest not only in the language used around global health risks, but also in the instruments and tools of policy responses. Key to this are surveillance systems designed to pick up signs of an outbreak early and monitor the spread of diseases. Thus, in the last two decades, many states (especially OECD countries) have strengthened their infectious disease surveillance systems.[63] In particular, revisions to the International Health Regulations (IHR) in 2005 expanded systematic surveillance at the global level. WHO member states are now required to implement early-warning systems and establish laboratories that can detect potential threats and report outbreaks to the WHO.[64] Many global health initiatives working within the global health risks framework emphasize the importance of the IHR in strengthening pandemic preparedness.[65] A second set of governance mechanisms to strengthen preparedness is the development and stockpiling of drugs and vaccines. To that end, the WHO has developed a pharmaceutical 'R&D preparedness' strategy, the R&D Blueprint.[66] Starting from the premise that 'infectious disease epidemics pose a clear and ongoing risk to global health, security and economic prospects',[67] the Blueprint is aimed at accelerating the development of drugs and vaccines to prevent and treat infectious diseases with pandemic potential by agreeing on priority pathogens, identifying financing mechanisms, and providing coordination and technical guidance. CEPI, an alliance of governments, pharmaceutical companies, philanthropic organizations and academics, was set up to 'pursue a proactive ("just-in-case") and accelerated ("just-in-time")' strategy to develop vaccines against infectious diseases with

[61] See, respectively, CEPI, *New vaccines for a safer world*, www.cepi.net; WHO, *Pandemic influenza preparedness framework*, 2011, http://apps.who.int/gb/pip/; GloPID-R, https://www.glopid-r.org.

[62] Børge Brende, Jeremy Farrar, Diane Gashumba, Carlos Moedas, Trevor Mundel, Yasuhisa Shiozaki, Harsh Vardhan, Johanna Wanka and John-Arne Røttingen, 'CEPI—a new global R&D organisation for epidemic preparedness and response', *The Lancet* 389: 10066, 21 Jan. 2017, p. 233.

[63] See e.g. Michael Stoto, 'The effectiveness of US public health surveillance systems for situational awareness during the 2009 H1N1 Pandemic', *PLoS One* 7: 8, 2012, e40984, DOI:10.1371/journal.pone.0040984.

[64] WHO, *International Health Regulations*, 2nd edn (Geneva: WHO, 2005). See also Kamradt-Scott, *Managing global health security*, pp. 101–24; David P. Fidler and Lawrence O. Gostin, 'The new International Health Regulations: an historic development for international law and public health', *Journal of Law, Medicine and Ethics* 34: 1, 2006, pp. 85–94; Kumanan Wilson, Barbara von Tigerstrom and Christopher McDougall, 'Protecting global health security through the International Health Regulations: requirements and challenges', *Canadian Medical Association Journal* 179: 1, 2008, pp. 44–8. (It should, however, be noted that these obligations have not always been met.)

[65] See e.g. Jonas, 'Pandemic risk'; Commission on a Global Health Risk Framework for the Future, *The neglected dimension of global security*; Global Health Security Agenda, *Advancing the Global Health Security Agenda*.

[66] WHO, *An R&D Blueprint for action to prevent epidemics: plan of action*, 2016, http://www.who.int/blueprint/about/en/.

[67] WHO, *An R&D Blueprint*, p. 5.

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pandemic potential.[68] Meanwhile national governments, especially in Europe and North America, have created stockpiles of medicines and vaccines for potential infectious disease pandemics,[69] while the EU has agreed on a joint-purchasing approach for medicines and vaccines required for such events.[70]

Finally, the rationality of preparedness as a response to global health risks is manifest in the development of procedures, legislation and financing mechanisms that can be activated in an emergency. Procedures have been created to facilitate the accelerated development and use of relevant drugs and vaccines. As the World Economic Forum's *Global Risks Report 2016* argues: 'Preparedness and response measures range from the behavioural … to the need to invest in diagnostic, drug and vaccine R&D and in its enabling environment, especially advancing a regulatory framework.'[71] At the national level, legislation is most advanced in the United States, notably with the creation of the Animal Efficacy Rule and the Emergency Use Authorization (EUA). The Animal Efficacy Rule responds to the problem posed by the fact that many of the diseases that are considered health security threats occur rarely if at all in nature. Drugs and vaccines against such threats can often not be approved on the basis of human clinical trials, because disease outbreaks may be too short or involve too few people for large-scale clinical testing to be organized, while deliberately exposing humans to pathogens merely for the purpose of pharmaceutical development is considered unethical.[72] Under the Animal Efficacy Rule, the US Food and Drug Administration can approve pharmaceuticals on the basis of efficacy studies conducted with animal models, rather than on human clinical trials. The safety of any product developed by this route, however, does have to be demonstrated in human studies. Similarly, the EUA, established as part of the Project Bioshield Act (2004) and the Pandemic and All-Hazards Preparedness Reauthorization Act (2013),[73] can provide authorization for the use of pharmaceuticals and medical devices that have not yet been fully tested for safety and efficacy. Although there is no equivalent to the animal rule in other countries or at the international level, some countries and international organizations have nevertheless prepared emergency use authorization procedures as part of pandemic preparedness strategies. For instance, the European Medicines Agency has initiated procedures for accelerating the availability of vaccines during an influenza pandemic, including a 'mock-up procedure' whereby a vaccine can be authorized on the basis of the virus strain that might cause a pandemic, before

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[68] CEPI, *New vaccines for a safer world*, http://cepi.net/sites/default/files/CEPI_2pager_03_Feb_17.pdf, p. 1.

[69] Sandra Mounier-Jack and Richard Coker, 'How prepared is Europe for pandemic influenza? Analysis of national plans', *The Lancet* 367: 9520, 2006, pp. 140511.

[70] European Commission, *Joint procurement of medical countermeasures*, 2014, https://ec.europa.eu/health/preparedness_response/joint_procurement_en.

[71] World Economic Forum, *The Global Risks Report 2016*, p. 7.

[72] Some of the contemporary ethical issues in vaccine trials are discussed in Malcolm Molyneux, 'New ethical considerations in vaccine trials', *Human Vaccines and Immunotherapeutics*, publ. online Jan. 2017, http://dx.doi.org/10.1080/21645515.2016.1272744.

[73] The EUA is usefully outlined on the [US] Food and Drug Administration's website: see https://www.fda.gov/EmergencyPreparedness/Counterterrorism/ucm182568.htm. See also its 'Emergency Use Authorization of medical products and related authorities', Jan. 2017, https://www.fda.gov/RegulatoryInformation/Guidances/ucm125127.htm.

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the pandemic has actually occurred; and during the 2014 west African Ebola outbreak, WHO created emergency use assessment and listing (EUAL) procedures to evaluate the performance, quality and safety of pharmaceutical technologies prior to their formal licensing as a means to accelerate their use during an emergency. The EUALs have been used for the assessment of Ebola diagnostics and the first Ebola vaccine. In addition, financing facilities have been created to strengthen global pandemic preparedness. In 2015, WHO member states set up a Contingency Fund for Emergencies to fund initial response activities, and a year later the World Bank launched the Pandemic Emergency Financing Facility to 'create the first-ever insurance market for pandemic risk'.[74]

Global health risks: a moral imperative for global action?

The framing of pandemics as a global risk shapes both the perception of the problem, as unpredictable yet unavoidable and potentially catastrophic, and the path of the policy response, namely towards strengthening pandemic preparedness. Moreover, this framing sets a tone that is particularly suitable for global collective action and global governance. A key insight from sociological theories of risk is that modern societies not only create new risks (by creating new technologies), but also want to control them. As Giddens writes: 'Risk is the mobilizing dynamic of a society bent on change, that wants to determine its own future rather than leaving it to religion, tradition, or the vagaries of nature.'[75] Niklas Luhmann finds that there is a common perception that 'the future depends on decisions made in the present'.[76] From this perspective, the future risk of disasters depends on decisions that someone has made—or not made. If this is the case, 'one can demand that such dangers be obviated'.[77] Hence, with the perception that risks depend, at least partly, on human decisions comes the expectation that decisions be made that minimize future risks. Inherent in the modern perception of risk, therefore, is a call to action in response to unplanned processes.

How, then, is this call to action to be reconciled with a portrayal of risks as unpredictable? If we perceive risks as unpredictable, we cannot use the rational calculation of relative likelihood as the basis of decision-making on which risks to prioritize. So how do we decide where to allocate finite resources? In the public and political debate on global health risks, the key rationale for decision-making and action is the potentially disastrous *impact* of a pandemic.[78] The Commission

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[74] World Bank, *World Bank Group launches groundbreaking financing facility to protect poorest countries against pandemics*, Sendai, 21 May 2016, http://www.worldbank.org/en/news/press-release/2016/05/21/world-bank-group-launches-groundbreaking-financing-facility-to-protect-poorest-countries-against-pandemics.

[75] Giddens, *Runaway world*, p. 42.

[76] Niklas Luhmann, *Risk: a sociological theory*, trans. Rhodes Barrett (Berlin and New York: De Gruyter, 1993), p. x.

[77] Luhmann, *Risk*, p. ix.

[78] This rhetoric feeds into the sense of urgency and emergency that has been created through the framing of certain health issues as security threats. Several scholars have illustrated how the securitization of health issues has created a certain 'political modality' for dealing with health problems, an 'emergency modality of intervention' (Stephen Collier and Andrew Lakoff, 'The problem of securing health', in Lakoff and Collier, eds, *Biosecurity interventions*, p. 17) and a 'world on alert' (Lorna Weir and Eric Mykhalovskiy, *Global public*

on a Global Health Risk Framework for the Future suggests that an annual commitment of US$4.5 billion could significantly strengthen global pandemic preparedness. It then goes on to ask: 'How does $4.5 billion per year stack up against the potential risks? The 1918 influenza pandemic killed approximately 50 million people … and arguably as high as 100 million in 1918–1920.' It goes on to suggest that 'during the 21st century global pandemics could cost in excess of $6 trillion'.[79] CEPI, with its mission to develop vaccines against future pandemics, argues that 'infectious disease epidemics … match wars and natural disasters in their capacity to endanger lives, disrupt societies and damage economies … Many of the epidemic diseases that we know pose the greatest threat to society could be prevented with vaccines. But very few vaccines against these threats have been developed to create proven medical products.'[80] And the Global Health Security Agenda points out: 'Experts estimated that the 2003 SARS outbreak cost the global economy between $30 billion and $40 billion in just 6 months. The next severe influenza pandemic, for example, could cost the world economy up to $6 trillion. The enormous costs of pandemics can be averted with strategic investment in capacity building and preparedness.'[81]

By emphasizing the potentially catastrophic impact of global health risks, this framing makes it difficult to oppose measures that could help mitigate or prepare for the catastrophe.[82] Faced with potentially enormous losses, not only in human lives but also in economic terms, it is difficult to argue that resources should be spent elsewhere. The sense of fear and urgency created by this framing lifts the issue beyond the level of conflicting interests, moving it outside the realm of politics. Furthermore, the potential for political argument is defused by language that underscores the global nature of the impact, referring to millions of lives lost *globally*, damages to the *global* gross domestic product (GDP), and the rapidity with which 'an airborne influenza virus could spread', reaching 'all major global capitals within 60 days'.[83] This inclusive character of the risk frame is particularly important in the global political arena, where the range of interests and perspectives on health issues is wide, where cooperation is voluntary and where persuasion can be a powerful tool to promote cooperation.[84]

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health vigilance: creating a world on alert, Abingdon: Routledge, 2010). In particular, the rhetoric of urgency and emergency seems to promote governance responses that are short term and focused on technological interventions, such as surveillance systems and pharmaceuticals, which are perceived as politically neutral and therefore supposedly more easily justified in international politics than social and economic interventions (Anne Roemer-Mahler and Stefan Elbe, 'The race for Ebola drugs: pharmaceuticals, security and global governance', *Third World Quarterly* 37: 3, 2016; Collier and Lakoff, 'The problem of securing health').

[79] Commission on a Global Health Risk Framework for the Future, *The neglected dimension of global security*, pp. 17–18.

[80] CEPI, 'Mission', http://cepi.net/mission.

[81] Global Health Security Agenda, *Advancing the Global Health Security Agenda*.

[82] See e.g. Francis Chateauraynaud and Didier Torny, 'Mobiliser autour d'un risque. Des lanceurs aux porteurs d'alerte', in Cecile Lahellec, ed., *Risques et crises alimentaires* (Cachan: Librairie Lavoisier, 2005), pp. 329–39.

[83] UN High-level Panel on the Global Response to Health Crises, *Protecting humanity from future health crises*, advance unedited copy, 25 Jan. 2016, http://www.un.org/News/dh/infocus/HLP/2016-02-05_Final_Report_Global_Response_to_Health_Crises.pdf.

[84] See Alexander Betts, *Protection by persuasion: international cooperation in the refugee regime* (Ithaca, NY: Cornell University Press, 2009).

The global health risk frame appears particularly suitable for the promotion of global collective action and global governance in that it combines a moral imperative to act with a tone of neutrality and inclusiveness. Yet the global health risk frame is not neutral; it is highly political, in that it privileges some interests over others. For instance, the framing of specific health issues, notably pandemics, as global health risks does more to promote the interests of the United States and other high-income countries in establishing global systems of epidemic intelligence and medical countermeasure development than it does to promote the health interests of many people in poor countries.[85] The most likely and most disastrous health threats that people in low-income countries face on an everyday basis are not pandemics, but infectious diseases without pandemic potential and non-communicable diseases.[86] This is not to say that people in low-income countries might not potentially benefit from better global disease surveillance and the availability of medicines and vaccines to contain outbreaks with pandemic potential: an earlier response to the Ebola outbreak in west Africa in 2014, and the availability of medicines or vaccines, might have saved thousands of lives in the region. Yet millions of people die every year from health issues that are not defined as global risks and that are unlikely to be addressed by preparedness policies.[87] The global health risk frame reflects the ability of certain actors to define what global risks are and to shape the allocation of global health governance resources. Obscuring the political dimension of the global health risk framework behind a tone of neutrality, urgency and inclusiveness may, at first glance, appear advisable to facilitate collective action. Yet, we suggest, it may also undermine the legitimacy and thereby the effectiveness of global health governance in the long run: for effective and legitimate global health governance requires that national and local interests feel represented in global decision-making. Depoliticizing global health governance, however, limits the scope for contestation, negotiation and compromise between different interests by erecting a screen of scientific neutrality.

Competing risks in global health crises

The global health risk frame, then, while it initially seems more attractive than the security frame because of its apparent neutrality and moral imperative, in effect risks obscuring the political aspect of how decisions over priorities are made. We also detect another way in which the risk frame is not an objective, technical exercise but a site where different interests and values can be expressed, and therefore where politics and potential contestation come into play. To do this, we shift

[85] Kendall Hoyt and Richard Hatchett, 'Preparing for the next Zika', *Nature Biotechnology* 34: 4, 2016, pp. 384–6; Andrew Lakoff, 'Global health security and the pathogenic imaginary', in Sheila Jasanoff and Sang-Hyun Kim, eds, *Dreamscapes of modernity: sociotechnical imaginaries and the fabrication of power* (Chicago: University of Chicago Press, 2015), pp. 303–20.

[86] WHO, *Global Health Observatory data: causes of death, by WHO region*, 2017, http://www.who.int/gho/mortality_burden_disease/causes_death/region/en/.

[87] Contrast the west African Ebola outbreak, which was portrayed as a global risk and led to an estimated total of below 12,000 deaths, with the deaths of an estimated 750,000 infants each year from diarrhoeal disease in Africa, which go largely unnoticed globally.

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the focus in this section of the article to discuss how global health has been framed in terms of *different types of risk*, especially in the context of crises.[88] Whereas the previous section noted the use of 'risk' as a discursive move, here we consider its use synonymously with other terms such as 'threat' or 'danger' to indicate societal vulnerability. Thus in this discourse the term 'risk' may either be used explicitly or implied.[89]

The section builds on the work done on framing in agenda-setting, specifically in studies that use framing to explain why some global health issues achieve greater prominence than others.[90] These studies point out that levels of mortality and morbidity do not always offer a satisfactory explanation for which health issues appear on international agendas. The appearance of the Zika virus in South America in 2015–16, for example, received widespread attention and was declared a Public Health Emergency of International Concern (PHEIC) by the WHO— only the fourth health emergency to reach this highest level of alert—despite no one having died from the disease. These studies suggest that what matters is rather how health issues are presented, or 'framed', to resonate with powerful actors' interests.[91] In the literature on global health, framing has therefore been used principally to explore how advocates persuade powerful actors to take positions and use their influence on a particular health issue (agenda-setting).[92] But framing may also be used to legitimize the actions of these powerful actors. The World Bank, for example, plays a major role in health policy *because* it can frame health as an issue for developing economies. Frames in global health are therefore used by advocates and actors alike both to persuade and to legitimate actions. Using this insight, we suggest that a health issue can be successfully constructed as a risk by framing it as a risk *to something or to someone*. Risks are framed to resonate with the interests of particular communities who possess power, in an attempt to generate or legitimize action. Building on our previous work,[93] we suggest that four frames relating to risk can be identified in global health.

The *biomedical frame* is perhaps the most straightforward and longstanding, and is used to suggest that an issue is a risk to human health. In its narrowest sense, it focuses on the risk to the functioning of the human body from exposure to pathogens and toxins, but may also be scaled up to consider the risk to the physical and mental health of communities. Thus a highly pathogenic zoonotic virus such as

[88] Crises here range from a relatively short disease outbreak lasting several months to long-wave events such as the decades-long HIV/AIDS pandemic.
[89] See e.g. Giddens's use of the term in 'Risk and responsibility', which distinguishes between natural and human-made risks, but not between risk and threat, implicitly treating both as part of the same social construction of vulnerability.
[90] Notably Shiffman, 'A social explanation'; Jeremy Shiffman and Stephanie Smith, 'Generation of political priority for global health initiatives: a framework and case study of maternal mortality', *The Lancet* 370: 9595, 2007, pp. 1370–9; Labonté and Gagnon, 'Framing health and foreign policy'; McInnes and Lee, eds, *Framing global health governance*.
[91] See e.g. Owain D. Williams, 'Access to medicines, market failure and market intervention', *Global Public Health* 7: suppl. 2, 2012, pp. S127–43; David Reubi, 'Making a human right to tobacco control', *Global Public Health* 7: suppl. 2, 2012, p. S176.
[92] See esp. Shiffman and Smith, 'Generation of political priority'; Labonté and Gagnon, 'Framing health and foreign policy'.
[93] McInnes and Lee, eds, *Framing global health governance*.

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H5N1 (avian influenza) has been successfully framed as a biomedical risk because of its high mortality rate (currently in excess of 50 per cent of humans infected by poultry), but also because of the potential of a pandemic if the virus mutates to allow human-to-human transmission.

The *rights frame* is based not simply on the idea of a risk to 'the enjoyment of the highest attainable standard of health', as articulated in the constitution of the WHO (1946) and subsequently developed in international law (including the Universal Declaration on Human Rights in 1948), but also on how ill-health may lead to discrimination. This has been particularly prominent in campaigns concerning HIV/AIDS and tobacco control. From the 1980s on, AIDS activists have fought against discriminatory practices affecting both individual people living with HIV and AIDS, and communities which are perceived as being at high risk from HIV infection (notably the gay community, but also immigrants from countries with a high incidence of the disease). In contrast, while 'big tobacco' has argued that restrictions on tobacco use infringe an individual's freedom to choose to smoke, advocates of tobacco control counter that smoking (including passive smoking) affects the right to health enshrined in the WHO constitution.

The *economics frame* suggests that a health issue may be a risk to global economic growth or to development in low-income countries. Factors such as lost productivity owing to worker absenteeism, reduced investment in areas affected by a disease outbreak, formal travel restrictions or a general unwillingness to travel (affecting both business people and tourists) and a lack of workforce mobility have all been deployed to suggest how economies may be affected by health issues and especially communicable diseases. During the first decade of the twenty-first century, for example, fears were commonly expressed that HIV represented an economic risk to fragile African states, potentially threatening their viability; and early assessments of the SARS outbreak in 2002–2003 identified the economic costs in terms of tens of billions of dollars, feeding into ideas that newly emerging communicable diseases threatened global economic growth and were a risk not only to low-income countries but to high-income states as well.

Finally, there is the *security frame*. Health may be framed as a security risk, not least because of its effects on state stability. HIV, for example, has been presented as a risk to 'the glue that holds societies together' because of its effects on professional classes such as teachers, civil servants and the police; viruses such as smallpox have been identified as potential weapons for use by terrorists; epidemics threaten the social contract, when governments are unable to provide protection for their citizens; and new diseases, or diseases new to a region, may provoke widespread fear in society (as briefly occurred in 2014, when Thomas Edward Duncan was diagnosed with Ebola in the United States).

This list is not intended to be exhaustive, but rather to indicate how global health may be framed as a risk in different ways. Framing provides an analytical tool to highlight the fact that health is a political space: framings are driven at least partly by strategic interests and compete for resources over how to respond and whose interests to privilege over others. This use of framing is explored in the next section.

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Framing Ebola as a global risk

As an example of how these different frames are used, we explore three organizations central to the outbreak of Ebola in west Africa in 2014–15: the WHO; the international humanitarian NGO MSF; and the UN Security Council. Each of these organizations presented the risk from the outbreak in different ways, allowing them to construct different pathways for response.

Predictably, the WHO framed the outbreak in biomedical terms. In her report to the special session of the executive board on Ebola in January 2015, for example, Director-General Margaret Chan spoke of the outbreak in almost exclusively health terms. She emphasized its size and complexity compared to previous outbreaks, the weakness of the public health infrastructure which allowed it to develop, the establishment of new laboratories to provide diagnoses, and the skill and bravery of health personnel in treating those infected. The risk was to the lives and well-being of individuals in west Africa.[94] This framing established a pathway for response based on established public health and biomedical methodologies of surveillance, prevention of infection, controlling the spread of the disease and treatment of those affected. The WHO emphasized its role in assisting nearby states to prevent the spread of the disease; the need for improved health-system functions to prevent new outbreaks of Ebola from developing into crises; and its role in fast-tracking the development of improved diagnostics and vaccines.[95] It was also sceptical about the introduction of travel restrictions, *not* because of the potential economic impact (a common concern), but because of its potential to limit the number of aid workers being sent to west Africa.

Nevertheless, the WHO did also deploy additional frames. In the opening paragraph of its report to the January 2015 special session of the executive board on Ebola, the WHO secretariat wrote that the outbreak 'represents a threat to global health security',[96] while for the same meeting Margaret Chan wrote that 'what began as a health crisis quickly escalated into a humanitarian, social, economic and security crisis'.[97] The use of additional framings was also evident in Chan's September 2014 briefing to the UN Security Council. In this she not only deployed the security frame, talking of the risk of state failure, but also used the economic frame, reiterating the World Bank's warning of a 'potentially catastrophic blow' to economies in an already weak region.[98] The economic framing is also seen in

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[94] Margaret Chan, *Report by the Director-General to the special session of the executive board on Ebola*, 25 Jan. 2015, http://www.who.int/dg/speeches/2015/executive-board-ebola/en/. See also WHO, *Ebola virus disease*, factsheet no. 103, updated June 2017, http://www.who.int/mediacentre/factsheets/fs103/en/; WHO, *WHO response in severe, large-scale emergencies*, report of the Director-General to the 68th World Health Assembly A68/23, 15 May 2015, http://apps.who.int/gb/ebwha/pdf_files/WHA68/A68_23-en.pdf, last accessed 8 March 2017.

[95] See e.g. WHO, 'Current context and challenges; stopping the epidemic; and preparedness in non-affected countries and regions'; 'Fast-tracking the development and prospective roll-out of vaccines, therapies and diagnostics in response to Ebola virus disease'; 'Ensuring WHO's capacity to prepare for and respond to future large-scale and sustained outbreaks and emergencies', papers prepared for WHO executive board special session on Ebola EBSS/3/2, http://apps.who.int/gb/e/e_ebss3.html.

[96] WHO, 'Current context', para. 1.

[97] Chan, *Report by the Director-General*.

[98] UN, 'With spread of Ebola outpacing response, Security Council adopts Resolution 2177 (2014) urging immediate action, end to isolation of affected states', media release SC11566, 18 Sept. 2014, http://www.un.org/

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other WHO documents, which note that Ebola 'devastated the health systems *and* economies' of countries affected in west Africa,[99] and that health emergencies such as the Ebola outbreak 'can have long-term consequences that undermine decades of social development'.[100]

In widening the framing of the Ebola outbreak beyond the biomedical, the WHO was legitimizing the involvement of other actors rather than resisting it. Whether this was a conscious strategy to gain wider support and assistance, or a reflection of the manner in which the crisis had evolved beyond the WHO's control, is unclear. But it does stand in stark contrast to the framing presented by MSF, the other high-profile health actor involved. MSF consistently presented the Ebola crisis in biomedical terms, focusing on the nature and spread of the disease and on the suffering of patients. Although the organization's use of the biomedical frame is hardly surprising, the heavy—almost total—focus on this frame is perhaps more so, given the potential utility of the rights and economic (especially economic development) frames in promoting improved health provision. Given MSF's historic wariness about working with military forces, however, its avoidance of the security frame is perhaps more predictable.

A typical example of MSF's biomedical framing is the short, high-profile article posted on its website in June 2014, in which it made a plea for additional resources. Dr Bart Janssens, MSF's head of operations, is prominently quoted, stating: 'The epidemic is out of control … there is a real risk of it spreading to other areas.' The focus is on the spread of the disease, the high numbers of cases, the strain on MSF ('[we have]reached our limits'), and the need for additional medical and public health resources to bring it under control.[101] Two months later, in response to the WHO's declaration of the outbreak as a PHEIC, Janssens commented:

For weeks, MSF has been repeating that a massive medical, epidemiological and public health response is desperately needed to saves lives and reverse the course of the epidemic. Lives are being lost because the response is too slow … all of the following need to be radically scaled up: medical care, training of health staff, infection control, contact tracing, epidemiological surveillance, alert and referral systems, community mobilisation and education.[102]

MSF's consistent use of a biomedical framing led to a clear pathway of response: 'a massive deployment of medical and disaster relief specialists from states'.[103]

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press/en/2014/sc11566.doc.htm.

[99] WHO, *High-level meeting on building resilient systems for health in Ebola-affected countries: Report of a meeting, 10–11 December 2014*, para. 1, http://www.who.int/healthsystems/ebola/meeting10122014report/en/.

[100] WHO, 'Ensuring WHO's capacity', para. 1.

[101] MSF, 'Ebola in west Africa: epidemic requires massive deployment of resources', 21 June 2014, http://www.msf.org/article/ebola-west-africa-epidemic-requires-massive-deployment-resources. See also e.g. MSF, 'Ebola: pushed to the limit and beyond—MSF report', 19 March 2015, http://www.msf.org.uk/article/ebola-pushed-to-the-limit-and-beyond-msf-report; 'Guinea: Ebola epidemic declared', first posted 24 March 2014, updated 29 Oct. 2014, https://www.msf.org.uk/article/guinea-ebola-epidemic-declared; 'Ebola: official MSF response to WHO declaring epidemic an "extraordinary event"', 8 Aug. 2014, http://www.msf.org.uk/article/ebola-official-msf-response-who-declaring-epidemic-extraordinary-event; 'Ebola: after five months, where is the response?', https://www.msf.org.uk/article/ebola-after-five-months-where-response, 3 Sept. 2014.

[102] Quoted in MSF, 'Ebola: official MSF response'.

[103] MSF, 'International response to west Africa Ebola epidemic dangerously inadequate', 15 Aug. 2014, http://www.msf.org/article/international-response-west-africa-ebola-epidemic-dangerously-inadequate. See also MSF, 'Guinea: Ebola epidemic declared'.

When MSF's international president, Dr Joanne Liu, provided a special briefing for the UN, she too used the biomedical frame:

Six months into the worst Ebola epidemic in history, the world is losing the battle to contain it … In West Africa, cases and deaths continue to surge. Riots are breaking out. Isolation centers are overwhelmed. Health workers on the front lines are becoming infected and are dying in shocking numbers. Others have fled in fear, leaving people without care for even the most common illnesses. Entire health systems have crumbled. Ebola treatment centers are reduced to places where people go to die alone, where little more than palliative care is offered. It is impossible to keep up with the sheer number of infected people pouring into facilities. In Sierra Leone, infectious bodies are rotting in the streets. Rather than building new Ebola care centers in Liberia, we are forced to build crematoria.[104]

This led to her identifying and discussing a particular pathway of response based on prevention, containment and treatment. Most notably, she departed from MSF's traditional aversion to working with military forces to ask for military aid. However, this was *within* the biomedical frame and its identified pathway of response, rather than an attempt to securitize the outbreak:

Many of the Member states represented here today have invested heavily in biological threat response. You have a political and humanitarian responsibility to immediately utilize these capabilities in Ebola-affected countries. To curb the epidemic, it is imperative that States immediately deploy civilian and military assets with expertise in biohazard containment. I call upon you to dispatch your disaster response teams, backed by the full weight of your logistical capabilities.[105]

Unlike the WHO and MSF, whose organizational focus was on health, the UN Security Council had only occasionally intervened on health issues. Its most notable health interventions prior to the Ebola outbreak focused on HIV/AIDS, including Resolution 1308 (which concerned the impact of HIV on peacekeeping).[106] In September 2014, however, it passed two Resolutions in a single week concerning the Ebola outbreak, both following discussions in the Council. The first, Resolution 2176 of 15 September, expressed the Council's 'grave concern' over the outbreak and extended the UN peacekeeping mission in Liberia (UNMIL) until 31 December 2014. Significantly, the Council determined 'that the situation in Liberia continues to constitute a threat to international peace and stability in the region'.[107] The second and longer resolution followed an extended (but consensual) discussion in the Council on 18 September. This discussion included briefings from, among others, Margaret Chan, David Nabarro (Senior UN System Coordinator for Ebola) and Jackson K. P. Niamah from MSF. Council members and the subsequent Resolution 2177 consistently framed the risk in terms of security. In particular, the risk of state failure was alluded to when several Council members

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[104] Joanne Liu, 'United Nations special briefing', 2 Sept. 2014, http://www.doctorswithoutborders.org/news-stories/speechopen-letter/united-nations-special-briefing-ebola.
[105] Liu, 'United Nations special briefing'.
[106] UNSC 1308.
[107] UNSC Resolution 2176, 15 Sept. 2014, http://www.un.org/en/sc/documents/resolutions/2014.shtml.

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noted the fragile and vulnerable condition of affected countries, a point reiterated in Resolution 2177.[108]

   Although the security framing dominated both the discussion in the Council and its two resolutions, legitimizing the deployment of military forces to assist in the region, other framings were also used. These additional framings allowed the Council to develop a pathway of response which emphasized collaboration not only among elements of the UN system, but also among those states able to provide aid. Resolution 2177, for example, 'stress[ed] the need for coordinated efforts of all relevant United Nations System entities to address the Ebola outbreak',[109] while Secretary-General Ban Ki-moon's opening comments in the Council debate drew on multiple frames to portray the outbreak as a 'complex emergency' requiring a coordinated response.[110] The economic frame was used by a number of those participating in the debate,[111] with Resolution 2177 noting the risk to economies, including the risk posed by travel restrictions;[112] the rights frame was deployed, with the Council noting in particular the impact on women and the humanitarian dimensions of the outbreak;[113] and multiple contributions (including those from all representatives of the five permanent members) referred to the outbreak as a health crisis (though often as 'more than' a health crisis).[114] Interestingly, Resolution 2177 linked both health and security by referring to the Global Health Security Agenda, allowing it to include public health measures in its pathway of response.[115] Thus we see, in these framings by three organizations key to the Ebola response, a deployment of frames based on organizational logics and interests; the use of additional frames to generate wider support; and the potential for contestation.

Conclusion

The rise of health issues on international agendas led to the framing of threats to health as security issues. This created an uneasy relationship between politics and health by moving national interests into an area traditionally dominated by scientific rationality and a predisposition towards cosmopolitan norms. Framing global health issues as risks appears to be less politically charged and divisive than the security frame, because it combines an aura of scientific objectivity with a moral call to action over the potentially catastrophic impact of infectious diseases. In this article we have maintained that, despite its technical use in public health, in the policy discourse on global health the risk frame is not immune to values

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[108] UNSC Resolution 2177, 18 Sept. 2014, http://www.un.org/en/sc/documents/resolutions/2014.shtml; Minutes of UNSC 7268th Meeting, S/PV.7268, 18 Sept. 2014, http://research.un.org/en/docs/sc/quick/meetings/2014. For a summary of the discussion, see UN, 'With spread of Ebola outpacing response'.
[109] UNSC Resolution 2177, p. 3.
[110] Minutes of UNSC 7268th meeting, p. 2.
[111] See e.g. the contributions made by representatives from Australia and Chad, in Minutes of UNSC 7268th Meeting, pp. 16, 19.
[112] UNSC Resolution 2177, pp. 1–2.
[113] e.g. Resolution 2177, pp. 1, 2.
[114] Minutes of UNSC 7268th meeting.
[115] UNSC Resolution 2177, p. 2.

and interests but is, on the contrary, inherently political. We have demonstrated this by highlighting how the risk frame privileges a specific approach to global health policy, namely one characterized by a possibilistic and 'preparedness' rationale. This approach focuses on potential future catastrophes rather than presently existing health problems, and emphasizes technological solutions rather than addressing the socio-economic determinants of health. Furthermore, we have examined how the framing of the 2014–15 west African Ebola outbreak in terms of risk revealed the presence of not one but multiple different risk framings existing simultaneously.

The framing of health in terms of risk instead of security is useful in understanding how health issues both reflect and contribute to the wider *Zeitgeist* of societal vulnerability. The idea that dangers exist that are uncontrollable and are the product of technical progress (in this context, improved trade and transport links which act as a vector for the spread of communicable disease) is not unique to health but is rather part of a much wider trope. The perception of vulnerability is both a defining feature of modern society and the driver for individual and collective action. It is related not necessarily to the likelihood of an event occurring but rather to the consequences of it. The risk frame allows us to place health issues in this wider context, where disease is just one of a number of concurrent dangers rather than a separately identifiable hazard.

We have illustrated the uneasy relationship between global health and politics by viewing it through the lens of framing analysis. We have shown how the framing of infectious disease pandemics as a global risk creates a certain perception of the policy problem at hand: how to respond to a future event that is potentially catastrophic, yet unpredictable and unavoidable? Furthermore, we have shown how this framing establishes a particular pathway of response based on policies of preparedness. The frame initially appears conducive to the avoidance of political conflict—both because of its neutral, almost scientific tone, and because it combines a sense of urgency with the suggestion that measures can be taken to mitigate disaster, which are difficult to oppose without seeming negligent. It also promotes a sense of inclusiveness by articulating the potentially catastrophic impact of pandemics in cosmopolitan terms—as global loss of lives and damage to the global economy. In other words, by creating a moral imperative to act and a sense of inclusiveness, the global risk frame can help to defuse political argument about where the benefits and costs of preparedness policies lie. However we also argue that, at the same time, the global health risk frame is inherently political. In particular, the material consequences of its adoption are likely to benefit populations in high-income countries more than those in low-income countries, and therefore privilege the interests of the former over those of the latter. At the same time, it 'depoliticizes' global health governance by constructing a superordinate threat and by limiting the scope for legitimate contestation based on different interests and values.

We have also illustrated the difficult relationship between global health, risk and politics by looking at how different organizations frame risk in different

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ways and, consequently, advocate different pathways of response. This opens up the possibility of competition and contestation, where there is no scientifically valid optimal response but rather a clash of interests and values, with which each position taken is legitimate from the perspective of the particular frame used. Even when actors from within the health sector are involved, they may frame an issue differently, as we saw in the responses of the WHO and MSF to the west African Ebola outbreak; and actors outside the health sector frame the issue in accordance with their organizational interests, as we saw in the responses of the UN Security Council during the same outbreak. Both the WHO and the Security Council demonstrated a sensitivity beyond their narrow sectoral interests, which suggests a potential for mediation between different framings. Yet to date 'global health diplomacy' has tended to focus upon longer-term issues within the health sector, in particular upon establishing globally agreed protocols (such as those for communicable disease surveillance and reporting, or control of harmful substances) or the relationship with foreign policy,[116] while discussion of improving responses to health emergencies has concentrated on capacity-building and organizational efficiency.[117] What also appears to be needed is an improved means of negotiating between different risk framings across multiple sectors, both on long-term structural issues and with regard to potential future emergencies.

[116] David P. Fidler, 'Influenza virus samples, international law, and global health diplomacy', *Emerging Infectious Diseases* 88: 1, 2008, http://www.repository.law.indiana.edu/cgi/viewcontent.cgi?article=1447&context=fac pub; Ilona Kickbusch, 'Global health diplomacy: how foreign policy can influence health', *British Medical Journal* 342: d3154, 10 June 2011, http://www.bmj.com/content/342/bmj.d3154.full; Kelley Lee, Luiz Carlos Chagas and Thomas E. Novotny, 'Brazil and the Framework Convention on Tobacco Control: global health diplomacy as soft power', *PLoS Med* 7: 4, 2010, e1000232; Rachel Irwin, 'Indonesia, H5N1, and global health diplomacy', *Global health governance* 3: 2, 2010, http://www.ghgj.org/Volume%20III%20Issue%202.htm.

[117] A clear example of this is the report of the Ebola Interim Assessment Panel established by WHO Director-General Margaret Chan and chaired by Dame Barbara Stocking, http://www.who.int/csr/resources/publications/ebola/report-by-panel.pdf.

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