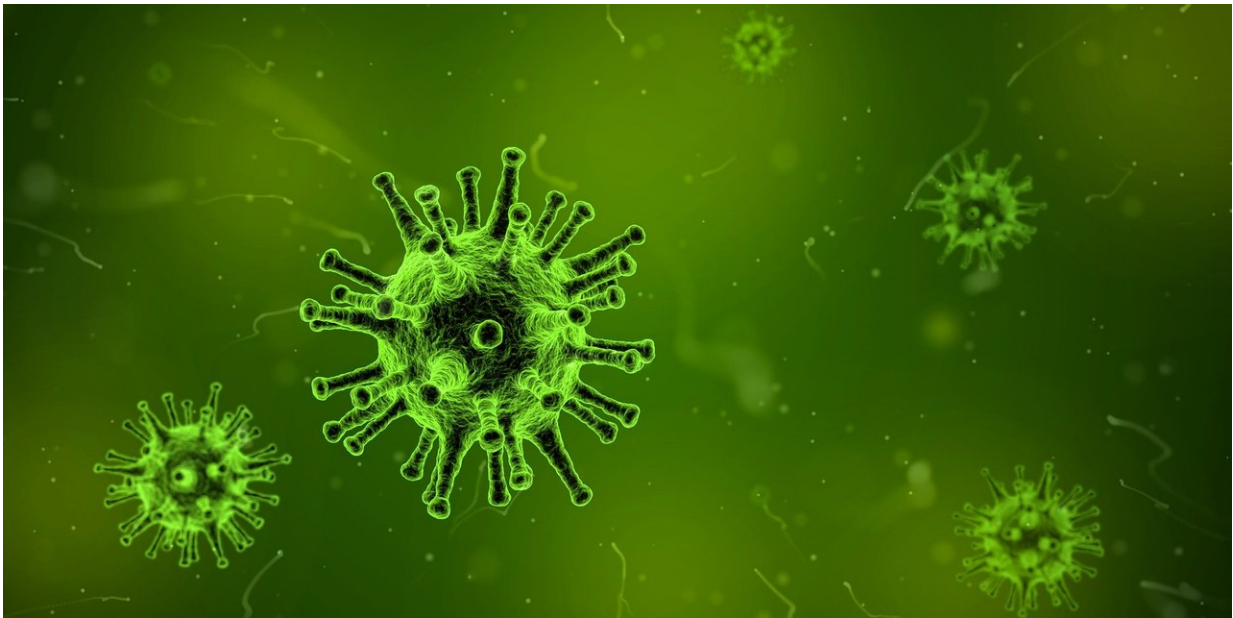


Are we well prepared for possible cross-border outbreaks of resistant bacteria?

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The emergence and spread of multidrug resistant microorganisms is a serious threat to transnational public health. Therefore, it is vital that cross-border outbreak response systems are constantly prepared for fast, rigorous, and efficient response. This research aims to improve transnational collaboration by identifying, visualizing, and exploring two cross-border response networks that are likely to unfold during outbreaks involving the Netherlands and Germany.

The research, published under the auspices of the National Institute for Public Health and the Environment (RIVM), was recently published in *PLOS One* and is partly based on Jacklien Maessen's master thesis, which she wrote for her Research Master Social and Behavioral Sciences at Tilburg University, supervised by Jörg Raab (Organization Studies). The article is titled: How prepared are we for cross-border outbreaks? An exploratory analysis of cross-border response networks for outbreaks of multidrug resistant micro-organisms in the Netherlands and Germany.

Quantitative methods were used to explore response networks during a cross-border outbreak of carbapenem resistant Enterobacteriaceae in healthcare settings. Eighty-six Dutch and German health professionals reflected on a fictive but realistic outbreak scenario (response rate $\approx 70\%$). Data were collected regarding collaborative relationships between stakeholders during outbreak response, prior working relationships, and trust in the networks. Network analysis techniques were used to analyze the networks on the network level (density, centralization, clique structures, and similarity of tie constellations between two networks) and node level (brokerage measures and degree centrality).

Although stakeholders mainly collaborate with stakeholders belonging to the same country, transnational collaboration is present in a centralized manner. Integration of the network is reached, since several actors are beneficially positioned to coordinate transnational collaboration. However, levels of trust are moderately low and prior-existing cross-border working relationships are sparse.

Given the explored network characteristics, we conclude that the system has a promising basis to achieve effective coordination. However, future research has to determine what kind of network governance form might be most effective and efficient in coordinating the necessary cross-border response activity. Furthermore, networks identified in this study are not only crucial in times of [outbreak](#) containment, but should also be

fostered in times of non-crisis.

More information: Jacklien H. J. Maessen et al. How prepared are we for cross-border outbreaks? An exploratory analysis of cross-border response networks for outbreaks of multidrug resistant microorganisms in the Netherlands and Germany, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0219548](https://doi.org/10.1371/journal.pone.0219548)

Provided by Tilburg University

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