

## “Putting outbreaks into perspective: public health impacts of outbreaks of communicable diseases for France and Germany”

### Summary

On 24.3.2017, the Center Virchow-Villermé for Public Health Paris-Berlin and the Robert Koch Institute organized a conference at the French Embassy in Berlin, entitled "Putting outbreaks into perspective: public health impacts of outbreaks of communicable diseases for France and Germany".

With the increase of transborder mobility of humans, animals, food and feed the threat of a possible spread of (dangerous) pathogens and infectious diseases increases as well. Today, whether carried by an unaware traveler or an opportunistic vector, human pathogens can rapidly arrive anywhere in the world. However, the resulting outbreaks and their consequences for Germany and France must be properly assessed and placed in the right perspective. Although outbreaks of infectious diseases are very often associated with ebola or zika, viruses causing measles, influenza, acute gastroenteritis or tick borne encephalitis may have much greater Public Health impact for our living environment in France and Germany.

It was important for the organizers to encourage the audience to change perspectives during the one-day event and to look at outbreaks of infectious diseases from different angles. While in the first half of the day dealing with outbreaks at local, national and global levels were the main discussion topics, in the afternoon outbreaks of infectious diseases were considered from the perspective of health security, non-governmental organizations and vaccination manufacturers. Dr. Udo Götsch from the local health authorities in Frankfurt am Main, described the large EHEC outbreak in 2011, the measures they had taken and the difficulties they encountered at the local level. At the outset there was a local outbreak, which was related to the consumption of food from two canteens. It was only later that it became clear that the event was a supraregional outbreak. In a federal system like Germany, the local health authorities are responsible for controlling outbreaks and taking appropriate measures. However, coping with a supra-regional outbreak requires a great deal of coordination and reliable communication between the various parties, depending on the number and severity of the disease, the type of pathogen and the geographical distribution of the disease.

Dr. Andreas Gilsdorf, Head of the Surveillance Division and the situation center at the Robert Koch Institute (RKI), reported how the RKI was involved in the EHEC-investigations. During the crisis, results of the regional teams, information from the population and reports from national and international health authorities were bundled and evaluated day and night at the RKI.

Dr. Maria Van Kerkhove presented the World Health Organization (WHO) perspective impressively. Teams within WHO assess a monthly total of 5,000 outbreaks and decide whether an outbreak is of international concern and if there is a need for support.

Prof. Robert Dirk Brockmann from Robert Koch Institute gave a particularly clear picture of the change in perspective, by showing the global spread of an infection from the viewpoint of the pathogen: With the aid of air traffic thousands of kilometers distant cities are often closer together than a neighboring state. Computer simulations can help to predict propagation paths and speeds.

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Prof. Antoine Flahault of the University of Geneva and Prof. Patrick Zylberman of the University of Paris Descartes have highlighted the outbreaks of infectious diseases from the perspective of health security. In this context, they have shown that interdisciplinary approaches to a better understanding of global health issues are of particular importance. In cooperation with WHO, they are currently developing a simulation program for crises (SRI 3.0).

Dr. Max Gertler, Deputy Chairman of the Board of MSF (Médecins sans frontières), clearly demonstrated that Ebola was not the only crisis. MSF is involved in countless outbreaks all over the world. The increase in population density and travel, as well as high treatment costs and antibiotic resistance, are a major cause for both governmental and non-governmental organizations.

Prof. Judith Mueller from the EHESP French School of Public Health gave an interesting insight into the individual motivation to (not) vaccinate. She presented results from different studies. For example, Detmann et al (2016) found that the decision for vaccination is most influenced by the efficacy of the vaccine and advice on the vaccine. Prof. Judith Mueller also presented unpublished results of a nudging study applied in the vaccination area. In the nudging method, the communication about a measure (e.g., vaccination) emphasizes the potential gain for the individual or the potential loss that arises if he / she does not agree to the action (e.g., not vaccinate).

Andrea Rappagliosi, representative of the Association of Vaccine Manufacturers in Europe (Vaccines Europe), presented in his presentation the lengthy production process of a vaccine of approx. 18 months, which makes a rapid reaction to acute outbreaks impossible.

There was broad agreement among participants and speakers that it is unacceptable that infectious diseases such as measles still lead to deaths in highly developed industries and that, for example, more efforts have to be taken to communicate the risks of the annual flu epidemic.