Krause, Gérard

D.o.B. 24-02-1965

Current Position

Since 2011 Head of Epidemiology Dept., Helmholtz Centre for Infection Research, Braunschweig
Since 2011 Full Professor for Infectious Disease Epidemiology, Hannover Medical School (MHH)
Since 2013 Founder & Chair of PhD Programme Epidemiology, MHH/HBRS
Since 2016 Coordinator of Translational Infrastructure Epidemiology of DZIF
Since 2017 Head of Institute for Infectious Disease Epidemiology at TWINCORE

Research Topics

- Prospective population based cohort studies
- Hygiene and Hospital Epidemiology
- Surveillance and outbreak management
- Vaccinology

Degrees

1993 Medical Degree (3rd State Exam), University of Mainz
1993 Medical Doctor (Dr. med), University of Heidelberg
2002 Medical board certification in Hygiene and Environmental Health
2005 *Venia legendi* (Habilitation), Charité University Medicine, Berlin

Previous positions

2005-2013 Director of Department for Infectious Disease Epidemiology, RKI, Berlin
2000-2005 Head of Surveillance Unit, RKI, Berlin
1998-2000 EIS Officer, CDC Atlanta

ECDC and WHO related scientific advice experience (excerpt)

- Member of Advisory Forum at ECDC 2005-2013 and chair of various of its working groups
- Competent Body of ECDC 2005-2013 for the topics Scientific Advice, Threat Detection, Response, Preparedness, and Guidelines
- Member of the Scientific Committee of the ESCAIDE Conference 2006-2008
- Delegate of Germany in the committee assisting the European Commission to setting up a network for the epidemiological surveillance and control of communicable diseases in the Community (network committee) 2001-2007
- Initiator (2005) and member (until 2013) of the evidence based public health recommendation expert group later adopted by ECDC scientific advice unit
- Scientific lead of REACT-Project with participation of ECDC funded by EU Public Health Programme
- Member of the ECDC-tendered PRECEPT project on evidence based public health methodologies
- Supervisor of ECDC-tendered RAGIDA project on passenger trace back after exposure to infections
- Chairman of steering committee for the European Programme for Intervention Epidemiology Training (EPIET) 2006-2007
- Member EPIET training site forum at ECDC 2005-2011
- WHO/CDC STOP Polio mission in Niger 1999
- WHO/GOARN/ECDC mission on yellow fever outbreak in Cote D'Ivoire 2008
- National Member of Expert Committee and Review Committee at the World Health Organisation (WHO) for the International Health Regulations (IHR Roster of Experts 2010-2014, 2014-2018)

Other scientific advice experience (excerpt)

- Founding PI of the German National Cohort (GNC), Germany's largest health study and one of the world's largest population-based cohort studies, chairing its expert group on "Infection and Immunology" and heading one of its 18 study centres
- Member of the Steering Committee of the German National Cohort Member of the Scientific Council of the Institut de Veille Sanitaire, Paris, France
- Member of Scientific Advisory Board of the German Association for Infectiology (DGI)
- Member of Advisory Board for the National Reference Centres, Brussels, Belgium
- Member of the Scientific Advisory Board of the Bernhard Nocht Tropical Institute, Hamburg
- Member of the Scientific Board of the Robert Koch Institute 2005-2013
- Member of the Scientific Board of the Hanover Biomedical Research School
- Nominated guest-of the German National Advisory Committee for Vaccinations (STIKO)
- Authorship or clearance of over 75 reports per year to the German Ministry of Health 2006-2013
- Invited expert for the European Academy Science Advisory Council, the National Academy of Sciences Leopoldina and the Austrian Ministry of Health
- Reviewer for research grants of the German Federal Ministry of Research, the Polish Ministry of Research, and the Swiss Federal Agency for Food Safety

10 Selected Publications (of 188 original publications)

Yinka-Ogunleye A, Aruna O, Dalhat M, Ogoina D, McCollum A, Disu Y, Mamadu I, Akinpelu A, Ahmad A, Burga J, Ndoreraho A, Nkunzimana E, Manneh L, Mohammed A, Adeoye O, Tom-Aba D, Silenou B, Ipadeola O, Saleh M, Adeyemo A, …, **Krause G**, Ihekweazu, C (2019) Outbreak of human monkeypox in Nigeria in 2017-18: a clinical and epidemiological report. The Lancet Infectious diseases 19: 872-879

Horn J, Hoodgarzadeh M, Klett-Tammen CJ, Mikolajczyk RT, **Krause G**, Ott JJ (2018) Epidemiologic estimates of hepatitis E virus infection in European countries. The Journal of infection 77: 544-552

Ott JJ, Horn J, **Krause G**, Mikolajczyk RT (2017) Time trends of chronic HBV infection over prior decades - A global analysis. J Hepatol 66: 48-54

Schweitzer A, Akmatov MK, **Krause G** (2017) Hepatitis B vaccination timing: results from demographic health surveys in 47 countries. Bulletin of the World Health Organization 95: 199-209G

Krause G (2017) Changing Infection Patterns. Deutsches Ärzteblatt international 114: 849-850

Mehraj J, Witte W, Akmatov MK, Layer F, Werner G, **Krause G** (2016) Epidemiology of Staphylococcus aureus Nasal Carriage Patterns in the Community. Curr Top Microbiol Immunol 398: 55-87

Karo B, **Krause G**, Hollo V, van der Werf MJ, Castell S, Hamouda O, Haas W (2016) Impact of HIV infection on treatment outcome of tuberculosis in Europe. AIDS 30: 1089-98

Schweitzer A, Horn J, Mikolajczyk RT, **Krause G**, Ott JJ (2015) Estimations of worldwide prevalence of chronic hepatitis B virus infection: a systematic review of data published between 1965 and 2013. Lancet 386: 1546-55

Rübsamen N, Castell S, Horn J, Karch A, Ott JJ, Raupach-Rosin H, Zoch B, **Krause G**, Mikolajczyk RT (2015) Ebola risk perception in Germany, 2014. Emerging infectious diseases 21: 1012-8

Fähnrich C, Denecke K, Adeoye OO, Benzler J, Claus H, Kirchner G, Mall S, Richter R, Schapranow MP, Schwarz N, Tom-Aba D, Uflacker M, Poggensee G, **Krause G** (2015) Surveillance and Outbreak Response Management System (SORMAS) to support the control of the Ebola virus disease outbreak in West Africa. Euro Surveill 20

Research Interest in RESIST

Epidemiological research at the Helmholtz Centre for Infection Research focuses on mobile and electronic Health. We initiated and led the development of an eResearch application to be used in population-based research cohorts. This eResearch System PIA "**P**rospective Monitoring of Acute **I**nfections" – **A**pp has been specifically developed for long-term use in the context of infection research (www.info-pia.de: website for participants). PIA allows continuous collection of data on acute infections like influenza by providing a mobile or web-app for study participants. We also

spearhead internationally the development for digital infectious disease surveillance (www.sormas.org).

Acute infectious diseases such as acute respiratory infections have a particularly high impact on population health. For example, influenza causes the highest burden compared to other infectious disease in Europe measured in disability-adjusted life years and can lead to severe outcomes particularly in the elderly[1]. Hence, we aim at researching acute transient infections, their risk factors and, potentially, sequels using PIA. Specifically, we want to investigate immunological markers or microbiota composition patterns as risk factors or predictors for acute infectious diseases.

PIA has the potential to ideally represent a vital application for data collection on acute infections in the population-based cohort of RESIST and, as such, offers a complementing aspect not yet covered.

Forschungsinteresse in RESIST

Die epidemiologische Forschung am Helmholtz-Zentrum für Infektionsforschung konzentriert sich auf mobile und elektronische Gesundheit. Wir haben die Entwicklung einer eResearch-Anwendung initiiert und geleitet, die in populationsbasierten Forschungskohorten eingesetzt werden soll. Das eResearch System PIA "Prospective Monitoring of Acute Infections" - App wurde speziell für den langfristigen Einsatz im Rahmen der Infektionsforschung entwickelt (www.info-pia.de: Website für Teilnehmer). PIA ermöglicht die kontinuierliche Erfassung von Daten über akute Infektionen wie Grippe, indem es den Studienteilnehmern eine mobile oder Web-Applikation zur Verfügung stellt. Wir sind auch international führend bei der Entwicklung der digitalen Überwachung von Infektionskrankheiten (www.sormas.org).

Akute Infektionskrankheiten wie akute Atemwegsinfektionen haben einen besonders hohen Einfluss auf die Gesundheit der Bevölkerung. So verursacht beispielsweise die Influenza die höchste Belastung im Vergleich zu anderen Infektionskrankheiten in Europa und kann zu schweren Folgen vor allem bei älteren Menschen führen. Daher ist es unser Ziel, akute transiente Infektionen, ihre Risikofaktoren und möglicherweise Folgen mit Hilfe von PIA zu erforschen. Konkret wollen wir immunologische Marker oder Muster der Mikrobiota-Zusammensetzung als Risikofaktoren oder Prädiktoren für akute Infektionskrankheiten untersuchen.

Die PIA hat das Potenzial, eine wichtige Anwendung für die Datenerhebung über akute Infektionen in der populationsbasierten Kohorte von RESIST zu sein und bietet somit einen ergänzenden, noch nicht abgedeckten Aspekt.

[1] Cassini, A. et al. (2018): Impact of infectious diseases on population health using incidence-based disability-adjusted life years (DALYs): results from the Burden of Communicable Diseases in Europe study, European Union and European Economic Area countries, 2009 to 2013. In: *Euro surveillance : bulletin European sur les maladies transmissibles = European communicable disease bulletin* 23 (16).