

Ethical Health Security in the Age of Antimicrobial Resistance

Pahlman, Fehross, Fox, Silva

Annexure One – Quotes table

<p>Lack of clarity regarding AME as a public good or common good/common pool resource.</p>	<p>“...over-use of antimicrobial medicines as inputs to human and animal health leads to unintended leakage of resistance genes that further combine with natural or intrinsic resistance in the environment. The diffuse nature of this leakage means that the private use decision is typically neither cognisant, nor made responsible for the wider social cost, which is the depletion of wider antibiotic effectiveness, a common pool resource or public good.”[47]</p> <p>“The misuse of a common antibiotic resource by a few individuals results in negative consequences for many, bringing to mind the concept of tragedy of the commons.”[43]</p> <p>“A final question remains: “Is the often-discussed tragedy of the commons a good metaphor for understanding antibiotic resistance?” Our answer is yes and no. Antibiotics are not a “global public good” because they are privately developed, manufactured, sold, and managed according to the profit motives of pharmaceutical companies. These companies also influence prescribing habits of doctors and government policies. Despite this reservation, however, the tragedy of the commons metaphor brings needed attention to the issue of resistance and encourages patients and practitioners to think beyond their own personal benefit from using (or misusing) antibiotics.”[43]</p> <p>“Some have suggested that, at least in certain countries, doctors might have to refrain in certain cases from prescribing antibiotics for certain self-limiting infections or might have to prescribe suboptimal antibiotic treatment in order not to erode the common good of antibiotic effectiveness. It is not clear yet whether such an extreme measure would be necessary, but it is a real possibility.”[50]</p> <p>“It might be the case that in order to preserve the common pool resource of antibiotic effectiveness, some significant risk might need to be imposed on individuals.”[50]</p> <p>“This paper argues that governing AMR at global level must entail action that insures that effective antimicrobials are available to all, that they be targeted effectively, and that wherever possible alternative ways of improving health and managing communicable diseases must be found and put in place. This means that governments and global health actors need to recognise that antimicrobial efficacy is a global public good...”[52]</p>
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“... recognize the containment of AMR as a global public good...” “Without the containment of AMR, precious public goods in the form of antimicrobials are being jeopardized, leading to detrimental effects on human and animal health, the environment and ultimately in achieving the SDGs.”[4]

“The prevalence of antimicrobial resistance (AR) limits the therapeutic options for treatment of infections, and increases the social benefit from disease prevention. Like an environmental resource, antimicrobials require stewardship. The effectiveness of an antimicrobial agent is a global public good... Because antimicrobial effectiveness is a global public good, international cooperation to curb antimicrobial resistance has elements of a classic “prisoners’ dilemma”: individuals and countries fail to coordinate on prudent use, because high temptations to deviate (or free ride on others’ prudence) allow descent to the undesired (high-resistance) equilibrium.”[46]

“...exactly like the consumption of many other finite resources, antibiotic and antimicrobial consumption gives rise to the collective action problem known as ‘tragedy of the commons’: consuming a certain resource, such as antimicrobials, is in an individual’s best short-term interest, but many instances of individual consumption erode the resource and therefore conflict with the collective interest in preserving the good. How to solve a tragedy of the commons? As is the case with the consumption of other finite resources, the answer is quite simple: by rationing the resource.”[10]

“Since their discovery, antibiotics have been heralded as a “miracle drug” that is good for the public, yet, from an economics perspective, they are considered a common good rather than a global public good.”[9]

Although antimicrobial effectiveness (AME) is nonexclusive, in the sense that it can be used by everyone, it is rivalrous. Even prudent use of antibiotics provides an opportunity for bacterial resistance to develop, so one person’s consumption does effect another’s consumption. As a common good, antibiotic effectiveness is subject to the economic principle of the “tragedy of the commons” where a shared finite resource is squandered by a community when each individual exploits the limited resource for their own benefit. Overexploitation of a shared finite source leads to resource depletion and the collapse of the common good.”[9]

“There is a current failure of the global market in providing incentives for R&D and innovation for new antimicrobial treatments and infection control measures... Any funding and incentives provided should additionally promote the responsible use and equitable access of new tools and treatments to address AMR, in order to preserve the nature of the resource as a global public good.”[32]

	<p>“To avoid an AMR ‘tragedy of the commons’ situation, antimicrobial effectiveness needs to be recognized as a fundamentally important global public good and governed accordingly... Antimicrobial effectiveness must be looked upon as a limited global public good on the verge of becoming scarce, and the world has a collective responsibility to preserve it in order to avoid countless future victims of drug-resistant infections.”[41]</p> <p>“Global public goods such as antimicrobials (AMs) can only be preserved if all countries cooperate, and therefore strong commitment from national policymakers around the world is essential.”[33]</p> <p>“To simplify, the problem essentially boils down to a <i>tragedy of the commons</i>, whereby all countries would benefit over the long term from effective limits on antimicrobial use, but individual countries are incentivized to not impose costly limits over the short term. Such problems are often seen in the environmental sector, where we see the world struggle to manage common-pool resources such as limited carbon emissions in the atmosphere and clean oceans. The key is that every country is incentivized to maximize their short-term interests, which leads to free-riding by countries on every other country’s efforts. Individual countries that do choose to implement effective resource stewardship, end up incurring costs without the guarantee that long-term benefits will be obtained due to the free-rider problem and the potential spread of resistant-microbes from other countries. In this case, AMR is further exacerbated by global market failures, whereby there is a misalignment of public and private interests. As a result, antimicrobials are a scarce resource in LMICs where they are unaffordable, and oversupplied in wealthier contexts where they are not used appropriately.”[32]</p> <p>“The public goods theory has contributed to our understanding of non-rival and non-excludable goods that the market cannot or does not provide for given the all-inclusive nature of such public entities”[49]</p> <p>“Each time an antibiotic is ingested, the likelihood increases that the antibiotic will be less effective in the future not only for the person who took the antibiotic, but for others as well. This reality returns us to the tragedy of the commons. By conceptualizing antibiotics as an always-effective global resource, neither patients nor practitioners think about the effects of their antibiotic misuse on the larger population.”[43]</p>
AMR as a threat to health security	<p>“Antimicrobial resistance is a global problem. Infections and the emergence of resistance to the drugs used to prevent and treat them have readily spread across geographical borders, threatening global health security.”[3]</p> <p>“Antimicrobial resistance (AMR) is another major threat to global health security. AMR is the ability of a microorganism... to stop an antimicrobial agent (such as antibiotics, antivirals, and antimalarial medicines) from working against it, rendering standard treatments ineffective.”[27]</p>

	<p>“AMR is a good example of a slow-burn issue, one that is becoming core to global health security framings but whose ultimate consequences are likely to be far greater than we have anticipated. AMR has a different temporality element from many traditional global health security concepts—one of “delayed destruction.””[45]</p> <p>“Antimicrobial resistance (AMR) has always existed as a natural evolutionary process. However, accelerated emergence of acquired AMR due to over and misuse of antibiotics has in recent years been positioned as a global ‘threat’ that needs urgent action, receiving unprecedented political and financial attention... Combatting AMR is now a central component of the Global Health Security Agenda and the International Health Regulations (IHR).”[33]</p> <p>“Antimicrobial resistance is a troubling global collective action problem with dire consequences for human health, global trade and the environment.”[42]</p> <p>“Widespread antibiotic resistance is one of the hallmarks of the third epidemiological transition, where populations move from a chronic disease burden back to an increasingly uncontrollable burden of infectious disease.”[43]</p> <p>“AMR is not a transient problem: AMR transmission cannot be stopped it can only be carefully managed by substantially reducing the use of available antibiotics and developing new sources of antibiotics and complimentary measures such as point-of-care diagnostic tools, vaccines and better animal husbandry. Experts estimate it could take up to 10 years to bring new antibiotics to the market.”[40]</p> <p>“The emergence and spread of AMR is therefore a threat to both human and animal health and to trade. Prudent and responsible use of antimicrobials is critical for food security, incomes and economic development.”[26]</p>
Protection from harm	<p>“Antimicrobial resistance (AMR) threatens to destabilise progression in human health and animal health by reducing the ability to treat diseases and causing complications to medical procedures.”[34]</p> <p>“Most of these new diseases carry virulent pathogens that pose serious challenges to current epidemiological expertise. Secondly, there are disease multipliers. With globalization also emerge the so-called artificial disease force-multipliers, which greatly exacerbate not only the incidence but also the spread of infectious disease. These include modern medical practices such as the overuse and misuse of antibiotics...”[71]</p>

	<p>“The importance of antibiotic resistance as a growing public health problem cannot be overstated. Mortality, likelihood of hospitalization, and the length of hospital stay are approximately twice as great for individuals with resistant infections, compared with individuals with susceptible strains of bacteria. Disease transmission also increases because people remain infected longer. Antibiotic-resistant infections are more expensive to treat, and sometimes, because of costs or drug scarcity, they may be untreatable.”[43]</p> <p>“Today, diminishing antimicrobial effectiveness represents a formidable threat to human and animal health and therefore to overall global development. Deaths from drug-resistant infections are projected to increase from currently 700,000 to 10 million annually, and cost estimates are as high as US\$100 trillion worldwide by 2050. Of special concern is the rapid global spread of multi-resistant bacteria, for some of which there is no available treatment. The prospect of the world entering a ‘post-antibiotic era’, where common infections can no longer be cured, is therefore a real possibility.”[41]</p> <p>“Outbreaks of zoonotic diseases for which adequate treatments or vaccinations are unavailable or of diseases that could cripple the agricultural sector are examples of “non-traditional” biological threats with the potential to cause public health and economic devastation. Although these threats [posed by emerging viruses, antibiotic-resistant bacteria, and agricultural pathogens] fall outside the traditional boundaries of bioterrorism, they have become a major target of the biodefense community in order to protect U.S. Armed Forces and citizens at home and abroad as well as our allies.”[29]</p> <p>“To adequately plan for the future, we propose the need to reimagine the concepts, language, and practice of global health security. This would involve policymakers and decisionmakers more explicitly recognizing health security as a pillar of <i>national security</i> – that is, the protection of citizens and social, economic, food and health systems from man-made and natural threats.”[45]</p>
Solidarity	<p>“While lower-income countries bear disproportionate risks, every country is vulnerable as infectious diseases rapidly spread from country to country, region to region, and worldwide. All nations – whether rich or poor – face common vulnerabilities.”[74]</p> <p>“The immense health threats facing the world would challenge health leaders under any circumstances. Yet the gains of nationalist politicians diametrically opposed to the solidarity that global health and the right to health require...”[65]</p>

	<p>“As you see, to me, we live in this world together. No country can fight an international epidemic by itself. And yet, with the rise of populism and nationalism, the idea of “my country first”, where there is such as focus on economics, trade and self-interest, and so little on common global security.”[37]</p> <p>Under the condition of a high international mobility, the issue of the fight against AMR is a crucial element of [controlling communicable diseases], as it closely links the problem of inadequate health systems in many poor countries with the international spread of communicable diseases... Assuming that global socio-economic inequalities have led to different levels of health services in different countries, the globally “highest attainable standard” can only be reached through transfers of resources from rich countries for globally adjusting health standards linked to a common definition of [global public goods]. The ongoing globalization requires linking the use of state authority to global norms as a precondition for implementing international agreements. This could reconcile the orientation towards self-interests with a sense of solidarity within a nascent human society and the acceptance of a common minimum standard of health as a basic human right including the mobilization of resources necessary for providing global public goods for health. One of such health standards would be the effective control of communicable diseases.”[51]</p> <p>“...political resolve to work cooperatively and internationally to build a more secure world may be waning with the rise of ethno-nationalistic populism, which cuts against the most important value in global health: mutual solidarity... These pivots away from mutual solidarity are dangerous for global health. Cooperative action, moreover, is in every country's national interest. Health security in high-income states becomes imperilled when poorer countries lack basic health infrastructures. No legal or physical barrier can impede the spread of a microbe so minute that it cannot be seen. Fighting a pathogenic threat where it arises is far less expensive and far more effective than waiting until the pestilence reaches our shores.”[74]</p>
Justice	<p>“Antimicrobial resistance also has the potential to impede the achievement of the Sustainable Development Goals and to slow health and economic progress. Estimates predict that without corrective actions to contain antimicrobial resistance, by 2050, 10 million people will die every year from untreatable infections, and the world’s gross domestic product (GDP) will be 2-3.5% lower than it otherwise would be.”[3]</p> <p>“AMR must be redefined in a broader context beyond human health, including agricultural and environmental issues, as well as health security, all within the framework of sustainable development, and should also be reflected in the implementation of the SDGs... The remainder of this paper will discuss how AMR may impact the achievement of specific SDGs.”[41]</p>

“Low- and middle-income countries (LMICs) have the greatest infectious diseases burdens but historically have used far less antibiotics per capita than high-income countries. Bacterial pneumonia, which can be treated very effectively with antibiotics, is still responsible for a substantial portion of deaths in children under 5 years of age in LMICs, and globally for one-fifth of child deaths. Specific examples of the unfairness that characterizes international relationships, with respect to antibiotics, are the outsourcing of antibiotic production from wealthy countries to countries with more limited regulation on industrial effluents. In addition, international pharmaceutical companies continue to sell antibiotic formulations that are unapproved in countries with higher regulatory standards, illustrating a wider problem with global governance.”[75]

“...some countries, particularly LMICs, have not so far enjoyed their fair share of benefits of antibiotics and are less responsible for ABR, and therefore it would be unfair to require them to reduce antibiotic consumption to the same extent as other countries, particularly HICs (though this consideration is not generalizable as some LMICs like India are among the main contributors to ABR due to widespread and unregulated use of antibiotics).”[50]

“...the NSF highlights that there is already a geographic difference in the impact of AMR: ‘Antibiotic resistance has risen alarmingly and emerged as a major health threat in the developed world but more so in resource poor countries including Asia’... A particularly strong emphasis was placed on the health equity and justice frame in the WHO GAP document in the context of research and development/innovation, where it was stressed that new products and medicines need to be developed while ensuring availability and accessibility to populations living in LMICs...The O’Neill report presented the case that access needs to be ensured for vulnerable populations while tackling excess use overall: ‘access to drugs that patients actually need should not be reduced’ and ‘for many the lack of drugs for treatable infections will pose a more direct threat to their health than drug resistance’”[33]

“Developing countries’ lack of access to critical antibiotics in many health settings aligned with other situations where antibiotics have to be used to counter the lack of clean water or sewage systems. This contrasts starkly with developed countries access and levels of use, particularly in food producing countries. Developing and middle-income countries are likely to be sensitive to attempts to address AMR in food, which could stymie their food export industries.”[40]

“Risk factors for the spread of infectious diseases include overcrowding, limited education (particularly maternal), inadequate nutrition, sanitation, and water quality. It is not surprising that there are higher levels of antibiotic resistance in countries such as India, where large numbers of individuals live in conditions of extreme poverty with

	<p>high levels of environmental pollution by antibiotics and antibiotic-resistant microbes. For example, the Ganges is highly polluted with antibiotic-resistant bacteria from sewage, farm run-off, manufacturing effluents, cremation practices, and other rituals. Those who use the water of the Ganges for recreation, washing and drinking are at risk of the acquisition of antibiotic-resistant microbes even without exposure to treatment with antibiotics. This risk is combined with inequality in access to effective antibiotics.”[75]</p> <p>“Discussion of equity was detached from a broader interrogation of structural or ‘upstream’ determinants of health inequalities and instead focused further downstream on inequitable access to basic healthcare, new tools and safe medicines. For instance, representing AMR as an issue about access to safe medicines rather than interrogating the health system weaknesses behind it...”[33]</p> <p>Identifying both bioweapons and pandemic influenza, for example, as health security threats will facilitate policies to prevent these particular health crises, but it may not alleviate the underlying causes of infectious disease – which include poverty and poor health care in developing countries – and may even draw resources away from these areas. While these factors often create the conditions for pathogens to spread and antibiotic resistance, they are not easily securitized. Nor are all cases of poor health that affect large numbers of the world population the result of communicable diseases.”[55]</p> <p>AMR is a good example of a slow-burn issue, one that is becoming core to global health security framings but whose ultimate consequences are likely to be far greater than we have anticipated. AMR has a different temporality element from many traditional global health security concepts—one of “delayed destruction.” The problem is intergenerational, multifaceted, and has a distributed justice component in relation to access to therapeutics: Through the overuse and misuse of antibiotics today, the best lines of defense are rendered ineffective for future generations, and the arsenal of available treatments is depleted far faster than it can be replaced.”[45]</p> <p>“The prospect of the world entering a ‘post-antibiotic era’, where common infections can no longer be cured, is therefore a real possibility. Furthermore, unequal access to health care resources has meant that large populations in resource-poor settings never fully entered the antibiotic age to begin with.”[41]</p>
Rights	<p>“Interventions in public health crises inevitably give rise to concerns about infringements on legally entrenched individual rights and freedoms... ‘Attempts to curtail epidemics rise – in the guise of public health – the most enduring political dilemma: how to reconcile the individual’s claim to autonomy and liberty with the community’s concern with safety...’(Baldwin, 2005).”[77]</p>

“One possible scenario is that satisfactory containment of antibiotic resistance would require leaving certain infections untreated in otherwise healthy individuals, or not prescribing antibiotics where there is a low probability of bacterial infection (throat infections with viral clinical manifestations) so as to ensure that effective antibiotics are available when they are seriously needed. For example, mild and self-limiting infections... might be a good target for antibiotic stewardship programs. However, this would impose some discomfort and inconvenience, as well as entailing a small risk of escalation of infection. It might be the case that in order to preserve the common pool resource of antibiotic effectiveness, some significant risk might need to be imposed on individuals. In all such cases, what we would be requiring individuals to do is more than minimally demanding, to the point that it is at least doubtful that individuals have a moral obligation to do it.”[50]

“The development frame of AMR is rooted in the normative standpoint that inequalities should be reduced and that all individuals have the right to health including access to essential medicine such as antimicrobials.”[57]

“... many social goods do not easily fit the model of individual rights – particularly shared and communal goods. Goods such as health goods which require collective action and the delivery of basic group goods (such as clean water, sanitation and a clean environment) are not best conceived of as individual. Accordingly rights language, which focuses on delivering distinct goods to distinct individuals rather than providing for the group, is not the best way to frame such goods, especially if they are to be prioritised over other goods. The individual nature of rights-talk makes it harder to see, respect and prioritise shared and public goods. Furthermore, protecting health using individual rights is indirect. Global goods are only protected via the protection of individual goods which is problematic for prioritising such goods. Because the focus is on granting rights and goods to individuals rights-models tend to focus on individual preferences and these are prioritised over shared, public and global goods.”[79]

“Rights are less effective when it comes to complex goods and upstream goods: it is easier to grant a single good, such as a bed-net, than a malaria free environment (which would require improved sanitation, environment and infrastructure).”[79]

“...while individuals matter, and matter profoundly, the communal frame emphasises that individuals are often best protected and served by granting communal rights and providing communal and public goods rather than focusing on what is due to individuals.”[79]

“Collective rights operate in ways similar to individual rights; however, rather than seeking the empowerment of the individual, collective rights act at a societal level to assure the public goods that cannot be fulfilled through the

	absolutist mechanisms of individual entitlements. Where individual human rights examine ‘a separate isolated individual who, as such and apart from any social context, is bearer of rights’ (VanderWal, 1990), this vision of human rights, rooted in autonomy, has proven incapable of addressing public goods.”[78]
Statism	<p>“No country can fight an international epidemic by itself. And yet, with the rise of populism and nationalism, the idea of “my country first”, where there is such a focus on economics, trade and self-interest, and so little on common global security.”[37]</p> <p>“National governments are reasserting themselves, in extreme cases with protectionism and xenophobia... This creates many domestic problems of its own and pushes back against the international cooperation and altruism that characterized the golden era of global health.”[56]</p> <p>“... security inevitably refers to national security and global health security tends in practice to reflect the concerns of the global North vis-à-vis the international spread of diseases originating in the global South. Indeed a growing trend is to pinpoint areas where AMR is not controlled and thereby putting the global North in peril – as exemplified by the identification of NDM-1 as a new mechanism of resistance to carbapenems in India in 2011.”[57]</p> <p>“By using securitization, the statist perspective seeks to elevate health issues to the realm of ‘high politics’. Therefore, the statist account often presents health issues, such as infectious diseases, as being equivalent to national security threats.”[55]</p> <p>“The securitization premise ‘relieves Westerners of any moral obligation to respond to health crises beyond their own national borders’ (Peterson, 2006).”[55]</p> <p>“...should not come as a surprise that “global health <i>security</i>” is in practice focused on “the protection of the West from threats emanating from the developing world.”(Rushton, 2011)”[58]</p> <p>“...since 2003 concerns have been raised about the consequences of securitizing health, especially infectious disease. The primary concern has been that the securitization of infectious disease leads to its being viewed as a threat only when those doing the securitizing – in this case, western states – actually feel threatened. When these states feel the threat to them has abated, their support and interest wane, leaving those who remain under threat potentially deprived of the assistance they need.”[60]</p>

	<p>“...it appears that... LMICs are being positioned as reservoirs and ‘hotspots’ of AMR that HICs need to monitor through surveillance and channel funding towards in order to protect themselves from imminent imported cases of AMR. Selection of a dominant frame is at the expense of others, frames which may not resonate in LMICs. For example, there was little attention to improving health systems, food security or access to water and sanitation more broadly in LMICs. By comparing framing of AMR across policy documents written by a range of stakeholders we were able to uncover similarities and differences in narratives... that may reflect variations in underlying values or interests that affect prioritization of AMR.”[33]</p> <p>“...the renewed vigour towards AMR at the global level and from the world’s leading economies is less well-observed in developing or lesser-developed countries. Here the priority of addressing AMR is relatively lower despite the threat posed due to the greater priority afforded other health insecurities, such as the need to treat malaria or cholera, or gain access to effective and affordable antibiotics. As such, the macrosecuritization of AMR is weakened when countries are simultaneously facing other pressing middle-level securitizations.”[11]</p> <p>“The O’Neill report uses a similar framing around supporting LMICs in order to protect HICs, keeping with its wider framing in terms of economic consequences. An implicit framing of ‘us’ (HIC – at risk) and ‘them’ (LMICs – source of the risk) is present, with ‘imported infections’ being mentioned in the UK Strategy: ‘Even if out of pure self-interest, it may make sense for HICs to support these efforts in lower income settings’ (O’Neill).”[33]</p> <p>“Outbreaks of zoonotic diseases for which adequate treatments or vaccinations are unavailable or of diseases that could cripple the agricultural sector are examples of “non-traditional” biological threats with the potential to cause public health and economic devastation. Although these threats [posed by emerging viruses, antibiotic-resistant bacteria, and agricultural pathogens] fall outside the traditional boundaries of bioterrorism, they have become a major target of the biodefense community in order to protect U.S. Armed Forces and citizens at home and abroad as well as our allies.”[29]</p> <p>“To adequately plan for the future, we propose the need to reimagine the concepts, language, and practice of global health security. This would involve policymakers and decisionmakers more explicitly recognizing health security as a pillar of <i>national security</i> – that is, the protection of citizens and social, economic, food and health systems from man-made and natural threats.”[45]</p>
Globalism	“...the globalist approach, which is focused on the well-being and rights of individuals.”[55]

	<p>“A globalist perspective starts with individual health needs and then takes into account how global actors and structures impact on the individual, considering factors ranging from poverty and poor education to the actions of states and the health effects caused by international organizations, multinational corporations and others.”[55]</p> <p>“WHO plays a central role in overseeing emergency preparedness and coordinating emergency responses; it also participates in or leads on several global and regional efforts to prevent cross-border disease movement and eliminate malaria and polio. It has played an important role in curbing the cross-border spread of tobacco and in tackling AMR...”[63]</p> <p>“...Gavi is deliberating on its fifth overarching organizational strategy. At the 2018 retreat and board meeting, Gavi’s leadership raised key questions about what might be in scope for the future. For example, Gavi CEO Seth Berkley posed questions around how its platform may be used to improve access to non-immunization interventions, how it can address threats such as AMR and global health security, and to what extent Gavi should engage in reaching MICs that have been left behind and face lower immunization coverage than some LICs.”[63]</p> <p>“The 2018 package included \$100 million dedicated to [global public goods], funded from the World Bank’s net income or profit from its lending to MICs.... it reflects “a ‘collective’ decision agreed among all the Bank’s shareholders, including middle- and low-income countries, to spend ‘collective’ money for the collective or common good at the global level” ... the money will be used not only or not mostly as grants, but “to reduce the cost of borrowing for middle-income countries willing to borrow for projects and programs that generate some benefits beyond their own borders.”[63]</p> <p>“It is clear... that in order to make significant progress on AMR, concerted <i>global</i> efforts are needed beyond simply targeting individual people or individual countries. Collective problems require collective action; <i>global</i> collective problems require <i>global</i> collective action. As such, we cannot hold individuals or individual countries – particularly the poorest people and poorest countries in the world – responsible to act outside a broad global collaboration.”[42]</p> <p>“...with greater access to antimicrobials comes greater negative externalities. For example, investing enormously in making sure that everyone in the world has access to these lifesaving products might solve one aspect of the problem (i.e., access), but if such use is inappropriate, it would further speed and breed resistance, deepening the two other aspects of the problem (i.e., conservation and innovation).”[42]</p>
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	<p>“Expecting individual countries to bear the responsibility and costs of addressing AMR is unreasonable, when the international community is also set up in such a way that the efforts of individual countries acting alone will likely fail.”[42]</p> <p>“The GPGH [global public goods for health] concept departs from the narrow, state-centric objectives of the Westphalian regime in two ways. First, GPGH envisage policy results that reach beyond the state and its national interests vis-à-vis other states. The ambition is to produce public goods that are accessible globally by governments and peoples. Thus, GPGH encompass more than state interactions and are sought for reasons beyond protecting national public health from exogenous threats and promoting national exports. Finally, the public goods sought promise to be beneficial to not only the great powers but also people in developing countries.”[53]</p> <p>“One central challenge is building a system in which powerful sovereign states transform their thinking and action from the protection of their individual populations from threats emerging in vulnerable states to a system that fully appreciates and accounts for the health of a <i>global</i> population. Existing threats to global health security will not be tackled unilaterally or bilaterally.”[45]</p> <p>“Providing GPGH... has been increasingly based on a large number of very different actors (IGOs, states, CSOs, private finance (philanthropic organizations), and hybrid organizations (global health partnerships)) and therefore requires an effective coordination within the global health system, in particular among state and non-state actors.”[51]</p> <p>“...the WHO must focus on global public policies to address underprovision of global public goods for health...”[64]</p>
Regionalism	<p>“The [Global] fund provides multi-country and regional grants, e.g., for malaria elimination (specifically focusing on eliminating cross-border spread) and to counter drug-resistant malaria, TB and HIV.”[63]</p> <p>“[Asian Development Bank] is also drawing on its regional partnerships with national and regional development partners to build a regional approach to the post-2015 setting of goals and targets... In essence, the post-2015 development agenda has to address social, economic, and environmental dimensions of health concerns and find regional and national solutions to address interlinked and cross border problems.”[68]</p> <p>“Increasing economic growth in the region also comes with increasing cross-border trade, investments, and expanding transport corridors. This leads to growing threats to regional health security. The region is historically an epicentre of emerging communicable diseases, for example new seasonal influenza viruses and extraordinary diseases, such as severe acute respiratory syndrome (SARS), avian influenza A (H5N1), and Nipah virus. Such</p>

	<p>outbreaks can compromise regional development in a way that is disproportionate to the actual number of cases.”[68]</p> <p>“The region needs to strengthen regional health security by improving regional cooperation and integration also in the health sector. Disrupting trade and travel as well as impacting international markets due to disease outbreaks need be prevented as much as possible. The rising health threats and the capacity gaps need to be addressed through the regional post-2015 process and under a goal for improving global and regional partnerships.”[68]</p> <p>“...the epidemic of Severe Acute Respiratory Syndrome (SARS) in 2002-2003 forcefully demonstrated the regional economic consequences of a life-threatening infectious epidemic... Notwithstanding the resolution adopted at the 60th World Health Assembly, requesting that WHO establish an international stockpile of vaccines for H5N1 or other influenza viruses of pandemic potential, the limited global production capacity, not to mention the financial costs of establishing and maintaining a stockpile of adequate size, are key issues that remain to be addressed. A persuasive case could therefore still be made that ASEAN + 3 might provide a potential institutional framework for mobilising the financial and technological resources in the region to enhance regional preparedness and response capabilities in a likely epicentre of an emergent influenza pandemic. This would go beyond the existing co-ordination of surveillance networks to include the development and acquisition of vaccine-manufacturing capabilities, to augment regional stockpiles of avian influenza vaccines that can be made available as public goods on a priority-needs basis.”[73]</p> <p><i>“Health security is a regional public good.</i> The Initiative’s approach to country-level assistance reflects the fact that health security is a regional and global public good. It matters to partner governments, but in many cases the benefits of health security investments at the country level are not fully captured by the country concerned. They often extend beyond a country’s borders, to the wider region or the world as a whole. This has two important consequences. The first is that countries have a strong case for external assistance for health security until they reach a more advanced stage of development and are better able to contribute to the production of regional and global public goods. The second is that country-level assistance, while needing to be tailored to national needs, priorities and circumstances, must be provided in such a way as to achieve cross-border synergies. Thus the Initiative is seeking to pursue similar priorities in similar ways across a number of countries, while tailoring assistance as appropriate.”[38]</p> <p>“Countries at low latitudes (including Cambodia, Indonesia, the Lao People’s Democratic Republic, Thailand, and parts of the Pacific) are predicted to be hot spots for emerging disease, as the result of conditions including vectors,</p>
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	climate, poverty, and lack of disease surveillance and outbreak reporting (Box 2). This is particularly so for zoonoses, vector-borne diseases, and drug-resistant pathogens.”[27]
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