



WHO R & D PRIORITY DISEASES: AN OVERVIEW

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Dear Editor,

World Health Organization came forward with an initiative called 'Research & Development (R& D) Blue print list of priority diseases' to combat global public health emergencies effectively and developed 'R & D Blueprint for action to prevent Epidemic'. Research & Development (R& D) Blue print is a newer strategic plan with preparedness and activities to be actively put forth during epidemics. The objective of R & D Blueprint is to expedite the process of research and henceforth, the development of newer diagnostic techniques, novel therapeutic approach and preventive measures against emerging public health diseases. Thereby reducing the time lag between the outbreak and the approval of preventive, promotive and curative measures.^{1,2}

R & D Blueprint for action to prevent Epidemic was synthesized from the great devastating experience of Ebola epidemic. The emphasis is on severe infectious diseases with potential for emerging into public health emergencies for which currently there are no current effective and adequate diagnostic, therapeutic and preventive measures. Outbreak of Zika virus played an important ground for testing the R & D blue prints.¹

The functions of R & D blue prints are facilitating coordination between main stakeholders, funding, communication, accelerating research and development by publishing the list of priority diseases, development of roadmaps and target product profiles, setting up of regulatory laboratory networks, and establishing protocols for evaluation of newer diagnostic tests, developing new norms and standards through fostering of development of novel study designs for testing vaccines, drugs and also facilitating the sharing of data and biological sample. Furthermore,

it plays an important role in epidemic preparedness, implementation of strategic response framework and plan. The response plan is developed for three scenarios namely priority pathogens with no medical countermeasures, with some medical countermeasures and unknown pathogens.³

List of priority pathogens are identified using a special tool developed by WHO. The first list of priority diseases was released in 2015 with expert consultation from a wide range of disciplines with representation from microbiology, public health, mathematical modelling, clinical medicine, immunology, epidemiology, animal health, respiratory medicine anthropology, defence and product development. In 2017, the experts used a prioritization methodology to revise the priority list which uses delphi technique, multi criteria decision analysis, questionnaires along with expert reviews. In the methodology review, nine prioritization criteria were considered which were human transmission, availability of medical counter measures, case fatality rate, human and animal interface, biological weapon, geographical range, potential societal impact, evolutionary potentials, and public health context.^{1,3}

In 2018, WHO released an updated priority diseases and it includes Ebola virus disease and Marburg virus disease, Crimean Congo haemorrhagic disease, Lassa fever, Nipah and henipaviral diseases, Rift valley fever, SARS, MERS, Zika, and disease X. Disease X was included in the list which is either a new disease caused by a new pathogen or a known pathogen with new epidemiologic transition. Few more diseases were declared as severe category demanding action namely arena viral haemorrhagic fevers other than Lassa fever, emergent non-polio entero viruses (including EV71, D68), Chikungunya and presentation of severe fever with thrombocytopenia syndrome. These diseases

will be monitored carefully and considered during subsequent annual review.⁴

In R & D blue prints, 'One health approach' was stressed to combat global epidemic which is designed to implement policies, programmes, legislation and research with the involvement of multiple sectors to achieve better public health outcomes. Special consideration was given to animal health, environmental issues, disaster, refugees and internally displaced population in view of high risk for human public health emergencies.¹To summarize, 'R & D Blueprint for action to prevent Epidemic' is the need

of the hour strategic plan introduced by WHO to fight global epidemic threats successfully.

REFERENCES:

1. Mehand M, Al-Shorbaji F, Millett P, Murgue B. The WHO R&D blueprint:2018 re view of emerging infectious diseases requiring urgent research and development efforts. *Antiviral Res.*2018;159:63–67.
2. Friedrich, MJ. WHO's blueprint list of priority diseases. *JAMA* 2018;319:1973.
3. World Health Organization. R & D Blueprint. Available from <https://www.who.int/blueprint/what/en/>. Last accessed on 23rd May 2019.
4. Global Outbreak Alert and Response Network. 2018 annual review of the Blueprint list of priority diseases. Available from <https://extranet.who.int/goarn/content/2018-annual-review-blueprint-list-priority-diseases>. Last accessed on 23rd May 2019.