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When funding for medical countermeasures against rare, but detrimental agents is cost-effective

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Some chemical, biological, radiological, and nuclear (CBRN) agents can be very damaging and pose high risk to national security because they bear potential to induce economic and social disruption. Assuming efficacious medical research and development (R&D) is executed; populations could be protected against such CBRN agents via new prophylactic drugs and vaccines or post-exposure treatment with antidotes and antimicrobials. However, the development of medical countermeasures (MedCM) against these agents is very limited. This presentation depicts specific features of the MedCM market and R&D against CBRN agents and explores the latest Ebola outbreak as an illustration of these concerns. While their R&D process and related costs are quite similar to those of commercially viable conventional diseases, it is shown that free market rewards and incentives are more uncertain and most often not sufficient for developers of MedCM to independently invest on its own since widespread dissemination of CBRN agents remains a rare and unpredictable event (e.g. few customers, low and volatile market sales potential). This results in market failures for appropriate medicines or vaccines except in the case of effective public intervention. However, priorities should be identified given the extent of such risks and the amounts of investment involved. The Ebola example is used as a case study of causal factors which led to a lack of a vaccine prior to the 2014 outbreak. In addition, possible reasons which may have triggered a re-evaluation of its prioritization as a threat worthy of high actionable concern are probed.

Biography

Mark Lawrence Johnson is one of the early pioneers to develop policy and procurement in the European biodefense market for medical countermeasures (MedCM). He has accrued a mature and extensive network. His professional credibility was born over 20 years ago when he began to represent leading global pharmaceutical companies such as Merck & Co., Eli Lilly, and Astellas. Following response to the European Commission's (EC) Green Paper on CBRN preparedness in 2007, his participation at EC CBRN taskforce meetings was instrumental in getting fundamental economic elements adopted in its corresponding recommendations and action plan. He holds an MBA from Wake Forest University and a BA in Business Management from the University of Maryland. He is currently a Doctoral candidate at the Paris 2 University, Panthéon-Assas (LEMMA) working to determine economic mechanisms for achieving international availability of CBRN MedCM.

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