



GLOBAL HEALTH CENTRE 2022

COUNTERMEASURE R&D: GLOBAL NORMS FOR FINANCING RISK REDUCTION, RESILIENCE & EQUITY

WORKSHOP REPORT

GENEVA
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Norwegian Ministry
of Foreign Affairs



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DNDi

Drugs for Neglected Diseases initiative

This publication was developed as the outcome of the workshop "Countermeasure R&D: Global Norms for Financing Risk Reduction, Resilience and Equity" which took place on 18 and 19 January 2022.

Co-Convenors of the workshop: Government of Norway, Government of Mexico, Global Health Centre at the Graduate Institute of Geneva, and Drugs for Neglected Diseases initiative.

This report was drafted by Adam Strobeyko, Graduate Institute of International and Development Studies, and reviewed, revised and approved by the co-convenors. All participants were provided with the opportunity to review and comment on an earlier draft, and the co-convenors thank them for valuable comments received. The report does not necessarily represent the views of a particular participant.

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EXECUTIVE SUMMARY

The workshop “Countermeasure R&D: Global Norms for Financing Risk Reduction, Resilience and Equity” provided space for governments, research funders, partnerships and other organizations to share their experiences relating to investment in medical countermeasure R&D during the Covid-19 pandemic. Disaster risk reduction was proposed as an analytical frame to guide potentially new approaches to mobilizing R&D funding, framing such expenditure as a necessary long-term public investment in resilience, development and equity. Participants discussed challenges investing in R&D and in securing equitable access to countermeasures within the current R&D landscape. The discussions highlighted the need to mobilize at risk finance from a broader group of countries and to sustain it between pandemics. The participants agreed that greater international collaboration among research funders was needed, but that it must recognize the capacity and political constraints facing each funder. It should be constructed in a way that meets the global need for equitable access to countermeasures, while respecting the self-interest of different countries and research funders. The workshop demonstrated that there exists an appetite to go further and to take action among smaller groups of interested and willing funders to develop common principles and sets of practices to ensure that financing of countermeasure R&D results in more equitable access to its fruits. Finally, participants recognized the value and need to take these discussions to other arenas, including intergovernmental bodies such as the WHO and UN General Assembly, including in discussions on the broader developmental agenda for disaster risk reduction.

THE WORKSHOP

Context

The Covid-19 pandemic has demonstrated that shortcomings in global pandemic preparedness and response (PPR) arise from political and policy failures, and are not merely questions of technical or scientific capacity or the availability of resources. With regards to medical countermeasures, the way in which targeted research and development (R&D) investments or incentives are conceived and deployed has had significant effects on who has ultimately been able to access the health technologies that are being developed.¹ Interest is growing among a broad range of countries, regional bodies and other stakeholders to ensure innovation of and access to knowledge and health technologies in future crises. One of the challenges faced by policymakers and funders is how to reshape the narratives, concepts and tools that we use to mobilize funding for international collective action. Efforts to improve both innovation and global access to medical countermeasures could benefit from risk-reduction and resilience-building investment approaches, and principles adopted in previous international agreements on disaster-risk reduction, such as the Sendai Framework for Disaster Risk Reduction 2015-2030, could help guide this discussion.

Workshop Objectives

Recognizing the need to reshape the narrative around the development of and access to medical countermeasures, this workshop offered a platform for a group of funders and experts to discuss the topic of R&D financing through the lens of disaster risk reduction, resilience and equity. The Sendai Framework, with its developmental approach, provides an important point of reference in reshaping the narrative around innovation and access for countermeasure R&D. The workshop posed the following questions to participants: what lessons can be drawn from efforts to develop and secure access to countermeasures during the Covid-19 pandemic? What is the potential need (and appetite) for strengthening international cooperation, developing shared norms or adopting common policies for R&D investment to reduce risk and build resilience?

The objectives of the workshop were to:

- Provide a space for the exchange of experiences and views among governments, foundations, partnerships and other organizations that invested in Covid-19 medical countermeasure R&D.
- Consider different options for funding approaches based on an analysis of the Covid-19 pandemic, and lessons through a disaster risk-reduction perspective.
- Initiate discussions on the desirability and feasibility of greater coordination among public interest R&D funders to achieve better outcomes for health-risk reduction and the resilience of health-systems and to foster globally equitable access.
- Identify the most promising areas where there is critical mass for coordinated policy approaches and the development or adoption of shared norms, principles, funding conditions and practices for medical countermeasures for pandemic-risk reduction, prevention, and resilience.

¹ The medical countermeasures discussed in the workshop included vaccines, diagnostics and treatments used to address public health emergencies.

- Foster cooperation and coordination to avoid fragmentation.
- Lay the foundations for a potential in-person meeting in 2022.
- Explore this area in the context of ongoing discussions on equitable access to medical countermeasures in the WHO Working Group on Strengthening WHO Preparedness for and Response to Health Emergencies (WGPR) and the negotiations that will take place through an Intergovernmental Negotiating Body.

Process

To start the discussion on each day, the workshop featured two presentations on the topics of “Disaster Risk Reduction & Investment in Building Resilience” and “Countermeasure R&D landscape and evolution of global norms”.

The presentations were followed by moderated discussions among the participants on the four main topics:

1. Reflections on experiences with Covid-19. Challenges investing in R&D and in securing access to countermeasures.
2. Investing in countermeasure R&D for risk reduction.
3. How can investing in countermeasure R&D facilitate equity? Principles and practices.
4. To what extent can or should there be global norms & policy coordination in countermeasure R&D investment? Opportunities and risks.

The moderated discussions sought to elicit the experiences and the role of the funders in each topic area.

Outcomes

DAY 1: January 18, 2022 (14:30-17:00 CET)

The workshop started with the explanation of the rationale for framing the issue of countermeasure R&D as an investment in disaster risk-reduction. The organizers noted that the large number of PPR initiatives concerning Covid-19 is risking fragmentation of efforts, which could be remedied by the adoption of a comprehensive, developmental approach of disaster risk reduction. Such an approach could help promote investment, information sharing and coordination. Importantly, framing the issue of access to countermeasure R&D as investment in risk reduction could help capture the attention of policy-makers and result in more political will to invest in countermeasures, and to make them available as global public goods.

PRESENTATION 1: DISASTER RISK REDUCTION & INVESTMENT IN BUILDING RESILIENCE

The first presentation at the workshop presented resilience-building investment as a suitable global framework for financing medical countermeasures.

The presenter introduced a comprehensive approach towards risk, highlighting the fact that risk is systemic in nature and that its impact cascades across sectors and geographies, as the Covid-19 pandemic has clearly demonstrated. This approach does not see risk in a hazard-by-hazard fashion, but offers a systemic account of factors which can influence health and disaster risks. In this context, the presenter underlined the need to go beyond a reactive approach towards risk, considering a more prospective and preventive approach with the aim of avoiding the creation of new and reduce existing disaster risk. In particular, new investments and development efforts should be undertaken with a disaster risk lens and be risk-informed.

The developmental approach of the Sendai Framework provides a detailed blueprint for how the world can achieve a substantial reduction in disaster risk and loss by 2030. The Framework's priorities for action include: work towards improved understanding of disaster risk and of the systemic nature of risk; strengthening disaster risk governance to avoid fragmentation; investment in disaster risk for resilience and improvement of disaster preparedness for more effective emergency response and to build back better in recovery, rehabilitation and reconstruction. In the context of health, the Bangkok Principles for the implementation of the health aspects of the Sendai Framework for Disaster Risk Reduction 2015-2030, are of particular relevance.

DISCUSSION 1:

REFLECTIONS ON EXPERIENCES WITH COVID-19 & CHALLENGES INVESTING IN R&D AND IN SECURING ACCESS TO COUNTERMEASURES

The first moderated discussion of the day concerned the challenges in investment and access to countermeasure R&D. The speakers agreed that, during the Covid-19 pandemic, we have witnessed the success of science coupled with a failure of access. On the one hand, vaccines, diagnostics and some treatments were developed and deployed at an unprecedented speed. On the other hand, even in places which already had in place critical research infrastructure repurposed for Covid-19, there was a failure in terms of equitable access to the fruits of scientific progress. One of the speakers mentioned the case of South Africa, where the existing HIV and TB research infrastructure was repurposed for Covid-19 and contributed to early identification of new variants of concern, but did not result in better access to vaccines. The speaker mentioned the need for a more resilient health system. In particular, the speaker stressed the importance of investment in human resources, capacity and know-how for vaccine development and diagnostics and to make sure that other diseases and basic medical care are not neglected during a pandemic.

Several speakers stressed the importance of public funding in addressing local needs in an effective way and in rapidly mobilizing at-risk financing. They also highlighted challenges in countermeasure R&D investment. The speed of investment is a particularly important issue and speakers agreed that public money can be mobilized more quickly than alternative forms of financing, but there are challenges regarding at-risk investment, especially for countries with lesser financial resources.

Several speakers noted the challenges with regards to tension between political and commercial incentives, and between political imperatives at the national level and needs at the global level. In particular, they flagged the mismatch between, on the one hand, global needs with regard to accessibility and, on the other hand, national procurement and reimbursement rules meant to serve national interests. Few R&D funders or companies had clear access provisions in place prior to the Covid-19 pandemic; of these, most were limited in scope and practices varied widely by company during the pandemic. Speakers mentioned the need for a systemic approach to address demand and supply sides of the problem by promoting access plans and conditions and by supporting more progressive companies. The need to integrate health, science, technology and industrial policies was also mentioned. In particular, several speakers mentioned the importance of investment in local R&D and manufacturing capacities and mobilizing at-risk funds to increase self-reliance and access.

The speakers mentioned the importance of collaboration between scientists and governments, of data-sharing, technology transfer and cross-country collaboration. They mentioned several international alliances, such as the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R) and the Coalition for Epidemic Preparedness Innovations (CEPI), new tools such as the Coronavirus Global R&I Collaboration Portal and new partnerships such as European Health Emergency preparedness and Response Authority (HERA) and strategic documents such as the Plan for Self-sufficiency in Health Matters in Latin America and the Caribbean. Speakers also mentioned the importance of the WHO WGPR and upcoming negotiations over a pandemic instrument as an opportunity to reach consensus on the action of WHO member states.

DISCUSSION 2:

INVESTING IN COUNTERMEASURE R&D FOR RISK REDUCTION

The second moderated discussion focused on the risk reduction aspects of investment in countermeasure R&D. The risk reduction framing brings together the disaster risk agenda and investment by emphasizing the preventive aspects of investment in R&D and by promoting the understanding of pandemics as global hazards.

The speakers agreed on the need to frame the financing of countermeasure R&D as an investment in the public interest and global public goods. The speakers also agreed on the importance of public money in investment in countermeasure R&D. Several speakers mentioned that public funds can be used to assure more equitable access to the fruits of research and that the public sector is best adapted to bear the risks associated with investment in R&D as a public good. The speakers mentioned the need for public investment to be risk-informed and to address both national and global needs. The capacity to manage risk is currently underdeveloped in the public sector. Meanwhile, the public sector shapes the risk landscape of other actors, particularly in the private sector. Therefore, the speakers mentioned the need to socialize risk and benefit sharing by identifying links in the R&D chain where specific provisions could be improved to guarantee equity and better access. Speakers also noted the need to lower the collective risk of investments through appropriate legal frameworks and to align the incentives of the private sector in managing risks with broader societal health risks. Speakers proposed that a stepwise approach could be particularly helpful in moving forward with a reform agenda.

The speakers also mentioned the importance of geopolitical changes and limitations. Currently, the investment landscape is characterized by a small number of donors and a large number of recipients. In that regard, several speakers highlighted the structural limitations of Official Development Assistance (ODA) and its insignificance in disaster risk reduction. National budgets allocated to risk reduction are very small because this long-term issue is not seen as a priority by many governments. Meanwhile, the governments that have invested in risk reduction have managed to reduce their future costs. The speakers mentioned the need to make a stronger business case for investment in risk reduction. Resilience bonds and their returns could be seen as a positive form of investment capital. There is also a need for low and middle-income countries to be more heard at the table, and to increase their investment in countermeasure R&D according to their capacities. One of the speakers also mentioned the critical importance of data infrastructure in informing the public and building trust. There is a need to invest in more community-oriented data sets and to ensure interoperability between different data sets.

Finally, speakers mentioned the overarching importance of risk reduction and public infrastructure in addressing issues related to the climate and social agenda and in uniting societies disturbed and divided by geopolitical issues.

DAY 2: January 19, 2022 (14:30-17:00 CET)

On the second day of the workshop, the participants turned to discussing the practicalities of mobilizing funding to achieve innovation and equitable access to medical countermeasures. Among the topics discussed on the second day were the concrete policies, practices and challenges faced by funders, as well as their perspectives on international rules, norms and institutions with regards to funding.

PRESENTATION 2: COUNTERMEASURE R&D LANDSCAPE AND EVOLUTION OF GLOBAL R&D NORMS

The second day opened with the presentation of the R&D landscape and global norms. The presenter started by outlining the evolution of the countermeasure R&D system pre-Covid-19. Military R&D during the Second World War laid the foundation for the modern chemicals-based pharmaceutical industry and large-scale public investment in a few countries in biosecurity R&D. The decades that followed were marked by the establishment of military or post-colonial biomedical R&D institutions to develop products for potential pandemics in countries such as China, France, Germany, Russia, US and the UK.

In the early 2000s several focusing events such as the outbreaks of anthrax, SARS and Ebola resulted in the adoption of new policies and establishment of new organizations. These changes occurred against the background of: 1) expanding concerns regarding market failures with regards to neglected and rare diseases which led to the testing out of new approaches to funding and conducting R&D, 2) the globalizing demand for medicines, scientific and economic capacity and the demand for “global governance” of R&D and, last but not least, the 3) growing concern about access to medicines across high, middle and low-income countries which resulted in increased scrutiny of R&D business models. In years 2010-2020, there was very significant growth of the R&D system for pathogens of pandemic potential: the number of companies and the amount of funding have increased and the pipeline for medical countermeasures has doubled.

Recently there has been a major push in public investment for Covid-19 vaccine R&D. In total, at least \$5.6 billion dollars were mobilized as push investments (upfront direct funding to those conducting R&D). One of the features of current Covid-19 investment is that countries primarily invested in entities in their own territory. These investments were not necessarily coordinated and few of them have had global access conditions attached to them. With regards to pull investments, many countries have engaged in at-risk advanced purchase commitments, focusing on securing access for their national/regional needs, but not necessarily on global access.

Changes in the post-Covid-19 global countermeasure R&D system could reflect the normative developments that came out of the 2012 WHO Consultative Expert Working Group on R&D: Financing and Coordination. That process resulted in a set of principles – that R&D for public health should be ethical, needs-driven, evidence-based, efficient, affordable and effective. These principles were subsequently recognized by the World Health Assembly in its 2016 Resolution WHA69/23 acknowledging the central role of the Global Observatory on Health R&D and requesting the Director-General to establish a WHO Expert Committee on Health Research and Development to provide technical advice on the prioritization of health R&D. They have also been recognized by the UN General Assembly in the 2016 Political Declaration of the High-Level Meeting of the UNGA on Antimicrobial Resistance. Functions such as global mapping, priority setting and financing beyond the national level have been identified as particularly important. Instruments such as the Global R&D observatory, treaty and a fund have also been proposed, but not fully adopted to date.

The rationale for greater international cooperation includes learning across organizations and countries. Information & expertise on R&D is scarce, which makes it important to cooperate across borders. Coordinated investments can also result in bigger leverage, mitigate potential duplication of efforts and result in more equitable sharing of burdens (financing) and benefits (access to technologies).

The current R&D financing system faces challenges with regards to coordination and potential competition. New global instruments could take the form of information exchange, voluntary declarations, codes, statements, pooled funds or a binding legal instrument. The presenter ended by putting forward the question whether there is an appetite for more global rules on R&D investment.

DISCUSSION 3:

HOW CAN INVESTING IN COUNTERMEASURE R&D FACILITATE EQUITY? PRINCIPLES AND PRACTICES.

In the third moderated discussion of the workshop the participants discussed how investment in countermeasure R&D can facilitate equity. The chair opened the discussion by mentioning the links between disaster risk reduction and equity and the need to think about comprehensive solutions. The Sendai Framework could be used as a basis for these efforts, as investment in equitable solutions is particularly important from the perspective of global risk reduction and the developmental approach of the framework. In particular, there is a growing interest in investing in local and regional clinical trial and manufacturing capacities and in sharing the costs and benefits of R&D.

Speakers mentioned the crucial importance of timing when securing commitments with regards to equity. There is a need to solve issues in relation to intellectual property (IP), data sharing and technology transfer before the next pandemic. Covid-19 has taught us that the earlier the investments are made and the commitments with regards to access are formulated, the more leverage there is over the developers. Therefore, it is optimal to secure access at an early stage.

Another important question mentioned by the speakers was: who has the power to exert leverage? Even though governments and funders can have this power, Covid-19 has demonstrated that this power was either not used to impose conditions with regards to equity or that conditions in place were not used or were not enough to ensure leverage. There is a need to ensure leverage across the R&D development chain, through conditions concerning access in relation to inputs such as genomic data and outputs such as the clinical trial data and the product itself and through the removal of IP barriers. These access provisions in R&D grants must be fit for purpose and enforceable, and coordinated among funders throughout the entire R&D process.

The speakers mentioned the need to think about linkages between “peacetime” and pandemic phases in preparing for future emergencies. There is a need to work with existing institutions and research organizations and to think about how incentives for sharing costs, risks and benefits can be created before the outbreak of the next pandemic. The opportunity and a challenge now is to create more participatory systems which would allow more capacity to be built up and which would include more burden sharing and more voices in defining target product profiles for needed products. In this context, the speakers mentioned the crucial role of expertise in mitigating investment risks. There is a need to ensure the engagement of experts, governments and civil society from low and middle income countries and to bridge the gap between science and the commercialization of science. The need to draw clear lines between the convening and research functions of the global health system has also been mentioned.

The discussions highlighted the importance of at-risk finance for securing greater access to benefits down the value chain. However, at-risk finance has been difficult to achieve by important global health institutions. One of the few institutions that could successfully mobilize at-risk financing was CEPI. The opportunity for risk financing is crucial in terms of defining the debate around sharing of costs and benefits. During the pandemic there has been a lot of focus on pull financing. Therefore, a better balance between push and pull financing is something that needs to be achieved early on and between outbreaks. It is important to make commitments during peacetime that would be triggered and linked with rapid and conditional financing when the next emergency occurs.

The speakers also highlighted an opportunity for preparatory research between outbreaks, to build up technology platforms and to do preparatory research around key pathogens. It is also important to ramp up manufacturing process innovation and standardized approaches to manufacturing that can be built up and mobilized more quickly during an emergency. The speakers mentioned some of the challenges of some of the Global South countries in meeting the demand for basic medicines and regular vaccines. It is therefore important to enhance manufacturing capacities and to provide incentives for joint public and private investment in R&D. There is also a need to create legal frameworks that would facilitate transfer of technology, investment and to ensure ethical R&D, and assure that any product is safe, accessible and affordable. The speakers agreed on the need to establish an enabling agenda that would allow countries to respond rapidly.

Challenges remain with regards to the allocation of resources for pandemic preparedness. For example HIV and TB research has been impacted by the Covid-19 pandemic. Meanwhile, it is important to maintain preparedness infrastructure but there is a need to be realistic about what governments are willing to do to produce preparatory research and ensure consistent investment in a future threat, once Covid-19 is under control. The availability of funding and infrastructure for basic research as a key component of the entire R&D process should not be taken for granted. Investments in pandemic preparedness though can be used for other health needs between outbreaks and quickly mobilized to attend to emergencies. It is also very important to understand why certain research networks have been successful, and whereas vast amounts of data generated from some clinical trials were not useful for decision making.

The speakers mentioned the need to bring some of the nuances in this discussion to the discussions on countermeasure R&D investment in the WGPR and the WHO. Currently, there are still some contentious issues between developed and developing countries in the WGPR. It is therefore important to frame the discussion around innovative funding solutions, transfer of technology and biomedical R&D not only as the right thing to do, but also as a sustainable business investment model and good economic policy. The charity and global solidarity model has failed and it is very important to use the multilateral approach to also make the business case for equitable access. Several speakers mentioned the possibility of organizing a deep dive on this topic under the auspices of the WGPR.

DISCUSSION 4:

TO WHAT EXTENT CAN OR SHOULD THERE BE GLOBAL NORMS & POLICY COORDINATION IN COUNTERMEASURE R&D INVESTMENT? OPPORTUNITIES AND RISKS.

In the last debate of the workshop, the participants discussed the potential of coordination and global norms and instruments in countermeasure R&D investment. The chair opened the discussion by mentioning different approaches towards securing access to countermeasure R&D: firstly, we have seen joint programming and financing through institutional arrangements by existing actors, pooled financing exemplified by CEPI and regional approaches such as EU's HERA. Secondly, there is a possibility to address access through R&D contracts and through advanced risk-based procurement contracts. The contracts could take many forms: they could require a proportion of the sales to go to low and middle income countries, they could refer to technology transfer and requirements to distribute production across several regions and they could include provisions on pricing levels, transparency and data sharing. Thirdly, access could be addressed through policy areas like trade policies and IP policies or through long term capacity building in terms of research, clinical trials, networks and manufacturing capacity. The chair then asked the questions: how can these objectives be achieved and be materialized? Could the issues discussed here be addressed through a resolution or a framework agreed by countries, a Code of Practice agreed by the funders, or could it be even legal instruments, like an international pandemic treaty?

Speakers mentioned the need to move from managing outbreaks to managing risks by strengthening research capabilities and infrastructure in the whole ecosystem. In particular, one of the speakers mentioned the gap faced by middle income countries which cannot afford the prices of countermeasures paid by high income countries and are often excluded from other mechanisms, such as the scope of voluntary licensing agreements. Therefore, there is a need to develop national capacities in collaboration with partners and to have exemptions to IP rules for medicines and vaccines. A pandemic treaty could be used as an opportunity to establish an inclusive system for dealing with these issues and to make sure that no one is left behind.

One of the speakers mentioned the experiences from AMR in identifying the particular points in the pipeline and building consensus around the interventions which could be used to address them and about the role of different actors in addressing these issues. The challenges and limitations with regards to the pooling of funds have also been mentioned. The funders have been resistant to hand over sovereignty over decision making and it is important to come up with solutions which take that into account and do not undermine the funder's decision-making capability. In particular, governments may be unwilling to give up sovereignty over what they see as some of their essential responsibilities towards their electorate and taxpayers.

Several speakers mentioned the advantages of having multiple funders with different approaches towards funding of science and different research agendas. While foundations may be more willing to invest at risk, there is an important role for governments in disaster risk reduction and response and in working with other actors in determining the possible scope of intervention. Several speakers also agreed that governments are uniquely placed to coordinate between funders, to work on regulatory aspects of drug licensing, exchange information and to mobilize large scale resources. Accordingly, the global and national systems should operate in a complementary fashion. The speakers mentioned the importance of generating evidence through a review of existing access policies and practices during R&D and creating checklists that funders and innovators can use in their access strategies. Finally, the speakers mentioned the possibility of bringing these discussions to different fora such as UN General Assembly. UNDP offered support in co-convening future discussions, including in the UN in New York.

NEXT STEPS & CONCLUSIONS

WHAT ARE APPROPRIATE NEXT STEPS? WHERE IS THERE APPETITE FOR MOVING FORWARD?

In the concluding session of the workshop, the chair summarized the key themes of the workshop as: money, action and talk. Firstly, there is a visible need to mobilize at-risk finance and to sustain it in between pandemics, while taking a broader range of developmental considerations into account. The lens of disaster risk reduction can be used to change the narrative and adopt a broader, developmental agenda that frames the pursuit of equity as an investment and not as an additional cost. The interests, constraints and capacities of different funders should be recognized: if international collaboration is to be feasible and deliver benefits for all, it must be constructed in a way that also respects and meets the self-interest of different countries and research funders. Secondly, discussions on global action for PPR often refer to data sharing efforts, platform technologies and policies on export controls. The workshop has demonstrated that there exists an appetite to go further and to take action among smaller groups of interested and willing funders to develop common principles and sets of practices to ensure the financing of countermeasure R&D results in more equitable access to its fruits. Finally, with regards to continuing these discussions, the organizers have welcomed the invitation to take these topics to the WHO governance processes, UNDP and UN General Assembly. The organizers agreed that the discussion should continue and that the issues under consideration can be framed as part of a broader disaster risk reduction agenda.

ANNEX I. WORKSHOP AGENDA

DAY 1: January 18, 2022 (14:30-17:00 CET)

- 14:30-14:40: Welcome on workshop purpose, ground rules, and expected outcomes
- 14:40-14:45: Rationale for framing the meeting as investment in disaster risk-reduction
- 14:45-15:00: **Presentation #1:** Disaster risk-reduction and resilience-building investment as a global framework for the financing of medical countermeasures
- 15:00-15:45: **Discussion #1:** Moderated discussion among participants:
 - Reflections on experiences with Covid-19
 - Challenges investing in R&D and in securing access to countermeasures
- 15:45-16:00: BREAK
- 16:00-16:50: **Discussion #2:** Moderated discussion among participants:
 - Investing in countermeasure R&D for risk reduction
- 16:50-17:00: Closing Day 1: Summary and preview of Day 2

DAY 2: January 19, 2022 (14:30-17:00 CET)

- 14:30-14:45: Welcome, summary of key themes from Day 1, framing discussions for Day 2
- 14:45-15:00: **Presentation #2:** Countermeasure R&D landscape and evolution of global R&D norms
- 15:00-15:45: **Discussion #3:** Moderated discussion among participants:
 - How can investing in countermeasure R&D facilitate equity?
 - Principles and practices.
- 15:45-16:00: BREAK
- 16:00-16:40: **Discussion #4:** Moderated discussion among participants:
 - To what extent can or should there be global norms & policy coordination in countermeasure R&D investment?
 - Opportunities and risks.
- 16:40-17:00: **Next steps and conclusions:** What are appropriate next steps?
 - Where is there appetite for moving forward?

ANNEX II. WORKSHOP PARTICIPANTS & ORGANIZERS

Workshop Participants

1. **Noor Hisham Abdullah**, Director General of Health, Ministry of Health, Malaysia
2. **Alejandro Alba Fernández**, Permanent Mission of Mexico to the United Nations Office and other International Organizations in Geneva
3. **Shuen Chai**, Senior Advisor and Team Lead, Global Health Security and Sustainable Financing, Office of Global Affairs, Department of Health & Human Services, United States of America
4. **Charles Clift**, Senior Consulting Fellow, Global Health Programme, Chatham House
5. **Jennifer Cohn**, Global Access Project Leader, Global Antibiotic Research and Development Partnership
6. **Carl W. Dieffenbach**, Director of the Division of AIDS, National Institute of Allergy and Infectious Diseases, United States of America
7. **Peter Droel**, Director, Directorate General for Research and Innovation of the European Commission
8. **Yong Feng**, Permanent Mission of the People's Republic of China to the UN Office at Geneva and other International Organizations in Switzerland
9. **Nicolo Gligo**, Economic Commission for Latin America and the Caribbean
10. **Glenda Gray**, President and CEO of the South African Medical Research Council
11. **Meutia H. Hasan**, First Secretary, Permanent Mission of the Republic of Indonesia to the United Nations, World Trade Organization and Other International Organizations
12. **Lawrence Kerr**, Director, Pandemics & Emerging Threats, Office of Global Affairs, Department of Health & Human Services, United States of America
13. **Joachim Klein**, Deputy Head of Division, Global and Public Health Research, Federal Ministry of Education and Research, Germany
14. **Jeremy Knox**, Head of Policy, Infectious Diseases, Wellcome Trust
15. **Nicole Lurie**, U.S. Director and Strategic Advisor to the CEO, Coalition for Epidemic Preparedness Innovations
16. **Colin McIlff**, Deputy Director, Office of Global Affairs, Department of Health & Human Services, United States of America
17. **Ricardo Mena**, Director, United Nations Office for Disaster Risk Reduction
18. **Vasee Moorthy**, Senior Advisor R&D, Science Division, World Health Organization
19. **Melinda Moree**, Senior Program Officer, Global Health R&D, Global Policy and Advocacy, Bill & Melinda Gates Foundation
20. **Cecilia Oh**, Programme Advisor at the HIV, Health and Development Group, United Nations Development Programme
21. **Hyejin Park**, Division of Vaccine Development Coordination at Vaccine Research Center, Republic of Korea
22. **Nakorn Prem Sri**, Director of the National Vaccine Institute, Thailand
23. **Simon Reid-Henry**, Professor, Director Institute for the Humanities and Social Sciences, Queen Mary University of London, Research Professor Peace Research Institute Oslo, and Academic Lead Global Public Investment Initiative.
24. **Judit Rius Sanjuan**, Policy Specialist, Innovation and Access to Health Technologies, United Nations Development Programme

25. **Thomas Romes**, Deputy Director-General for Life Sciences, Ministry of Education and Research, Germany
26. **Oliver Schwank**, Senior Economic Affairs Officer, United Nations Department of Economic and Social Affairs
27. **Nazar Sotiriadi**, Head of ESG Risk, Executive Director in the Risk Department, Sberbank
28. **Nathalie Strub Wourgaft**, Director, COVID Response and Pandemic Preparedness, Drugs for Neglected Diseases initiative
29. **Lynda Stuart**, Deputy Director, Vaccines and Host-Pathogen Biology, Bill & Melinda Gates Foundation
30. **Chor Chuan Tan**, Chief Health Scientist and Executive Director, Office for Healthcare Transformation, Ministry of Health, Singapore
31. **Say Beng Tan**, Executive Director, National Medical Research Council, Ministry of Health, Singapore
32. **Pedro Villarreal**, Senior Research Fellow, Max Planck Institute for Comparative Public and International Law
33. **Veronika von Messling**, Director-General for Life Sciences, Ministry of Education and Research, Germany
34. **Saul Walker**, Deputy Director, Covid19 Vaccines, Therapeutics and Diagnostics, Foreign, Commonwealth and Development Office, United Kingdom
35. **Grata Endah Werdaningtyas**, Ambassador, Deputy Permanent Representative, Permanent Mission of the Republic of Indonesia to the United Nations, World Trade Organization and Other International Organizations
36. **Emma Wheatley**, Deputy General Counsel and Head of Business Development, Coalition for Epidemic Preparedness Innovations
37. **Yazdan Yazdanpanah**, Head, Decision Analysis in Infectious Diseases, National Institute of Health and Medical Research, France

Organizers

GOVERNMENT OF NORWAY

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