

Post-Ebola Reforms: Ample Analysis, Inadequate Action

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Post-Ebola Reforms: Ample Analysis, Inadequate Action

There is broad consensus across post-Ebola reports on what can be done to better prevent, detect and respond to disease outbreaks, yet a preliminary review of progress to date finds we fall short on these recommendations and are not yet prepared for future outbreaks.

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ABSTRACT

Background: A number of reports evaluated the global responses to the 2014-5 Ebola virus outbreak in West Africa. However, the main priorities emerging from these reports and the extent to which action has been taken on the proposed reforms is unclear.

Methods: We synthesized seven major post-Ebola reports and laid out the key problems they highlighted. We also identified their individual recommendations by issue. We then assessed progress to date and identified the biggest gaps between recommendations and action in each area of reform.

Results: While the reports differed in scope and emphasis, their diagnosis of the key problems and recommendations for action converged in three critical areas: strengthening compliance with the International Health Regulations (IHR); improving outbreak-related research and knowledge-sharing; and reforming the World Health Organization (WHO) and broader humanitarian response system. We found significant efforts beginning to address these issues, but progress has been mixed with many critical issues largely unaddressed. For example, investments in country capacity building have been inadequate and difficult to track, arrangements for fair and timely sharing of patient samples remain weak, and reform efforts at WHO have focused on operational issues but have neglected to address deeper institutional shortcomings.

Conclusions: There is remarkable consensus on what went wrong with the Ebola response and what we need to do to address the deficiencies. Yet not nearly enough has been done. The global community needs to mobilize greater resources and put in place monitoring and accountability mechanisms to ensure we are better prepared for the next pandemic.

INTRODUCTION

In August 2014, the World Health Organization (WHO) declared the Ebola outbreak in West Africa a Public Health Emergency of International Concern (PHEIC), and the world scrambled to respond. Better preparedness and a faster, more coordinated response could have prevented most of the 11,000 deaths directly attributed to Ebola and also the broader economic, social, and health crises that ensued. In the aftermath of our collective failure, a number of reports were published reviewing what went wrong and how we should better manage infectious disease outbreaks.

The good news is that an enormous amount of analysis has been done: as of December 2016, more than 40 targeted examinations have been published and these reports converge on what the priority actions should be (1). The global community has also launched several corresponding initiatives that begin to fill these gaps. Yet, despite the enormous interest in ensuring progress, we know little about what has actually been achieved to date.

APPROACH

Given the importance of improving our ability to battle current (e.g. Zika, yellow fever) and future outbreaks, we sought to answer three questions: First, what were the key recommendations of the major Ebola reports, and where is there clear consensus? Second, how much progress has been made to date on implementing these proposals? Finally, what are the biggest gaps between recommendations and action, and how might we overcome them?

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3 We addressed these questions by synthesizing seven reports selected on the following criteria:
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5 scope (beyond a single organization, country, or sector); authorship (diverse: defined by country
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7 of origin, organizational affiliation, area of expertise, and gender); and availability (public)
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9 (summary in Tables 1 & 2) (2-10). We abstracted key themes and grouped recommendations
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11 under those themes. We identified the greatest areas of progress and stasis under each topic.
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15 16 17 **ENSURING COMPLIANCE WITH THE INTERNATIONAL HEALTH REGULATIONS** 18

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20 The reports universally identified inadequate compliance with International Health Regulations
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22 (IHR) as a major contributor to the slow response to Ebola. The IHR is an international treaty for
23
24 managing infectious disease outbreaks in which 196 countries agreed, inter alia, to develop core
25
26 capacities to prevent, detect, and respond to outbreaks, report outbreaks rapidly to WHO, and
27
28 limit trade or travel restrictions based on public health or scientific principles. The reports
29
30 highlight three major challenges to IHR compliance: countries' level of core capacities,
31
32 unjustified trade and travel restrictions, and inability to ensure timely outbreak reporting.
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38 39 ***Core Capacities***

40 41 Problem and recommendations:

42
43 Countries currently assess whether their own capacities for disease surveillance and response
44
45 sufficiently meet their IHR obligations. The reports broadly agreed that self-assessment is
46
47 inadequate and more robust means of verification are needed. Moreover, a significant issue is
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49 why countries do not have these capacities in the first place and how to finance and sustain them.
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51 The reports offered several recommendations to encourage governments to make greater
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60 investments in national capabilities to detect, prevent, and respond to outbreaks.

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3 Recommendations included external technical assistance conditioned on domestic resource
4 mobilization, external financing for the poorest countries, normative pressure from international
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Recommendations included external technical assistance conditioned on domestic resource mobilization, external financing for the poorest countries, normative pressure from international leaders to increase investment, and adding outbreak preparedness as a factor in the International Monetary Fund's country economic assessments, which influence governments' budget priorities and access to capital markets (11).

Progress and gaps:

There has been significant work in this area. In February 2016, WHO issued the Joint External Evaluation (JEE) tool for voluntary external assessments of national core capacities (12, 13).

Thirty-four countries (spanning low-, middle-, and high-income groups) have already undergone assessment using the JEE or its predecessor, the Global Health Security Agenda (GHTSA) peer-assessment tool, with 31 countries scheduled for 2017, but 129 countries not yet scheduled.

About a third of low-income and half of lower-middle income countries have either completed or scheduled JEE assessments, and about one-quarter of both upper-middle income and high-income countries have done so (Table 3) (14). This progress is quite substantial given the political sensitivity of external evaluation of a nation's internal capabilities. While the effort has been encouraging, it is unclear whether some of the countries that most need to enhance their core capacities will be open to the assessment, or how the process will be financed.

Ensuring adequate country-level capacities is estimated to cost \$3.4 billion annually, much less than the \$60-\$570 billion estimated to be lost per year from pandemics (7, 15). To close this gap, the G7 committed to assisting 76 countries at the 2015 and 2016 summits (16). Significant funding has also come from the US, which announced \$1 billion for building capacities in 31

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3 countries (17), and South Korea, which announced \$100 million for 13 countries (18). The
4
5 World Bank also sought funding to assist 25 countries with pandemic preparedness plans in its
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7 latest financing round (19). While some of the funding is new, it is unclear what proportion of
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9 the support for countries will be re-allocated from pre-existing commitments. Overall, we have
10
11 no systematic data to track investments in core capacity building, and investment will likely fall
12
13 short of estimated need (7).
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16 17 18 19 20 *Trade and Travel*

21 22 Problem and recommendations:

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24 The second major IHR compliance issue is limiting outbreak-related trade and travel restrictions.
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26 Fueled by intense public concern and media attention, many national governments and private
27
28 companies restricted trade and travel during the Ebola outbreak, though many of these measures
29
30 were not warranted on scientific or public health grounds. These restrictions exacerbated
31
32 economic repercussions and had detrimental effects on the ability of aid organizations to send
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34 support to affected regions, thereby worsening the crisis.
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41 There was broad consensus among the panels that minimizing such restrictions is critical to
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43 avoid isolating and economically punishing countries that experience outbreaks. Further, if
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45 governments assume that reporting will lead to unwarranted trade and travel restrictions, they
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47 may be less forthcoming. The potential solutions ranged from the WHO and UN more
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49 assertively “naming and shaming” countries and private companies that enact unjustified
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51 restrictions to the WHO working with the World Trade Organization (WTO), International Civil
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3 Aviation Organization (ICAO), and International Maritime Organization (IMO) to develop
4 norms and enforcement mechanisms that govern trade and travel restrictions (3, 6, 7, 9).
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10 Progress and gaps:

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12 To date, we are unaware of any progress towards minimizing unnecessary trade and travel
13 restrictions. No initiatives have been announced by WHO, WTO, ICAO, IMO, or other
14 organizations working in these areas. Furthermore, since the IHR are not directly binding for
15 private companies, alternate guidelines are needed to keep airlines, shipping and other key
16 industries operating during outbreaks. Non-binding guidelines may not suffice, but developing
17 more specific expectations and compliance mechanisms that can be tested in future outbreaks
18 will nevertheless be a step forward.
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32 ***Outbreak Reporting***

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34 Problem and recommendations:

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36 The third major IHR compliance issue concerns countries' obligation to report outbreaks swiftly.
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38 The reports recommended reinforcing this obligation by having WHO publicly chide countries
39 that delay reporting suspected outbreaks and ensuring rapid operational and financial support to
40 countries as soon as they do report.
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48 Progress and gaps:

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50 A new incentive for early reporting is the World Bank's Pandemic Emergency Financing Facility
51 (PEF), created to disburse rapid financing for outbreak control and protect countries from the
52 high economic costs of outbreaks through an insurance mechanism. The first financial
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3 instrument of its kind, it has garnered pledges of \$50 million from Japan and 65 million EUR
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5 from Germany, which are expected to cover the majority of its startup costs (20). Nevertheless,
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7 decision-making processes and the speed with which PEF can disburse funds and settle insurance
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9 claims will remain untested until the next outbreak strikes. Furthermore, the extent to which
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11 WHO will publicly call on governments to report outbreaks will heavily depend on who is
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13 elected the next Director General.
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20 **IMPROVING KNOWLEDGE-SHARING AND RESEARCH**

21 Problem and recommendations:

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23 The reports recognized timely knowledge-sharing, research, and health technology among the
24
25 most powerful tools for both preventing future outbreaks and mitigating effects of existing
26
27 outbreaks. Several of the reports outlined current problems with how individuals, organizations,
28
29 and countries handled epidemiological, genomic, clinical, and clinical trial data as well as patient
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31 samples during and after the Ebola outbreak. For example, there was no platform for exchanging
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33 epidemiological data between the governments of the three most-affected countries. While early
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35 in the outbreak some researchers published genomic sequencing data from virus samples, others
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37 delayed putting similar information into the public domain, thereby slowing collective
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39 understanding of the causative agent and its evolution (21). Moreover, effective community
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41 mobilization strategies that had been developed in central Africa were not shared or applied
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43 quickly in West Africa.
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53 Another failure was the lack of adequate R&D on Ebola prior to the 2014 outbreak, which left
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55 the world without needed tools: approved drugs, vaccines, and rapid diagnostic tests for the
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3 virus. While there has been public investment in these areas by organizations like the European
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5 Innovative Medicines Initiative and US Biomedical Advanced Research and Development
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7 Authority, the US NAM report estimated an ongoing R&D investment gap of \$1 billion per year
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9 (7). Furthermore, even after R&D efforts were mobilized for the Ebola emergency, there was
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11 significant disagreement on acceptable design for clinical trials and lack of clarity on regulatory
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13 pathways for product approval. In addition, there was an absence of clear guidelines on using the
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15 scarce supply of experimental therapies that did exist, and minimal access for West African
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17 responders and populations.
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24 In response to these problems, the reports called for developing norms and platforms for
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26 exchanging best practices for community mobilization and care delivery, sharing relevant
27
28 research findings, and expanding the Pandemic Influenza Preparedness (PIP) Framework (which
29
30 governs the sharing of flu virus samples and related benefits) to include other pathogens such as
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32 Ebola and to be made legally binding. They also recommended mobilizing international public
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34 funding for R&D on epidemic-prone pathogens (since market incentives do not adequately drive
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36 investment for diseases that primarily affect the poor and/or occur sporadically), improving
37
38 equitable access to technologies, and building local research capacity.
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45 Progress and gaps:

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47 Encouragingly, some of the proposed solutions to improve knowledge-sharing have already been
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49 incorporated in the response to Zika. In September 2015, WHO convened a multi-stakeholder
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51 gathering where there was strong consensus that rapid, open data sharing should be the norm in
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53 emergencies (22). The International Committee of Medical Journal Editors subsequently
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3 confirmed that publishing relevant data in a health emergency would not prejudice later
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5 publication (23). The Bulletin of the WHO has since launched the ZikaOpen platform in order to
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7 make research on Zika more rapidly available (24).
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12 To address inadequacies in sharing virus and patient samples, WHO and Médecins Sans
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14 Frontières have been working to create a virtual biobank for existing Ebola samples. However,
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16 there is no widely-agreed set of rules or norms on the management or sharing of samples relevant
17
18 to health emergencies. The PIP Framework is unlikely to be re-opened for expansion to a broader
19
20 set of pathogens (the WHO-convened committee to review the PIP Framework recommended in
21
22 late 2016 keeping it limited to pandemic influenza (25)), nor have negotiations been launched for
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24 alternate arrangements for sample-sharing. Additionally, it remains unclear how best practices on
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26 community mobilization will be incorporated into international responses in the future.
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34 For future R&D, the WHO has developed an R&D “blueprint” as a roadmap for the global
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36 community. The blueprint comprises a list of priority pathogens, mappings of R&D pipelines
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38 (starting with Zika and MERS), and target product profiles for Zika. WHO has also organized a
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40 working group developing vaccine trial designs for priority pathogens. The US National
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42 Academies of Science, Engineering, and Medicine are conducting a study on what worked and
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44 what didn’t in the vaccine clinical trials during Ebola and are planning an initiative on
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46 harmonization of clinical trial designs and regulatory frameworks (26).
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53 Significant efforts are also underway to mobilize funding for R&D and stockpile existing
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55 products. The Coalition for Epidemic Preparedness Innovations (CEPI) is a new R&D initiative
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3 supported by Norway, India, the Wellcome Trust, World Economic Forum, and the Gates
4 Foundation, among others, with an initial focus on ensuring R&D for vaccines. Additionally, in
5 early 2016 the Gavi Alliance announced a \$5 million payment to Merck to ensure adequate
6 production of the vaccine candidate in case of an Ebola resurgence (27); arrangements to
7 stockpile other products may be made under CEPI. However, beyond vaccines, a significant
8 R&D funding gap for drugs, diagnostics, and other health technologies (such as personal
9 protective equipment) remains. And even if products are successfully developed, international
10 arrangements to ensure equitable access to such technologies is lacking.
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24 **STRENGTHENING THE WHO, UN, AND BROADER HUMANITARIAN SYSTEM**

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26 All reports agreed that WHO and the broader UN and humanitarian systems needed to be
27 strengthened in light of the inadequate response to the Ebola emergency. While there was
28 widespread support to maintain WHO's role as the leader of global preparedness and response
29 for disease outbreaks, it can only credibly do so with significant reform. The problems identified
30 at WHO fall broadly under two categories, operational and institutional, which we address in
31 turn.
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43 *Operational issues*

44 Problem and recommendations:

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46 The reports generally agreed that WHO was unable to respond rapidly to outbreaks, partly
47 because it lacked the technical capacity to do so and partly because it lacked an "emergency
48 culture" that could make decisions quickly, work with a broad set of partners, and be relatively
49 flexible in its approach. The recommendations focused on enhancing WHO's technical capacity
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3 to run operations on the ground, issue technical and normative guidance, and coordinate with
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5 others. A number of the reports called for the creation of a WHO Emergency Centre with
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7 dedicated funding, clear lines of command from headquarters to WHO's regional and national
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9 offices, and strong mechanisms for accountability via a Board that is separate from WHO's two
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11 existing governing bodies (the Executive Board and World Health Assembly [WHA]).
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15 16 17 Progress and gaps:

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19 WHO has responded by establishing an Emergency Programme, an Oversight and Advisory
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21 Committee for the programme (28) (in lieu of an independent Board), and a Contingency Fund
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23 with a target capitalization of \$100 million (29). However, to date, the Contingency Fund has
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25 received only \$31.5 million, much of it already committed to the Zika, yellow fever and cholera
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27 outbreaks and other ongoing crises. Of the \$1.241 billion WHO requested for specific ongoing
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29 emergencies and the broader Emergency Programme, governments had provided only about 41%
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31 as of December 2016 (30). This lackluster financing response reflects the continuing
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33 precariousness of WHO's emergency capacity.
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41 ***Institutional issues***

42 43 Problem and recommendations:

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45 Several of the reports raised broader institutional problems at WHO, including unstable
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47 financing, minimal transparency, human resource shortcomings, and little accountability after
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49 failure. Recommendations included that WHO should focus more tightly on core functions;
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51 reform its management of human resources; increase transparency and accountability through a
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3 freedom-of-information policy; create an inspector general role; and finally, marshal more
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5 effective leadership.
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10 Several reports also emphasized safeguarding WHO's independence from the interests of any
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12 single Member State or other powerful party, an issue inextricably linked to its financing
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14 situation. These recommendations stem from concerns that political factors delayed WHO's
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16 declaration of Ebola as a PHEIC (8). Many reports called on Member States to provide WHO
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18 with more reliable, untied financing by increasing assessed contributions. These have been
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20 frozen in nominal terms (a decline in real terms) since the 1990s. Only one-fifth of the
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22 organization's budget is guaranteed. Donor funds, usually tied to donor priorities, comprise the
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24 remainder.
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28 29 30 31 Progress and gaps:

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34 No major institutional reforms have been initiated post-Ebola. At the 2015 WHA, governments
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36 did not support a proposal to increase assessed, or non-earmarked, contributions by 5% (which
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38 would have raised the guaranteed budget only from ~20% to 21%). The issue was not even
39
40 substantively debated at the 2016 WHA. No new transparency policy, organization-wide
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42 accountability mechanism, human resources review, or debate on core functions has been
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44 launched. Spearheading institutional reforms is likely to fall to the next DG.
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49 50 *UN and Humanitarian System*

51 52 Problem and recommendations:

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3 Many reports also recommended reforms to the broader UN and humanitarian system. These
4 recommendations were motivated by poor coordination between UN agencies, WHO, national
5 governments, community leaders, and local and international NGOs and by weak arrangements
6 for accountability. Several of the reports argued for improving existing groups such as the Inter-
7 Agency Standing Committee (IASC) and the Office for the Coordination of Humanitarian
8 Affairs (OCHA) rather than creating new entities (as was done for Ebola) (31).

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18 Recommendations were also made to raise the profile of health crises systematically across the
19 UN system.

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25 The reports also recognized that post-Ebola accountability arrangements were critical, given the
26 demanding nature of reforming complex organizations and systems. Recommendations for
27 accountability mechanisms included: an independent Accountability Commission,(3) an Annual
28 Report on Global Health Security to the UNSG and/or General Assembly (GA),(2) an
29 independent review of implementation after two years,(7) and a High-Level Council on Global
30 Public Health Crises within the GA.(6)

31 32 33 34 35 36 37 38 39 40 41 Progress and gaps:

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43 In April 2016, the UN Secretary-General (UNSG) announced arrangements for WHO to inform
44 his office of all Grade 2-3 outbreaks and the IASC of outbreaks that may require a broader UN
45 response. The UNSG also formed a Global Health Crises Task Force to identify next steps, co-
46 led by the heads of major UN agencies and the World Bank with participation from independent
47 experts and civil society.(32)

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3 However, beyond the Task Force's one-year mandate, no ongoing accountability mechanism has
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5 been created. There appears to be little appetite for any mechanism that is either permanent or
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7 independent of the existing intergovernmental system. Therefore, a key challenge for the Task
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9 Force and new UNSG will be to identify how to establish meaningful system-wide
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11 accountability, and – given that no Member State representatives are on the Task Force – how to
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13 continue to engage national political leaders.
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20 CONCLUSION

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22 Ebola, and more recently Zika and yellow fever, have demonstrated that we do not yet have a
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24 reliable or robust global system for preventing, detecting, and responding to disease outbreaks.
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27 The seven post-Ebola reports were largely consistent on the fundamental issues that caused our
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29 collective failure and the priorities for change. Some significant reforms are already underway
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31 and deserve support. But a large proportion of issues remain unaddressed, with little to no
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33 political or financial resources dedicated.
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39 The good news is we know what's wrong, and greater awareness is an important start. For
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41 instance, we better appreciate the importance of ensuring that every country has basic core
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43 capacities for identifying and responding to outbreaks. While this recognition is important, it has
44
45 not yet produced the magnitude of financing or technical assistance needed. In other areas, such
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47 as tackling unwarranted trade and travel restrictions, there has been little political interest. While
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49 new initiatives seek to accelerate knowledge-sharing and coordinate and fund vaccine R&D, work
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51 is still needed to develop international norms on data- and sample-sharing, standardize clinical
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53 trial protocols, clarify regulatory processes, finance R&D beyond vaccines, and ensure equitable
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3 access to health technologies. At WHO, priority has been placed on building operational capacity,
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5 but deeper institutional weaknesses such as unstable financing, unclear organizational focus,
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7 limited transparency, and lack of political independence remain unaddressed.
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12 Overall, the reports concluded that the world remains grossly underprepared for the outbreaks of
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14 infectious disease likely to become more frequent in the coming decades. The window of
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16 opportunity that the Ebola crisis opened may be closing as political attention wanes. Monitoring
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18 progress is vital, and the UNSG's Global Health Task Force can play a significant role in making
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20 arrangements to do so. Yet the failure to create permanent accountability arrangements following
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22 a crisis of Ebola's magnitude does not bode well for the prospect of more significant reform. A
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24 more sustained, independent mechanism to hold governments and intergovernmental
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26 organizations accountable is still needed. We will not be ready for the next outbreak without
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28 deeper and more comprehensive change.
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KEY MESSAGES

- There is remarkable consensus across seven post-Ebola reports on what went wrong with the Ebola response and what we need to do to address the deficiencies.
- We found significant efforts beginning to address these issues, but progress has been mixed with many critical issues largely unaddressed with inadequate political or financial resources dedicated.
- The global community needs to mobilize greater resources and put in place monitoring and accountability mechanisms to ensure we are better prepared for the next pandemic.

Final: For Review Only

CONTRIBUTORS

All authors contributed to study concept, analysis and interpretation, and provided critical revisions of the manuscript for important intellectual content. SM and AKJ supervised the study design and interpretation; SM oversaw data collection from the seven reports and progress to date on the recommendations within those reports, data analysis, data interpretation, drafting of the manuscript and revisions. JL and LW contributed to data collection, data analysis and data interpretation; as well as support in drafting the manuscript and responding to revisions.

Suerie Moon will act as the guarantor of the article.

COMPETING INTEREST DECLARATION

We have read and understood BMJ policy on declaration of interests and declare that we have no competing interests.

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Table 1: List of Reports Synthesized

<i>Publication Date</i>	<i>Title</i>	<i>Convener</i>	<i>Scope and Areas of Emphasis</i>
Reports Commissioned by the World Health Organization			
<i>July 2015</i>	Ebola Interim Assessment Panel (Interim Assessment Panel)	WHO Chair: Barbara Stocking	WHO's performance, focus on: WHO operational capacity, organizational culture, financing, communications, role in broader humanitarian systems
<i>November 2015; January 2016</i>	Advisory Group on Reform of WHO's Work in Outbreaks and Emergencies (WHO Advisory Group)	WHO DG Chair: David Nabarro	WHO core mandate and critical functions, focus on: Reform of WHO's work in outbreaks and emergencies
<i>May 2016</i>	Report of the Review Committee on the Role of the International Health Regulations (2005) in the Ebola Outbreak and Response (IHR Review Committee)	WHO DG Chair: Didier Houssin	Recommendations for improved implementation of the IHR, based on assessment of the effectiveness of the IHR with regard to the Ebola outbreak and the status of implementation of recommendations from the previous Review Committee
Reports Commissioned by Other Organizations			
<i>November 2015</i>	Will Ebola Change the Game? Ten Essential Reforms for the Next Pandemic. (Harvard/LSHTM)	Harvard / LSHTM Chair: Peter Piot	Global system performance, focus on: IHR compliance, knowledge management/R&D, governance of global system, WHO reform
<i>January 2016</i>	The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises (US National Academy of Medicine)	NAM Chair: Peter Sands	Recommendations for the future, based on review of past outbreak emergencies, with a focus on: The economic case for investing pandemic preparedness, national core capacities, WHO operational capacity, R&D
<i>January 2016</i>	World Health Organization and emergency health: if not now, when? (Checchi et al review)	-- Lead author: Francesco Checchi	Recommendations for WHO, based on review of past responses to health emergencies, with a focus on 6 stand out problems
<i>January 2016 (Panel report); April 2016 (UNSG's commentary)</i>	Protecting Humanity from Future Health Crises: Report of the High-level Panel on the Global Response to Health Crises (UNSG High Level Panel)	UNSG Chair: Jakaya Kikwete	Recommendations to strengthen nat'l and int'l systems to prevent and effectively respond to future health crises, with a focus on: national health system, WHO and UN system, dev't aid, R&D, financing, UN follow-up

Table 2: Breakdown of Key Reports by Topic, with key areas of agreement.

	Topic	Areas of agreement
Compliance with the IHR	National health systems and core capacities	Need to develop national core capacities and for domestic and external financing to do so. Also need for more credible assessment of country core capacities, including proposals for independent, external and/or peer assessments. WHO technical support to countries needed
	Trade and travel restrictions	Need for incentives for early reporting of outbreaks and stronger disincentives or compliance mechanisms for undue trade/travel restrictions for both governments and private sector.
Knowledge Management	Sharing epidemiological & research data	Need for systems for rapid sharing of epidemiological and other research data. Platforms for sharing community mobilization and communications strategies.
	R&D of health technologies	Need for global R&D financing for emerging infectious diseases. Need for WHO to convene, set priorities and coordinate pandemic-related R&D. Need for ensuring directly-affected populations have access to relevant health technologies. Expansion of PIP Framework to other pathogens. Need for pre-agreed research standards, processes for regulatory approval. Need to build local research capacity, engage local researchers & communities.
UN and humanitarian emergency systems	Operational	Need for improved capacity of health and humanitarian actors to work together in crises, and to strengthen capacity of existing institutions to do so rather than create new ones.
	Political	Need to systematically bring health matters before broader UN governing bodies (either UN General Assembly or Security Council)
Readiness and Reform of WHO	PHEIC declaration	Utility of intermediate level of alert before PHEIC. Measures for greater transparency and independence of declaring a PHEIC.
	Emergency Capacity & Culture	Creation of dedicated WHO Centre with proposals for a separate oversight body (whether governing, technical, advisory, or independent Board). Need to develop operational emergency culture and to strengthen ability to work with non-state actors.
	Human Resources	Consolidation of various emergency-related units within WHO. Creation of virtual global health emergency workforce under WHO Centre. Need for strengthened capacity of WHO staff at country and regional offices, with objective performance management and merit-based, competitive appointments.
	Governance & Leadership	Need for strong leadership, particularly electing a DG able to challenge or hold accountable Member States. More streamlined relationship between headquarters, regional and country offices in emergencies, including central role of headquarters when inadequate capacity at country-level. Little discussion of the organization's core functions.
	Financing	Need to improve predictability of financing. Several calls for increasing assessed contributions (by 5%-10%) and funding emergency work out of core budget.
Follow-up and Accountability	Financing	Need for improvements in transparency and harmonization of international aid flows. WHO Contingency fund. Global R&D pandemic financing ~\$1 billion/year-plus. World Bank PEF and other rapidly-disbursed funding sources for emergencies. National health system strengthening financing.
	Accountability	Need for ongoing mechanisms for monitoring and accountability for preparedness and response efforts.

Table 3: Joint External Evaluation: Participating Countries among 194 WHO Member States (as of Dec. 2016, based on World Bank 2016 income group classifications)¹⁴

	Completed		Scheduled 2017		Not scheduled		Totals	Proportion of income group completed or scheduled
Low Income Countries	Afghanistan, Eritrea, Ethiopia, Liberia, Mozambique, Senegal, Sierra Leone, Somalia, Tanzania, Uganda	10	-		Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, DPRK, DRC, Gambia, Guinea, Guinea-Bissau, Haiti, Madagascar, Malawi, Mali, Nepal, Niger, Rwanda, South Sudan, Togo, Zimbabwe	21	31	32%
Lower Middle Income Countries	Armenia, Bangladesh, Cambodia, Cote d'Ivoire, Kyrgyz Republic, Morocco, Pakistan, Sudan, Tunisia, Ukraine, Vietnam	11	Cameroon, Djibouti, Ghana, Kenya, Kiribati, Lao PDR, Micronesia, Mongolia, Philippines, Samoa, Solomon Islands, Tonga, Vanuatu	13	Bhutan, Bolivia, Cape Verde, Rep of Congo, Egypt, El Salvador, Guatemala, Honduras, India, Indonesia, Lesotho, Mauritania, Moldova, Myanmar, Nicaragua, Nigeria, Papua New Guinea, Sao Tome and Principe, Sri Lanka, Swaziland, Syria, Tajikistan, Timor-Leste, Uzbekistan, Yemen, Zambia	26	50	48%
Upper Middle Income Countries	Albania, Belize, Georgia, Jordan, Lebanon, Namibia, Peru, Turkmenistan	8	Fiji, Iran, Malaysia, Maldives, Marshall Islands, Palau, Tuvalu	7	Algeria, Angola, Argentina, Azerbaijan, Belarus, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, China, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Equatorial Guinea, Gabon, Grenada, Guyana, Iraq, Jamaica, Kazakhstan, Libya, Macedonia, Mauritius, Mexico, Montenegro, Panama, Paraguay, Romania, Russian Federation, St Lucia, St Vincent and the Grenadines, Serbia, South Africa, Suriname, Thailand, Turkey, Venezuela	40	55	27%
High	Bahrain,	5	Finland, Italy,	11	Andorra, Antigua and Barbuda, Australia, Austria,	40	56	29%

Income Countries	Portugal, Qatar, United Kingdom, USA		Japan, Rep Korea, Kuwait, Nauru, Oman, Saudi Arabia, Singapore, Switzerland, UAE		Bahamas, Barbados, Belgium, Brunei Darussalam, Canada, Chile, Croatia, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Latvia, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Saint Kitts and Nevis, San Marino, Seychelles, Slovakia, Slovenia, Spain, Sweden, Trinidad and Tobago, Uruguay			
WHO Member States not classified by the World Bank					Cook Islands, Niue	2	2	0%
		34		31		129	194	34%

Pre Review Only