

One Health as a collective responsibility

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Abstract

In spite of the fact that in recent years many steps have been taken in the control of zoonotic diseases, we are still confronted with recent outbreaks of, for example Ebola and Avian Flu (H5N8) and with public debates on the preferred way to deal with zoonoses. Such debates can easily get polarised. Therefore, we argue that a more integrated approach is needed. In this paper we propose an integration on three levels. First, the One Health initiative could serve a fruitful approach to take the interrelatedness of human and animal health into account. Second, we argue that it might be fruitful to approach societal controversies about how societies should respond to zoonotic risks not by focusing on conflicting interests, but as conflicts between broadly shared values. Finally, an effective approach of and a discussion on zoonoses require a more sophisticated view on moral responsibilities, which goes beyond the level of the question ‘who is to blame?’ for a specific outbreak. In this paper we claim that although finding acceptable and well-justified policies will remain a difficult task, these three steps towards a pluralistic approach to thinking about prevention of and response to zoonosis outbreaks may create possibilities to overcome conflicts.

Keywords: responsibility, zoonoses, prevention, values

Introduction

In spite of the fact that in recent years many steps have been taken in the control of zoonotic diseases, we are still confronted with recent outbreaks of, for example Ebola and Avian Flu (H5N8) and with public debates on the preferred way to deal with zoonoses. Even if one agrees that culling should be used as a last resort in dealing with zoonotic diseases, many ethical questions remain when the focus shifts to prevention strategies. Such debates can easily get polarised – as happened for example in the case of the recent Q-fever outbreak in the Netherlands – which may easily undermine trust in agricultural, the food production and public health sectors (Evaluatiecommissie, 2010). Therefore, we argue that a more integrated approach is needed. This entails integration on three levels. First, the One Health initiative could serve a fruitful approach to take the interrelatedness of human and animal health into account. Second, we argue that, rather than interests, the plurality of values that underlie current debates should get a more central role in the debate. Finally, an effective approach of and a discussion on zoonoses require a more sophisticated view on moral responsibilities, which goes beyond the level of the question ‘who is to blame?’ for a specific outbreak. In this paper we elaborate on these three points that serve as stepping stones for future normative frameworks that help to assess current and innovative measures to prevent and control zoonotic diseases.

One Health and the need for ethical reflection

One Health is the idea that human and animal health and natural environment are connected, and that adequate protection against certain threats to human or animal health requires collaboration of a variety of different actors and scientific disciplines (Coker, 2011; Zinsstaga *et al.*, 2011). Zoonoses – infectious diseases that may spread from animals to humans and vice versa are a paradigm case for One Health. Infections occur through direct contact with (infected) biological material of other species, through

vector organisms, food, or through the air. Some of these create major threats to public health. Ebola, SARS, H5N1 influenza, Q-fever, or West Nile virus, are examples of diseases that not only can result in severe illness of individual persons but may also cause large outbreaks that affect public health at large and may undermine societal life. Notwithstanding the advances of medical science, therapeutic options may be limited, as shown in recent cases of Ebola and MERS. Moreover, therapeutic options can further decline as a result of the development of antimicrobial or antiviral resistant strains of infectious agents. Indeed, some antibiotic-resistant infections like MRSA can be considered as zoonoses themselves, developing (among others) in livestock production and then spreading to human populations. Zoonosis infections in livestock farming and food production challenge public health but also affect animal welfare, consumer trust, and a sustainable animal and food production.

To contain the threats of infection, infectious disease control can involve drastic prevention and response measures that interfere with people's wellbeing, privacy and freedom, and which therefore require strong ethical justification and fair procedures to be acceptable and legitimate (Verweij, 2011). Public health legislation sets legal boundaries for legitimate interventions, but within those boundaries, public health officials, professionals, citizens and corporate agents are confronted with ethical questions: what precautions that affect people's lives are reasonable or morally required given certain (or often uncertain) risks (Krom, 2014)? This variety of potential value conflicts only increases or even exacerbates in the case of protection against zoonoses, given the value we attach to animal welfare, animal integrity, safety and trust in the food chain, and to preservation and protection of the natural environment (Akhtar, 2013; Wright *et al.*, 2010). One Health asks for collaboration between different perspectives, and, in the case of ethical reflection on prevention of zoonoses, it makes sense to combine arguments, concepts and ideas from animal ethics and public health ethics.

Interventions: from control to prevention

To control zoonotic diseases, the culling of animals which have been exposed, or which might have been exposed to a disease that is dangerous for human beings is still standard intervention. Especially in the case of disease with a high human health risk, such as H5N1 influenza, culling is considered by many to be an acceptable intervention. However, it is also one that raises a lot of criticism and public debate. Culling, however, is an *ultimum remedium*, and many precautions can and should be taken to prevent outbreaks of zoonoses and to detect infections as early as possible. Common ways of to prevent and respond to infections in modern agricultural practice include, for example following strict protocols for cleaning and disinfection of livestock houses as well as persons entering houses, minimisation of visitors, hygienic disposal of animal waste, etc. In addition, there is a variety of technical and societal innovations to prevent and respond to outbreaks, including the development of medical (human) and veterinary interventions like vaccination or (prophylactic) treatment and the breeding of more robust animals (Collins and Wall, 2004). Data collection in slaughterhouses could be used more systematically to track and trace sources of outbreaks in livestock. Further technological and scientific innovation, however might also facilitate syndrome surveillance in livestock, for example for influenza in poultry and swine). Moreover, such surveillance of possible symptoms in livestock veterinary data could be linked to systematic surveillance in human populations, e.g. in clinical data in family practices, to detect trends that might be early indications of an emergent outbreak.

Although these innovations often are very promising, maximising protection conflicts with other values (Meijboom *et al.*, 2009; Meijboom and Ohl, 2012) and each of the innovation strategies raises specific ethical questions, for instance concerning privacy, responsible use of big data, animal welfare, human quality of life, or sustainability. Furthermore, the effectiveness and reasonableness of specific precautions partly depend on precautions taken elsewhere in the food chain. Many parties can play some role, and

Section 3

share responsibility to contribute to prevention. This shows the need to discuss moral responsibilities next to the question of how to deal with conflicting values.

Dealing with conflicts: from interests to values

Zoonoses outbreaks raise controversies and debates as to how far government, farmers or food producers should go in reducing infection risks or otherwise take action to stop the spread of disease. These controversies are often framed in terms of conflicts of interests between stakeholders, such as farmers, retailers, different government departments (agriculture versus public health) and citizens (in their capacity as consumers or as persons living in high-risk areas). However, to deal with these conflicts it is important to explicate the values that underlie these conflicts. For this step we have two reasons. First, the debate is not only about benefits and stakes, but also about (the variety of) what actors consider to be important and valuable. This may help clarifying the moral conflicts at hand. For that matter, clarification may also imply showing that conflicts are much more complex than they appear at first sight. Conflicting values might be more fundamental than initially thought – certainly in the case of zoonosis, where concerns about society, individual well-being, biodiversity and animal welfare all come into play. Moreover, few actors will have only one, univocal stake in a controversial matter. This observation however also creates possibilities for overcoming conflicts – our second motive for shifting the perspective from interests to values. If we acknowledge that each different ‘stakeholder’ or moral agent may see a variety of values to be relevant – which are in effect often broadly shared within society – this opens ways to reconcile tensions between perspectives and seek reasonable compromises (Benjamin, 1990).

The plurality of responsibilities

Societal controversies that arise in the context of livestock zoonotic outbreaks that threaten the health of people (whether as consumers or as people living close to farms) are easily framed in terms of victims and villains and questions about who is responsible for the loss of lives, health or quality of life. Understandably, citizens are seen as the most important victim; the animals that are culled are considered as another, still important victim. It is also tempting to see farms and government as the most important culprits, especially if governments seem to give some priority to protecting the economic interests of the agricultural sector over protecting the health of the public. Such framing in terms of victims and responsible agents only reinforces a polarised debate.

Responsibility is however a notoriously complex concept. Acknowledging this complexity may contribute to a depolarisation of discussions. One problem with talking about responsibility is that emphasising the responsibility of one party (often not oneself) suggests that others (including oneself) bear less responsibility, or none at all – and that creates tensions between stakeholders. Another problem is that in debates about responsibility, forward-looking and backward-looking conceptions of responsibility are often confused (Verweij and Houweling, 2014). We suggest that, with respect to the prevention and response to zoonotic risk, the focus should be on forward-looking responsibility: who should do what to prevent or respond to outbreaks? Normative judgments about backward-looking responsibility (who has played a causal role in the outbreak, and/or who is to blame for the consequences) are only one category of considerations that are relevant in determining who should take action to prevent or mitigate infection risks. Indeed, given that many parties are involved the food chain and in contributing to agricultural and food safety (governments, food safety authorities, farmers, transporters, slaughterhouses, food companies, retailers, consumers, etc.), it makes sense to frame the problem as a matter of how responsibility should be distributed among all stakeholders rather than as a question about who is responsible for zoonoses control.

David Miller (2001) has introduced a pluralistic approach to the question of how forward-looking (in his terms: remedial) responsibilities are to be distributed. Some parties may be seen as having some forward-looking responsibility because they formed a causal factor the emergence of an outbreak. Others may be considered as having responsibility to prevent and respond to risk because they, are in some way, be blamed for an outbreak. These (backward-looking) considerations however do not exhaust our reasons for allocating forward-looking responsibility. Some parties may have special capacity to prevent infection risk, and that might be an independent reason for seeing them as having a moral duty to contribute to the reduction or mitigation of risk. And yet another category of stakeholders could be seen as having a duty to bear some of the burdens of preventing or mitigating risk because they are benefiting from the conditions that have contributed to the zoonotic risk.

One of the strengths of Miller's approach is that the plurality of reasons makes it difficult for individual stakeholders to solely locate responsibility at other parties. As such it helps stakeholders to acknowledge responsibility as something they share. This not only concerns companies, professionals and government agencies in the food chain. Consumers also have reason to assume some responsibility: they benefit from practice that might contribute to risks: many citizens consume meat and other animal products, they often prefer the cheapest products, and many citizens attach positive value to living in the proximity to agricultural landscapes, where cattle are grazing in the fields. Consumers may have few possibilities to prevent zoonoses outbreaks, but given how they benefit from current agricultural practices that are a potential source for large-scale outbreaks, it might at least be reasonable that expensive precautionary measures will be reflected in the price of animal products.

Acknowledging the plurality of responsibilities is a first step in deliberation about what zoonosis prevention measures are reasonable, and what can be reasonably expected of each of the stakeholders. Such reflection leaves little room for stakeholders to flee from responsibility by pointing at responsibilities of others.

The plurality of values at stake

In practice prevention strategies invoke conflicts between several basic values: public health, privacy, environmental values, animal welfare, food safety, etc. (cf. Verweij, 2011; Verweij and Van den Hoven, 2012). Although it is tempting to focus on maximizing safety and minimizing environmental and health impacts as key parameters for prevention measurements, any responsible policy should acknowledge that risks cannot be ruled out completely, and that precautionary measures may come at the cost of other values. As a result, reflection on what risks are (un)acceptable is inevitable in responsible prevention and control strategies, and this involves a weighing of competing concerns. Such weighing requires that the values at stake are explicated and analysed. This is not an easy task given the plurality of values at stake. The current debate is characterized by a broad range of values, including animal welfare and integrity, urban and rural quality of life, privacy and sustainability. At face value, it seems that this plurality only complicates the opportunities to reach an effective strategy for the control and prevention of zoonosis. However, we argue that a fruitful prevention strategy should start in the acknowledgement of this plurality of values and actors.

The variety of values should not be considered as a complicating hurdle that needs to be taken if one wants to draft prevention strategies. It better is understood as a necessary part, or stepping stones to formulate ways to deal with risks, precautions and responsibility and to discuss and assess these proposals. First, this implies giving explicit room to the plurality of values in order to understand the normative background of (some of) the problems of and conflicts between actors. This does not immediately solve the issues at stake, but helps to get grip on it by better understanding. Furthermore, our proposal to approach zoonosis from an integrated perspective entails that the interrelatedness of values, such as

Section 3

human and animal health becomes more clear. If we start from a One Health perspective the assessment should not include an either/or discussion of health, but should take all values related to health and wellbeing of humans, animals and the environment into account. This may seem as just a further complication of the problem of prevention and control. However, prevention and control are complex by nature. This cannot and should not be 'solved' by denying the moral dimension or by any proposal to reduce the number of values that are considered as important for the debate. Such a reduction will in the end lead to new problems and questions (cf. Meijboom *et al.*, 2009). Finally, granting the plurality of values does not imply that we cannot longer come to agreement or consensus. Values often are shared by many stakeholders. For instance, safety, wellbeing and health are acknowledged as important values by farmers, retailers and public health professionals. Many interpersonal moral conflicts thus are, at the same time, intrapersonal conflicts for citizens, professionals, or governments as well (Benjamin, 1990). Such acknowledgement of the diversity of values and actors it is possible to start to build bridges and to formulate (new) prevention and control strategies.

Conclusion

We have suggested that it might be fruitful to approach societal controversies about how societies should respond to zoonotic risks not by focusing on conflicting interests, but as conflicts between broadly shared values. This may create possibilities to overcome conflicts. On the other hand, our analysis shows how these ethical problems are much more complex than they may appear at first sight. Many – probably irreducible – values are at stake. Many actors bear responsibility, and again, the reasons for assigning responsibility should not be reduced to one type of concern. Although we have suggested that our pluralistic approach to thinking about prevention of and response to zoonosis outbreaks may offer a basis for seeking reasonable compromises, establishing acceptable and well-justified policies will still be a difficult task.

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