EMERGING INFECTIOUS DISEASES: THE NEGLECTED DIMENSION OF GLOBAL SECURITY

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Novel emerging infectious diseases continue to arise in this 21st Century, posing unexpected threats. Recent examples include SARS, influenza, Ebola and most recently, Zika. Such epidemics often spread with great rapidity and across geographical boundaries leading to major social, economic, and political, as well as human or animal health impact. Many of these epidemics arise from viruses in domestic animals or wildlife. Recent changes in human behavior and travel, food production systems, deforestation and environmental change facilitate such disease emergence. Understanding the drivers of such events may allow measures for "containment at source", i.e. generic measures for risk reduction. These include improved infection control measures in hospitals and evidence based measures for reducing zoonotic transmission. Enhancing surveillance and response systems for infectious diseases are crucial for early detection and containment. The delayed recognition of the Ebola outbreak in Guinea in 2013 resulted in the outbreak spreading across borders leading to >28,000 human cases and >11,000 deaths with cases being exported to multiple continents. In 2015, one returning traveler initiated an outbreak of MERS in South Korea that led to >186 human cases and a negative economic impact of approx. USD 1billion Recent outbreaks of dengue and influenza in Sri Lanka illustrate the ongoing impact of endemic infectious diseases. The "Commission on a Global Health Risk Framework for the Future" hosted by the US National Academy of Medicine estimates the annualized expected economic loss from potential pandemics is > USD 60 billion Given the complex and multifactorial factors contributing to such events, an integrated, multidisciplinary approach is needed in our response. The concept of "One Health" envisages a multidisciplinary, holistic and integrated approach to optimize health of humans, animals and the environment. This requires the collaboration of expertise in public health, animal health, environmental science and the seamless integration of laboratory, epidemiology, behavioral, and anthropological expertise.