

2017 Annual review of diseases prioritized under the Research and Development Blueprint

Informal consultation

24-25 January 2017

Geneva, Switzerland

Meeting report

The meeting was organized under the WHO R&D Blueprint, which aims to reduce the time between declaration of a public health emergency and the availability of effective diagnostic tests, vaccines, antivirals and other treatments that can save lives and avert a public health crisis (<http://www.who.int/csr/research-and-development/en/>).

Executive summary

On 24-25 January 2017, the World Health Organization held an informal consultation in Geneva, Switzerland, to review the list of priority diseases for the WHO R&D Blueprint. The R&D Blueprint focuses on severe emerging diseases with potential to generate a public health emergency, and for which insufficient or no preventive and curative solutions exist. The original list of diseases that most readily meet these criteria and for which additional research and development is urgently required was agreed at an [international consultation](#) held in November 2015.

The January 2017 meeting brought together virologists, bacteriologists, vaccinologists, public and animal health professionals as well as infectious disease clinicians to review the list of priority diseases. These experts made use of a tailored prioritization methodology developed by WHO and validated at an informal consultation in [November 2016](#). The methodology uses the Delphi technique, questionnaires, multi-criteria decision analysis, and expert review to identify relevant diseases.

The 2017 annual review determined there was an urgent need for research and development for:¹

- Arenaviral hemorrhagic fevers (including Lassa Fever)
- Crimean Congo Haemorrhagic Fever (CCHF)
- Filoviral diseases (including Ebola and Marburg)
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Other highly pathogenic coronaviral diseases (such as Severe Acute Respiratory Syndrome, (SARS))
- Nipah and related henipaviral diseases
- Rift Valley Fever (RVF)
- Severe Fever with Thrombocytopenia Syndrome (SFTS)
- Zika

In addition, any disease identified using the R&D Blueprints decision instrument for new diseases.

Chikungunya virus was discussed during the meeting and a number of experts stressed the risks it poses. Along with a number of other pathogens, there was agreement that Chikungunya Virus continues to warrant further research and development.

Other pathogens were considered during the review and a wide range of additional relevant research and development initiatives encouraged. In particular, participants noted the importance of cross-cutting research and development which would help to address a range of different pathogens or diseases at the same time.

The meeting also stressed the importance of continuing research and development on diseases other than those on the priority list. Further research and development is needed on a wide range of diseases. Where there are already substantive efforts to develop

¹ The order of diseases on this list does not denote any ranking of priority.

The 2017 list of diseases to be prioritized under the R&D Blueprint

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- Crimean Congo Haemorrhagic Fever (CCHF)
- Filoviral diseases (including Ebola and Marburg)
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
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- Severe Fever with Thrombocytopenia Syndrome (SFTS)
- Zika

In addition to any disease identified by the Blueprint's decision instrument for new diseases.

Additional understandings

The meeting noted that several diseases discussed during the review, such as dengue, yellow fever, HIV/AIDs, tuberculosis, malaria, avian influenza causing severe human disease, antimicrobial resistance, and smallpox/monkey pox, continued to pose major public health problems and further research and development is needed. In this regard, participants recognized the existence of major disease control initiatives, extensive R&D pipelines, existing funding streams, or established regulatory pathways for improved interventions.

A number of additional pathogens were discussed and considered for inclusion in a priority list, such as: emerging flaviviruses with potential for haemorrhagic fever (such as Kyasanur Forest Disease) or those with potential for encephalitis (such as Usutu); emerging Bunyaviruses (such as Oropouche); emerging Alphaviruses (such as Chikungunya and Mayaro virus); rickettsia; plague; hantaviral diseases; and Chandipura virus disease. A potential threat need not be a virus and could be any type of pathogen. In many cases more research is needed before an assessment for prioritized countermeasure development for these diseases could be undertaken. Necessary research might include basic/fundamental and characterization research as well as epidemiological or entomological studies, or further elucidation of transmission routes. In some cases existing tools may need to be improved.

Certain types of cross-cutting research and development should be encouraged for the management of prioritized diseases and other potential public health threats, including a novel or deliberate threat. Participants highlighted the importance of validated diagnostic tests (including differential diagnosis), tools for identifying the cause of syndromes, as well as diverse countermeasures that work across different pathogens or diseases, including vector control.

⁶ The order of diseases on this list does not denote any ranking of priority.

Annex B: The 2017 Prioritization Committee

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