

## Rosanne de Jong

The European Programme for Intervention Epidemiology Training (EPIET), Cohort 2023  
**Landesamt für Gesundheit und Arbeitsschutz Nordrhein-Westfalen (LfGA NRW), Germany**

## Background

The ECDC Fellowship Programme is a two-year competency-based training with two paths: the field epidemiology path (EPIET) and the public health microbiology path (EUPHEM). After the two-year training, EPIET and EUPHEM graduates are considered experts in applying epidemiological or microbiological methods to provide evidence to guide public health interventions for communicable disease prevention and control. The Administrative Decisions [ECDC/AD/2023/23](#) and [ECDC/AD/2023/06](#) govern the EU-track and MS-track, respectively, of the ECDC Fellowship Programme, field epidemiology path (EPIET) and public health microbiology path (EUPHEM), Cohort 2023.

Both curriculum paths provide training and practical experience using the 'learning by doing' approach at acknowledged training sites across the European Union/European Economic Area (EU/EEA). This final report describes the experiences and competencies the fellow acquired by working on various projects, activities, theoretical fellowship training modules, other modules or trainings, and international assignments or exchanges during the fellowship.

## Pre-fellowship short biography

Rosanne de Jong is an epidemiologist from the Netherlands. She completed a bachelor's in veterinary biosciences at the University of Glasgow (2019) and a master's in veterinary epidemiology (2020) from the Royal Veterinary College and London School of Hygiene and Tropical Medicine. Prior to the fellowship, she worked as an epidemiologist in the national tuberculosis team at the UK Health Security Agency (2021–2023) in London, where she also supported the national responses to COVID-19 and mpox.

## Results

The objectives of the core competency domains were achieved partly through project and activity work and partly by participating in the training modules. Results are presented in accordance with the EPIET/EUPHEM core competencies, as set out in the ECDC Fellowship Manual<sup>1</sup>.

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<sup>1</sup> European Centre for Disease Prevention and Control (ECDC). European public health training programme. Stockholm: ECDC; 2020. Available from: <https://www.ecdc.europa.eu/en/publications-data/ecdc-fellowship-programme-manual-cohort-2021>

# 1. Epidemiological investigations

## 1.1. Outbreak investigations

### *1.1.1. Response of the German public health service to the first imported mpox clade Ib case in Germany, October 2024*

**Supervisors:** Annette Jurke, Jennifer Schauer

**Category:** Emerging and re-emerging diseases

**Aim:** To report on the coordinated public health response to the first confirmed monkeypox virus (MPXV) clade Ib infection imported into Germany, to prevent the further spread of mpox clade Ib within Germany and to other European countries

**Methods:** We confirmed and investigated the case, traced closed contacts and coordinated the cross-institutional communication pathways and case and contact management strategies. We described the exposure of the case, incubation period and symptom onset and risk classified all contacts. Specimens were collected for testing, and contacts were monitored for 21 days and offered post-exposure prophylaxis.

**Results:** We identified 34 contacts, including a co-patient, family members, healthcare workers and hospital cleaning and service staff, all of whom were considered low risk and none of whom went on to develop mpox in the 21 days of follow-up. We found that a public health response that is effectively coordinated among medical, local, regional, national and international institutions through timely and transparent communication was key to preventing further transmission. Additionally, high awareness of mpox, reporting protocols and contact tracing among clinical staff and public health professionals were important in enabling a rapid response.

**Public health implications:** There is a continued risk of imported mpox clade Ib cases into European countries in the future. Public health institutes should thus be prepared for managing imported cases by ensuring an established action framework, which outlines the rapid implementation of control measures upon case detection, the contact tracing process and cross-institutional communication pathways.

**Role:** Co-investigator; supported communication with WHO, RKI and local health authorities, generated figures for the manuscript and communication with other stakeholders, co-wrote the outbreak report and manuscript, performed data analysis, submitted manuscript to peer-reviewed journal (4.1.1).

### *1.1.2. An outbreak of Salmonella Typhimurium linked to a music festival, North Rhine-Westphalia, Germany, 2024*

**Supervisors:** Annette Jurke, Inga Freudenau

**Category:** Food- and waterborne diseases

**Aim:** To investigate the outbreak, identify the source of infection and implement control measures.

**Methods:** We conducted an unmatched case-control study among festival attendees. Cases were symptomatic attendees (stomach cramps, fever, diarrhoea) who tested positive for *Salmonella* typhimurium or isolates within the same cluster. Controls were a convenience sample of asymptomatic attendees. We used structured questionnaires and calculated odds ratios of developing salmonellosis. Samples from prepared food, food-handling areas and stools of food truck staff were collected for microbiological analysis.

**Results:** Among 51 confirmed cases (47 in Germany) and 72 controls, questionnaire response rates were 38% (18/47) for cases and 78% (56/72) for controls. Median case age was 26 years (IQR=22–29.5) with 57% male (27/47). The most commonly reported symptoms were diarrhoea (91%), stomach cramps (62%) and fever (51%). Illness occurred in 72% of people who reported eating at one food truck. Those who consumed food from this truck had significantly higher odds of developing salmonellosis compared to those who did not (OR: 16.9, 95% CI: 2.8–103.4,  $p=0.002$ ). Environmental swabs from the truck tested negative for salmonella but two staff members tested positive. Control measures included staff hygiene training and temporary suspension of the truck.

**Conclusions:** This *Salmonella* typhimurium outbreak was likely caused by contaminated foods from one truck, possibly resulting from infected staff. We recommend that organisers of festivals and similar mass gatherings ensure that there are adequately supplied toilet facilities, designated handwashing spaces, sufficient staffing and sick pay for food vendor employees.

**Role:** Co-investigator; supported questionnaire development, performed data entry and analysis, wrote the outbreak report, presented preliminary findings at PAE meeting (4.4.5) and an oral presentation at the EIS FETP International Nights 2025 (4.3.4), plan to submit a manuscript to a peer-reviewed journal (4.1.3).

### ***1.1.3. Investigation of a *Yersinia Enterocolitica* case exceedance in North-Rhine Westphalia, Germany, 2024***

**Supervisors:** Annette Jurke, Inga Freudenau

**Category:** Food- and waterborne diseases

**Aim:** To investigate an exceedance in *Yersinia Enterocolitica* cases between June and August 2024 in North-Rhine Westphalia (NRW).

**Methods:** We investigated an unusual increase in yersiniosis cases in NRW flagged by our surveillance data. Using trawling questionnaires, we asked cases about demographic and clinical characteristics, travel history and food consumption. Stool samples were sent to the national reference laboratory for serotyping. We also assessed how the local health authority managed notifications.

**Results:** Yersiniosis case exceedance was linked to a higher incidence in one city in NRW, where 34 cases were reported between week 24–31 in 2024. Cases were aged 6–99 years (median=38.5) and included 19 females (56%). Stool samples from 11 cases were typed and five shared the same serotype. Eleven cases completed the survey, including one with the shared serotype. Most cases (63%, n=7/11) reported not consuming raw milk or pork, and three cases had recently travelled. No suspected food item was identified. Upon inspecting the notifications, the involved local health authority shared that all cases were reported to have diarrhoea, thereby fulfilling the reference definition of yersiniosis which requires the presence of clinical symptoms. Only 18 cases truly experienced diarrhoea.

**Conclusions:** The yersiniosis case exceedance in the city, likely reflected both a slight true increase in incidence and overreporting due to the unjustified recording of diarrhoea symptoms. These findings highlight the importance of investigating exceedances, routinely validating case notifications and clear communication to local health authorities describing notification protocols.

**Role:** Co-investigator; supported design of the questionnaire, shadowed interview process, travelled to involved local health authority, reviewed results, analysed data and wrote an outbreak summary.

### ***1.1.4. First local transmission of mpox clade Ib in Germany, December 2024***

**Supervisors:** Annette Jurke, Jennifer Schauer

**Category:** Emerging and re-emerging diseases

**Aim:** To describe the first local transmission of mpox clade Ib in Germany.

**Methods:** We confirmed and investigated a cluster of four mpox clade Ib cases, including an index case and three secondary household contacts. We described cases in terms of clinical symptoms, symptom onset and symptom progression. We identified close contacts for each case, described the nature of contact and conducted 21 days of active follow-up. Contacts were also offered post-exposure prophylaxis.

**Results:** The index case had a history of travel, and infected their partner and two children upon return. A total of 41 contacts were identified, including school-children, occupational contacts and healthcare workers. No secondary cases were reported, despite pre-symptomatic exposure of contacts. Timely isolation of symptomatic cases appeared effective in preventing onward transmission. High awareness of mpox symptoms and established clinical and reporting protocols among healthcare professionals supported a rapid public health response.

**Public health implications:** This is the first confirmed local transmission of mpox clade Ib in Germany and the second of such report in Europe. Our findings suggest that while close household contact may facilitate transmission, casual contact in the community or workplace settings does not appear to pose a significant risk. Ongoing active surveillance, adherence to standardised case-management protocols, and prompt isolation of confirmed cases are essential to interrupt onward transmission of mpox clade Ib following importation.

**Role:** Co-investigator; supported communication with WHO, generated figures for the outbreak report and communication with other stakeholders.

## **1.2. Surveillance**

### ***1.2.1. Progress towards achieving the World Health Organisation End Tuberculosis Strategy Targets – North Rhine-Westphalia, Germany, 2015–2023***

**Supervisors:** Annette Jurke, Daniela Kalhöfer-Thole, Felix Lange

**Type of project:** Analysing data from a surveillance system

**Aim:** To assess progress towards achieving the World Health Organisation (WHO) End Tuberculosis Strategy targets in the German state North-Rhine Westphalia (NRW) to identify areas for improvement.

**Methods:** We analysed all TB notifications to the surveillance system in NRW between 2015 and 2023. We described key indicators including TB incidence, patient demographics (age, sex, country of birth), 12-month treatment outcomes (coverage, success, mortality) and drug resistance. Census data provided denominators.

**Results:** From 2015 to 2023, TB incidence in NRW decreased from 7.1 to 5.3 per 100,000 people. Most TB notifications in 2023 were male (67%) and born abroad (72%), with 43% diagnosed with TB within one year of entering Germany. For TB notifications in 2022, treatment coverage was 92% whilst treatment success was 74%, with higher success in people notified with TB aged <50 years (81%) than in those ≥50 years (64%). TB case fatality increased from 3% (n=39) in 2015 to 5% (n=38) in 2022. Multidrug-resistant TB was reported in 6% of 2023 notifications, compared to <3% of yearly notifications between 2015 and 2021.

**Conclusions:** To reach the 2035 targets in NRW, annual reductions of 17% in TB incidence and 4% in TB deaths are needed from 2023 onwards, alongside improved treatment success. Our results suggest that most people notified with TB in NRW are infected abroad. To accelerate elimination of TB in NRW, public health measures should prioritise early diagnosis and improved treatment adherence through entry screening among immigrants and active case follow-up.

**Role:** Extracted and analysed data, performed the data analysis and wrote the report. Created and presented poster at LZG.NRW internal meeting (4.4.1), PAE meeting (4.4.4) and BVÖGD 2025 conference (4.3.3). Abstract accepted to present at TEPHINET 2025 conference (4.3.5).

### *1.2.2. Testing frequency and test positivity for sexually transmitted infections at state-funded clinics in North Rhine-Westphalia, Germany, 2011–2023*

**Supervisors:** Annette Jurke, Pia Grotegut

**Type of project:** Analysing data from a surveillance system

**Aim:** To describe testing frequency and test positivity for sexually transmitted infections (STIs) at state-funded STI clinics and assess their contribution to overall case detection in North-Rhine Westphalia (NRW) from 2011 to 2023.

**Methods:** We analysed laboratory-testing data from state-funded STI clinics and compared it with notification data from NRW. We described annual test counts, test positivity and incidence by pathogen. We compared demographic (age, sex) and reported characteristics (men who have sex with men [MSM], sex work, intravenous drug use) between cases diagnosed at these clinics and all notified cases.

**Results:** Between 2011 and 2023, STI clinics increased testing while test positivity declined or remained stable. HIV positivity declined from 1.1% (134/12,246) to 0.4% (77/18,930) and syphilis positivity from 1.3% (55/4,383) to 0.9% (147/15,487). During this period, HIV incidence decreased (3.8 to 3.4 per 100,000), whereas syphilis incidence increased (6.8 to 10.9 per 100,000). Between 2022 and 2023, gonorrhoea positivity changed from 2.7% (289/10,762) to 3.0% (500/16,528) and chlamydia positivity from 5.9% (637/10,762) to 5.7% (942/16,582). In 2023, STI clinics diagnosed 12.5% (77/614) of HIV and 7.4% (147/1,977) of syphilis notifications in NRW. STI clinics diagnosed a higher proportion of MSM, sex workers, and female syphilis cases than overall notifications, with similar age distributions.

**Conclusions:** Although state-funded STI clinics increased testing, test positivity declined or remained stable, suggesting a need for more focused testing criteria. These clinics act as key sentinel sites, strengthening STI surveillance in NRW by capturing denominator data, reaching high-risk groups and reporting non-notifiable infections.

**Role:** Performed data analysis, submitted exposé for Master's of Applied Epidemiology (MSAE) thesis (4.2.3), wrote the report, plan to submit a manuscript to a peer-reviewed journal (4.1.4).

## **Routine surveillance activities**

### *Supporting the department of Infectious Disease Epidemiology at LfGA (previously LZG.NRW)*

**Activities and role:** Ad-hoc epidemiological support to colleagues in the department of infectious disease epidemiology, including support with queries in R, epidemiological methods and communication with international agencies and stakeholders. Drafted the response to WHO questions during the mpox clade Ib case inquiries. Support with data entry, questionnaire development and analysis of gastrointestinal outbreaks investigated by the institute, including a Hepatitis A, E. coli and norovirus outbreak.

### *LZG.NRW infectious disease surveillance annual report, 2023*

**Activities and role:** Data extraction, analysis, creation of tables and figures and writing of the complimentary report on tuberculosis and the summary on infectious diseases in North-Rhine Westphalia (NRW) in 2023 (4.2.1, 4.2.2). These reports formed a part of the 2023 annual report on infectious diseases in NRW and were reviewed by colleagues prior to publication.

## 2. Applied public health research

### *2.1. Correlation between SARS-CoV-2 RNA in wastewater and notified COVID-19 cases and intensive care unit admissions in North Rhine-Westphalia, Germany, 2022–2023*

**Supervisors:** Annette Jurke, Felix Lange, Pia Grotegut

**Aim:** To estimate the correlation between SARS-CoV-2 RNA in wastewater and COVID-19 notifications and intensive care unit (ICU) admissions between June 2022 and December 2024 in North Rhine-Westphalia (NRW).

**Methods:** Wastewater samples were collected bi-weekly from 13 to 21 wastewater treatment plants (WWTPs) covering ~29% of NRW's population. SARS-CoV-2 RNA concentrations were quantified by RT-qPCR, normalized by WWTP flow and weighted by the number of people connected to the WWTP. We compared wastewater concentrations of SARS-CoV-2 to laboratory-confirmed COVID-19 notifications and cases treated in ICU recorded in the intensive care register in NRW. We used Spearman's rank correlation and cross-correlation functions to determine the correlation ( $r$ ), temporal alignment and trend comparisons at two phases with different COVID-19 testing policies.

**Results:** We found positive correlations between SARS-CoV-2 in wastewater and both COVID-19 notifications and ICU admissions, with variations in lag times and strength of correlation over time. We observed the strongest correlations during the phase of no mandatory testing (8 April 2023 onwards) at a negative time-offset (COVID-19 notifications:  $\rho = 0.83$ , offset=-10 days, ICU admissions:  $\rho = 0.81$ , offset=-20 days). Although testing policy influenced testing frequency and thus the number of notifications, SARS-CoV-2 concentrations in wastewater remained stable. Parallel periods of increases and decreases were observed between wastewater, notification and ICU data.

**Conclusions:** Wastewater concentrations of SARS-CoV-2 provide an early indication of COVID-19 infection dynamics in the population served by the WWTPs. Wastewater monitoring could inform the public of current trends and guide public health preparedness strategies, regardless of testing policy.

**Role:** Performed data analysis, wrote report, prepared oral presentation and presented at PAE meeting (4.4.2), wastewater-based epidemiology network meeting in NRW (4.4.3), as oral presentation at ESCAIDE 2024 (4.3.1) and as oral presentation at BVÖGD 2025 (4.3.2). Plan to submit a manuscript to a peer reviewed journal (4.1.2).

### *2.2. Longitudinal cohort study to evaluate Hepatitis C treatment effectiveness in HIV co-infected patients: Manipur, India, 2015–2020*

**Supervisors:** Himanshu Mohan Kumar, Achim Dörre

**Aim:** To assess the effectiveness of curative treatments for chronic hepatitis C (HCV) in people living with HIV (PLHIV) and identify factors associated with sustained virological response 12 weeks post-treatment completion (SVR12) in Manipur, India.

**Methods:** Data from patients enrolled in the Médecins Sans Frontières (MSF) HCV/HIV longitudinal cohort study at three clinics in Manipur were extracted from routine clinical records between October 2014–2020. We described the distribution of demographic, behavioural and clinical cohort characteristics. We conducted bivariate and multivariable analyses of factors associated with SVR12 using logistic regression and directed acyclic graphs. Event tree analysis explored probabilities of achieving SVR12. Analyses were performed in STATA.

**Results:** Of 546 eligible patients, 472 reached the end of follow-up and 73% (346/472) achieved SVR12. Median age was 38 years (IQR=33–45), with 78% male, 57% Indian and 43% Burmese. Odds of SVR12 were highest in patients aged 40–49 years (OR=8.4, 95% CI=4.4–16.0,  $p=0.000$ ) and lowest in people who inject drugs (PWID) (OR=0.4, 95% CI=0.3–0.7,  $p=0.001$ ), enrolled after September 2018 (OR=0.1, 95% CI=0.0–0.1,  $p=0.000$ ), with cirrhosis (OR=0.3, 95% CI=0.1–0.7,  $p=0.004$ ), or HIV viral loads  $\geq 1\,000$  copies/mL (OR=0.1, 95% CI=0.0–0.3,  $p=0.000$ ). Loss to follow-up (LTFU) was the primary reason for unsuccessful treatment outcomes and was highest among people aged 18 to 29 years, enrolled later or currently using drugs.

**Conclusions:** The MSF integrated care model was effective in curing HCV in PLHIV. People with cirrhosis, uncontrolled HIV or PWID were less likely to achieve SVR12. Minimising LTFU, especially among younger patients and PWID, may improve HCV treatment effectiveness in similar settings.

**Role:** Remote international assignment for MSF, together with EPIET cohort 2024 fellow Jasleen Singh. In collaboration, performed data cleaning, data analysis according to the statistical analysis plan, documented code and scripts used for statistical analysis, produced results, tables, and figures required for a research report and manuscript and wrote an analysis report.

## 3.

### 3. Teaching and pedagogy

#### 3.1. Avian influenza workshop at LZG.NRW, 2023

Developed and facilitated a two-hour case study on avian influenza for the 'Rufbereitschaftsworkshop' (on-call duty workshop) for senior colleagues at the department of infectious disease epidemiology (FG-22) and infectious disease and hygiene (FG-21) at LZG.NRW (now LfGA), Germany. The case study was delivered online and participants were sent out an evaluation afterwards.

#### 3.2. Co-organisation of PAE Jour Fix, 2024

Together with three other fellows, organised PAE Jour Fix which took place in-person at the Robert Koch Institute in Berlin across two days in January 2024. All PAE, EPIET and EUPHEM fellows were invited. We organised the event, including booking a room, creating a schedule of icebreakers, lectures, peer-to-peer sessions and presentations and a social event. We also sent out an evaluation form afterwards and drafted recommendations for the next organising committee.

### 4. Communications related to the EPIET/EUPHEM fellowship

#### 4.1. Manuscripts published in peer-reviewed journals

- **de Jong R**, Schauer J, Kossow A, Scharkus S, Jurke A. Response of the German public health service to the first imported mpox clade Ib case in Germany, October 2024. *Euro Surveill.* 2024;29(48):2400743. Available at: <https://doi.org/10.2807/1560-7917.ES.2024.29.28.2400743>
- **de Jong R**, Lange F, Grotegut P, Jurke A. Correlation between SARS-CoV-2 RNA in wastewater and notified COVID-19 cases and intensive care unit admissions in North Rhine-Westphalia, Germany, 2022–2024. Submission pending.
- **de Jong R**, Freudenau I, Ganser C, Grotegut P, Jurke A. An outbreak of *Salmonella* typhimurium linked to a music festival in North Rhine-Westphalia, Germany, July 2024. Submission pending.
- **de Jong R**, Grotegut P, Jurke A. Testing frequency and test positivity for sexually transmitted infections at state-funded clinics in North Rhine-Westphalia, Germany, 2011–2023. Submission pending.

#### 4.2. Other reports

- **de Jong R**, Kalhöfer-Thole D. Tuberkulose, NRW 2023. Bochum: LZG.NRW; 2024. Infektionsjahresbericht 2023.
- **de Jong R**, Kalhöfer-Thole D. Zusammenfassung des Infektionsgeschehens, NRW 2023. Bochum: LZG.NRW; 2024. Infektionsjahresbericht 2023.
- **de Jong R**. Insights into the epidemiology of sexually transmitted infections and the role of anonymous testing clinics in case finding in North Rhine-Westphalia, Germany, 2010–2024. Exposé for the registration of the Master's thesis in the Master's program Applied Epidemiology (MSAE) at the Charité - Universitätsmedizin Berlin.
- Zeitlmann N, Markus I, Seidel J, Heese H, **de Jong R**, et al. Risikobewertung zur UEFA-Fußball-Europameisterschaft der Männer 2024, Deutschland, 14.06 – 14.07.2024 in Bezug auf Infektionskrankheiten (Stand: 31.05.2024). Berlin: RKI; 2024. Internal report.
- Jansen A, Abbood A, Correa-Martinez C, **de Jong R**, Denzin N, Dietze K, et al. Public Health Intelligence Wochenbericht, Woche 39/2024, Berichtszeitraum: 21.09. – 27.09.2024. Berlin: RKI; 2024. Internal report.
- Jansen A, Abbood A, Correa-Martinez C, **de Jong R**, Denzin N, Dietze K, et al. Public Health Intelligence Eilmeldung: Marburgvirus-Infektion - Ruanda. Berlin: RKI; 2024. Internal report.

#### 4.3. Conference presentations

- **de Jong R**, Lange F, Grotegut P, Jurke A. Correlation between SARS-CoV-2 RNA in wastewater and notified COVID-19 cases and intensive care unit admissions in North Rhine-Westphalia, Germany, 2022–2023 (oral presentation). Presented at: European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE); 21 December 2024; Stockholm, Sweden.
- **de Jong R**, Lange F, Grotegut P, Jurke A. Korrelation zwischen SARS-CoV-2-RNA im Abwasser und gemeldeten COVID-19-Fällen und auf Intensivstationen betreuten Patienten in Nordrhein-Westfalen, Deutschland, 2022–2024 (oral presentation). Presented at: Bundesverband der Ärztinnen und Ärzte des öffentlichen Gesundheitsdienstes e.V. (BVÖGD); 3 April 2025; Erlangen, Germany.
- **de Jong R**, Lange F, Kalhöfer-Thole D, Jurke A. Fortschritte bei der Bekämpfung der Tuberkulose in Nordrhein-Westfalen, 2015–2023 (poster presentation). Presented at: Bundesverband der Ärztinnen und Ärzte des öffentlichen Gesundheitsdienstes e.V. (BVÖGD); 3 April 2025; Erlangen, Germany.

- **de Jong R**, Freudenau I, Ganser C, Grotegut P, Jurke A. An Outbreak of *Salmonella* typhimurium Linked to a Music Festival in North Rhine-Westphalia, Germany, July 2024 (oral presentation). Presented at: 2024 Field Epidemiology Training Program (FETP) International Nights during the Epidemic Intelligence Service (EIS) Conference; 23 April 2025; Atlanta, United States.
- **de Jong R**, Lange F, Kalhöfer-Thole D, Jurke A. Progress towards achieving the World Health Organization End Tuberculosis Strategy Targets – North Rhine-Westphalia, Germany, 2015–2023 (oral presentation). Accepted to present at: Task Force for Global Health's Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET); June 2025; Berlin, Germany.

#### 4.4. Other presentations

- **de Jong R**, Lange F, Kalhöfer-Thole D, Jurke A. Fortschritte bei der Bekämpfung der Tuberkulose in Nordrhein-Westfalen, 2015–2023 (poster presentation). Presented at: LZG.NRW department meeting; 8 January 2024; Bochum, Germany.
- **de Jong R**, Lange F, Grotegut P, Jurke A. Correlation between SARS-CoV-2 RNA in wastewater and notified COVID-19 cases and intensive care unit admissions in North Rhine-Westphalia, Germany, 2022–2023 (oral presentation). Presented at: PAE meeting; 31 October 2024; Bochum, Germany.
- **de Jong R**, Lange F, Grotegut P, Jurke A. Korrelation zwischen SARS-CoV-2-RNA im Abwasser und gemeldeten COVID-19-Fällen und auf Intensivstationen betreuten Patienten in Nordrhein-Westfalen, Deutschland, 2022–2023 (oral presentation). Presented at: NRW wastewater network meeting; 6 December 2024; Bochum, Germany.
- **de Jong R**, Lange F, Kalhöfer-Thole D, Jurke A. Fortschritte bei der Bekämpfung der Tuberkulose in Nordrhein-Westfalen, 2015–2023 (poster presentation). Presented at: PAE meeting; 20 March 2025; Bochum, Germany.
- **de Jong R**, Freudenau I, Ganser C, Grotegut P, Jurke A. An Outbreak of *Salmonella* typhimurium Linked to a Music Festival in North Rhine-Westphalia, Germany, July 2024 (oral presentation). Presented at: PAE meeting; 17 April 2025; Bochum, Germany.

### 5. EPIET/EUPHEM modules attended

- Introductory Course, 25 September to 13 October 2023, Spetses, Greece
- Study Protocol and Scientific Writing, 26–27 October and 7–8 November 2023, virtual
- European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) 2023, 22–24 November 2023, Barcelona, Spain
- Multivariable Analysis, 19–23 February 2024, Berlin, Germany
- Vaccinology, 4–8 March 2024, virtual
- Writing Abstracts for Scientific Conferences, 20 March 2024, virtual
- Qualitative Research, 19 and 22 March 2024, virtual
- Rapid Assessment and Survey Methods, 15–19 April 2024, Dublin, Ireland
- Public Health Microbiology I - Basic phylogeny, 17–18 June, 2024, virtual
- Project Review Module, 26–30 August 2024, Lisbon, Portugal
- European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) 2024, 20–22 November 2024, Stockholm, Sweden
- Time Series Analysis, 9–13 December 2024, Utrecht, the Netherlands
- Social Behavioural Sciences, 24–28 March 2025, virtual
- Public Health Microbiology II – Biorisk & Quality Management, 28–30 April 2025, virtual
- One Health, 12–15 May 2025, virtual
- Project Review Module, 25–29 August 2025, Lisbon, Portugal
- Public Health Leadership, 1–3 September 2025, Lisbon, Portugal.

### 6. Other training

- PAE introduction days 2023, 11–15 September 2023, Berlin, Germany
- Introduction to R course by Applied Epi, 19–22 September 2023, virtual
- EAN Molecular Epidemiology mini-module, 20–11 November 2023, Barcelona, Spain
- PAE Jour fixes, 17–18 January 2024, 15–16 January 2025 and 14–15 July 2025, Berlin, Germany
- PAE laboratory module, 11–15 March 2024, Berlin, Germany
- Healthcare-Associated Infections module by PAE/UK FETP, 3–5 July 2024, Berlin, Germany
- UN BSAFE course, 8 October 2024, virtual

- Prevention of sexual exploitation and abuse (PSEA), 8 October 2024, virtual
- Ready4Response Tier 2: Systems, structures and skills, 8 October 2024, virtual
- GOARN Tier 1.5 training, 11 October 2024, Berlin, Germany
- PETAL seminars on health economics, reviewing abstracts with ECDC crowd, infodemic management and using AI in everyday epidemiology, 16 October 2024, 28 November 2024, 29 January 2025 and 26 May 2025, virtual
- EAN mini-module on Mood Platform, 18–19 November 2024, Stockholm, Sweden
- Rapid risk assessments e-learning course by ECDC, 27 December 2024, virtual
- WHO's New Policy and Strategy on Preventing and Addressing Sexual Misconduct, 5 January 2025, virtual
- Introduction to the Emergency Response Framework (ERF), 3 January 2025, virtual
- WHO Ethics Empowerment, 7 January 2025, virtual
- United to Respect: Preventing sexual harassment and other prohibited conduct, 7 January 2025, virtual

## 7. International assignments

- Remote eight-month part-time data analysis support to the MSF longitudinal cohort study to evaluate Hepatitis C treatment effectiveness in HIV co-infected patients in Manipur, India, January to September 2025, virtual

## 8. Other activities

- Master of Applied Epidemiology (MSAE) at the Charité – Universitätsmedizin & Berlin School of Public Health; two year full-time course (120 ECTS) integrated into the EPIET training program, 11 September 2023 – 10 September 2025, virtual
- Moderated weekly PAE meetings three times, September 2023 to September 2025, virtual
- Co-organised PAE Jour Fix, 17–18 January 2024, Berlin, Germany
- Internship at STI clinic, 7 February 2024, Bochum, Germany
- Internship at Bochum Gesundheitsamt, 24–27 June 2024, Bochum, Germany
- Supported analysis of EAN satisfaction survey results, September to November 2024, virtual
- Internship at public health intelligence team at ZIG-1 at RKI, 23–27 September 2024, Berlin, Germany
- German language A2.1, 1 February 2024 to 24 March 2025, virtual
- German language A2.2, 25 March 2025 to 23 August 2025, virtual

## Acknowledgements

It's been a privilege (and pleasure) to meet and work with so many incredible people during my fellowship. I'm grateful to the entire team at ECDC, scientific coordinators, facilitators, the PAE team and LfGA (previously LZG.NRW) for making this possible.

I'd like to thank my supervisor, Annette Jurke, for her active support, invaluable inputs, 'deutschen stunden', and for making me laugh every day. Thanks also to my amazing colleagues for being so welcoming, sharing their expertise and all the out-of-office fun. I have learned a lot from all of you. Special thanks to my project co-authors; Jennifer Schauer, Felix Lange, Pia Grotegut, Inga Freudenau, Daniela Kalhöfer-Thole and Carolina Ganser. I'd also like to thank my frontline coordinator, Gamze Aktuna, for her encouragement, revisions, and making every meeting something to look forward to. Last but not least, thank you to all the fellows for making these past two years so special.