ROBERT KOCH INSTITUT



Opening Presentation from the Robert Koch Institute

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IPFA/PEI 31th International Workshop on Surveillance and Screening of Blood-borne Pathogens
Heidelberg, 14.05.2025

Conflicts of interest

none

RKI: National Public Health Institute

- 1891: “Royal Prussian Institute for Infectious Diseases”
- 1912 renamed after Robert Koch

- 1,500 employees
- 50 nations
- 5 locations



Infectious disease epidemiology

Infectious diseases

Epidemiology and health reporting

International health protection

Biological threats and special pathogens (BSL4-lab)

Methods, Research, Information technology

AI in public health research

RKI and transfusion medicine

Unit 34: HIV/AIDS, STI and Blood-borne Infections



Blood donor surveillance

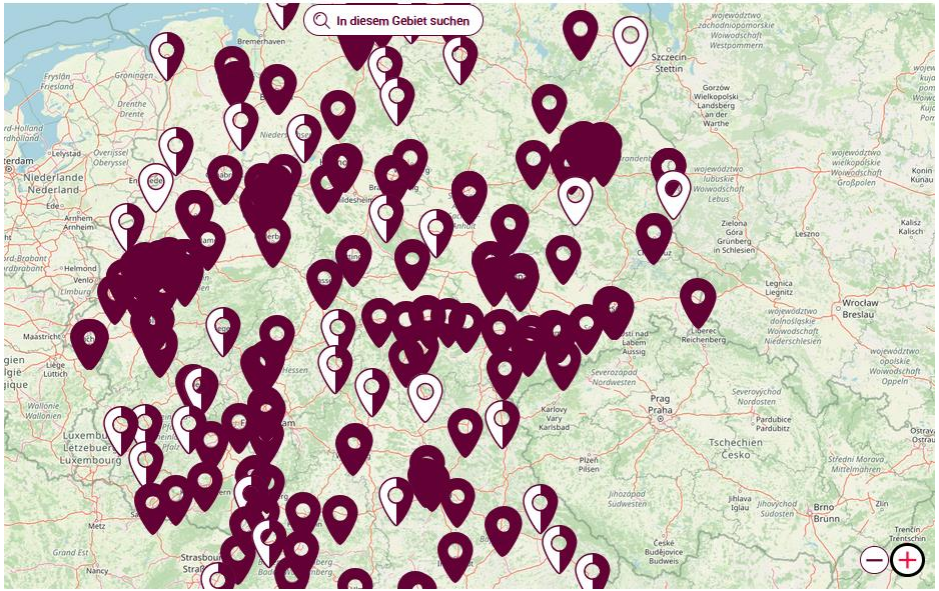


Secretariat is a staff unit of the RKI president's office

Blood and Plasma Establishments in Germany

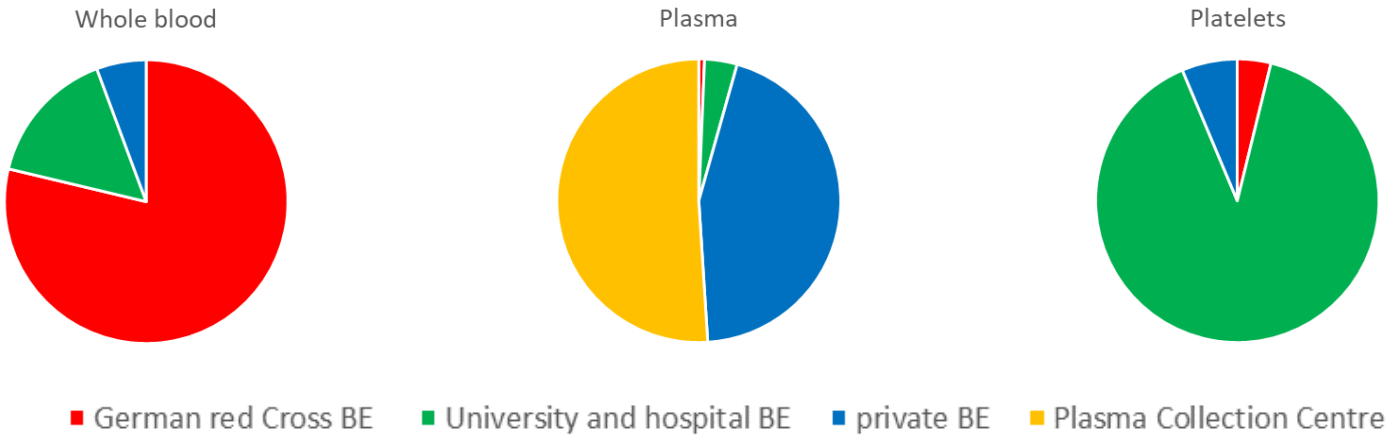
- Diversified structure
- **no national blood service**
- > 190 BE
- 6.89 million donations in 2023

✓ German Red Cross BE
✓ University- and hospital-based BE
✓ Private BE
✓ Plasma Centres



https://www.blutspenden.de/blutspendedienste/

Blood and Plasma donations in 2023



3.72 million donations

3.05 million donations

116,000 donations

Blood donor surveillance

Mandatory since 1999 for all blood and plasma BE
Donors, donations, infections: HIV, HCV, HBV, syphilis, HEV, WNV

New donors:

- HIV - no trend
- HCV and HBV - decreasing trend between 2015 and 2020/2021 and no trend since
- Syphilis - increasing trend since 2020

Repeat donors:

- HIV infections no trend 2015-2023, increase in 2024
- HCV decreasing trend since 2015
- HBV no trend between 2015 an 2023, increase in 2024
- Syphilis increasing trend since 2021

Maintaining supply

Observing trends in donor populations in times of demographic changes

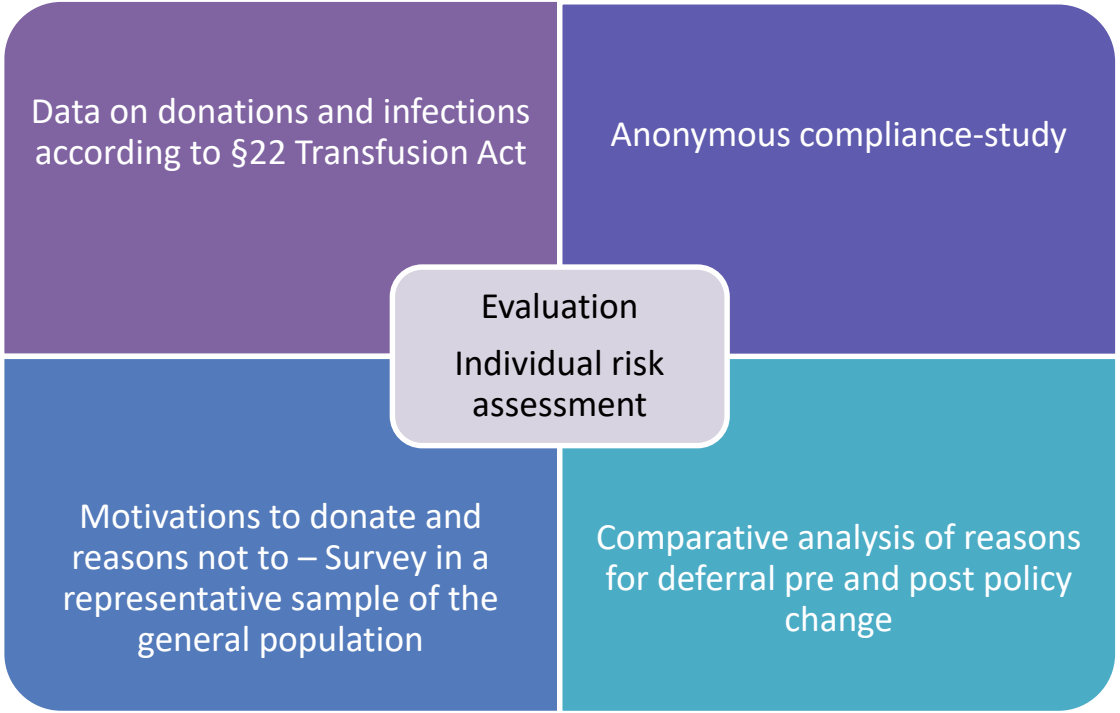
Whole blood repeat donors 2020-2024

- Decreasing trend in age groups 18-24, 25-34 and 45-54
- Increasing trend in age groups 35-44 and 65+

Plasma repeat donors 2020-2024

- Decreasing trend in age groups 18-24 and 34-44
- Increasing trend in age groups 55-64 and 65+

Research (example)



Supporting general epidemiology

Data from blood and plasma donors can supplement epidemiological research

SeBluCo



pathogens

MDPI

Article

Monitoring the SARS-CoV-2 Pandemic: Prevalence of Antibodies in a Large, Repetitive Cross-Sectional Study of Blood Donors in Germany—Results from the SeBluCo Study 2020–2022

Ruth Offergeld [1,*], Karina Preußel [1], Thomas Zeiler [2], Konstanze Aurich [3], Barbara I. Baumann-Baretti [4], Sandra Ciesek [5], Victor M. Corman [6], Viktoria Dienst [4], Christian Drosten [6], Siegfried Görg [7], Andreas Greinacher [3], Marica Grossegesse [1], Sebastian Haller [1], Hans-Gert Heuft [8], Natalie Hofmann [1], Peter A. Horn [9], Claudia Houareau [1], Ilay Gülec [10], Carlos Luis Jiménez Klingberg [2], David Juhl [7], Monika Lindemann [6], Silke Martin [11], Hannelore K. Neuhauser [1], Andreas Nitsche [1], Julia Ohme [12], Sven Peine [13], Ulrich J. Sachs [14], Lars Schaade [1], Richard Schäfer [15], Heinrich Scheiblauer [16], Martin Schlaud [1], Michael Schmidt [10], Markus Umhau [15], Tanja Vollmer [17], Franz F. Wagner [12], Lothar H. Wieler [1], Hendrik Wilking [1], Malte Ziemann [7], Marlow Zimmermann [1] and Matthias an der Heiden [1]

WNV



Transfusion Medicine and Hemotherapy

Research Article

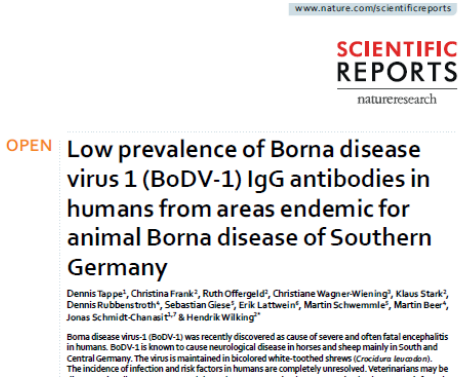
Transfus Med Hemother
DOI: 10.1159/000525167

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Published online: June 20, 2022

West Nile Virus in Germany: An Emerging Infection and Its Relevance for Transfusion Safety

Christina Frank[a] Jonas Schmidt-Chanasit[b] Ute Ziegler[c] Raskit Lachmann[a]
Karina Preußel[a] Ruth Offergeld[a]

BoDV



www.nature.com/scientificreports

SCIENTIFIC REPORTS
nature research

OPEN

Low prevalence of Borna disease virus 1 (BoDV-1) IgG antibodies in humans from areas endemic for animal Borna disease of Southern Germany

Dennis Tappe[1], Christina Frank[2], Ruth Offergeld[2], Christiane Wagner-Wiening[3], Klaus Stark[2], Dennis Rubbenstroth[4], Sebastian Giese[5], Erik Lattwein[6], Martin Schwemmle[5], Martin Beer[4], Jonas Schmidt-Chanasit[1,7] & Hendrik Wilking[2*]

Borna disease virus-1 (BoDV-1) was recently discovered as cause of severe and often fatal encephalitis in humans. BoDV-1 is known to cause neurological disease in horses and sheep mainly in South and Central Germany. The virus is maintained in bicolored white-toothed shrews (*Crocidura leucodon*). The incidence of infection and risk factors in humans are completely unresolved. Veterinarians may be

National Advisory Board (Arbeitskreis Blut)

- Established 1993 after the official hearing into the HIV transmissions
- Included in Transfusion Act (§24)
- Gives advice to the federal authorities and authorities of the Länder
- Safe blood, safe supplies

- 35 members
- Experts in transfusion medicine and related disciplines, patient representatives, industry, Länder respresentatives
- Appointment by MoH for 3 year periods
- Chair 1993-2014: Prof. Dr. R. Burger
- Chair since 2014: Dr. R. Offergeld

Activities of the National Advisory Board

- **Advice on reduction of TTI**
- **Advice on supply issues**

Recommendations on
- testing
- emerging infections
- haemovigilance and surveillance
- donor selection
- quality assurance and documentation
- training of students and physicians
- …

- Votes (70)
- Recommendations (68)
- Hearings in the legislative process



Mitteilungen des Arbeitskreises Blut des Bundesministeriums für Gesundheit

Anwendung von humanen Immunglobulinpräparaten bei Lieferengpässen

Bei der 94. Sitzung des Arbeitskreises Blut am 03.03.2023 wurde folgende Stellungnahme (S 24) verabschiedet

Mitteilungen des Arbeitskreises Blut des Bundesministeriums für Gesundheit

Malaria

Stellungnahmen des Arbeitskreises Blut des Bundesministeriums für Gesundheit

Zeiträume von der Spende zurückgestellt. Aufgrund der veränderten Epidemiologie und der verbesserten Malariadiagnostik empfiehlt der Arbeitskreis Blut die folgen-

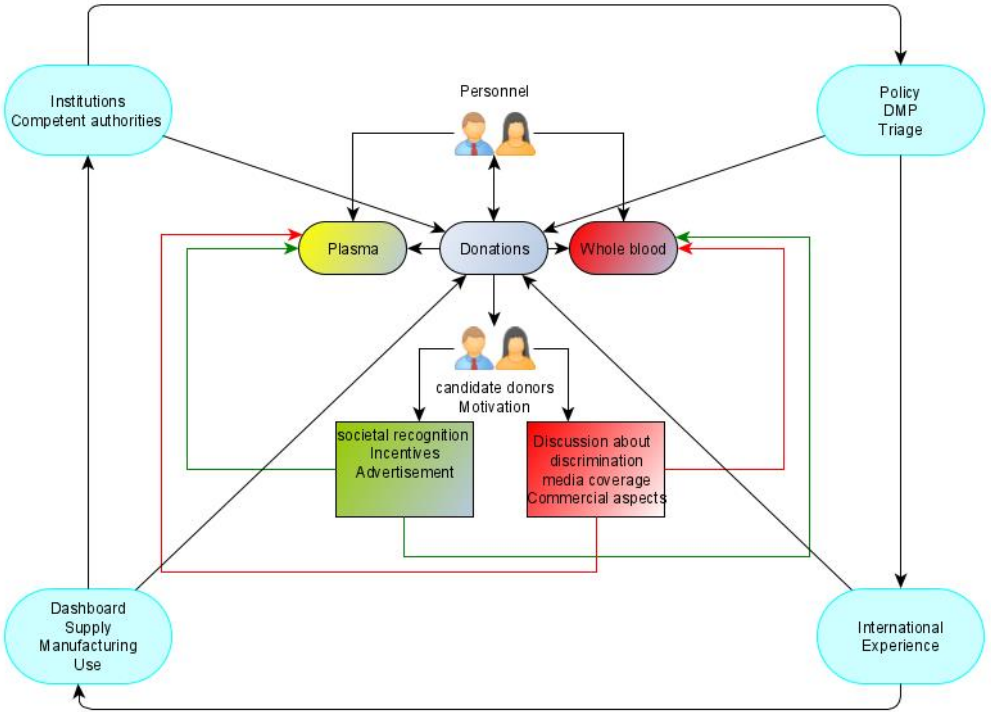
den, da derzeit noch keine verläss-lichen Testverfahren zur Verfügung stehen, die eine niedrige Parasitämie und damit eine potenzielle Infektiosi-

Maintaining a safe blood supply

New concepts are needed

- SoHO regulation
- Donor recruitment/motivation
- Monitoring
- Demand management/emergency plans

- **Emerging infections**



Main challenges

Emerging infections
WNV
Dengue
Chikungunya
Zika
Krim-Kongo
Chagas
MPox

Known infections
HIV
HBV
Syphilis

Donor selection
Risk assessment
Donor motivation

Supply
IgG
Blood components
Military demand

Thanks to

Karina Preußel
Wolfgang Rabe
Trang Nguyen



Thank you for your attention!

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