



**EnvDis**

**D-PhD11-3.2**

Responsible Partner: P23 UoS

Contributing partners: PHE



## GENERAL INFORMATION

European Joint Programme full title	Promoting One Health in Europe through joint actions on foodborne zoonoses, antimicrobial resistance and emerging microbiological hazards
European Joint Programme acronym	One Health EJP
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## DOCUMENT MANAGEMENT

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Dissemination level <i>PU: Public (default) CO: confidential, only for members of the consortium (including the Commission Services)</i>	PU <b>This is the default setting.</b> If this project deliverable should be confidential, please add justification here (may be assessed by PMT): ..... .....
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## D-PHD11-3.2

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**The progress review** report is framed within the guidance procedures of the University of Surrey Doctoral College. It provides the opportunity to formally reflect and discuss feedback on research ideas and the extent to which they were achieved, as well as agree on a set of objectives for the months ahead.

### 1. Project objectives and extent to which they were fulfilled

#### 1.1. Adapt and apply the conditional probability method built in the UK to the salmonellosis surveillance data of the Netherlands during a short term mission as a validation of the model.

**Done.** The short-term mission took place in the month of April-May, where I exchanged methodologies and results with a student working on a similar project related to Salmonella in the Netherlands. The main objective of the visit was to validate my work as well as network with a foreign Public Health Institution.

#### 1.2. Draft a paper based on findings on point 1: comparison of Dutch data, and climate change scenarios if data available.

**Partially done.** Analysis finished. The model can identify the main summer peak, but it still shows some discrepancies with the empirical data, namely the theoretical predictions present a minor peak in April-May that were not observed in the surveillance data. This is probably due to a human component inherent to the country's data or perhaps the combination of the chosen explanatory environmental variables needs to be revised. Working on the publication.

#### 1.3. Analyse other combination of weather variables.

**Done.** Based on the reconstruction of the modelled cases with the historical data, maximum air temperature, relative humidity, precipitation, and global radiation seem to have a more relevant role in driving salmonellosis risk of infection.

#### 1.4. Exploratory conditional incidence to animal presence/density.

**Dismissed.** Instead, I applied the model to estimate the risk of Salmonellosis under a climate change projection RCP8.5, due to animal data limitation and the relevance/novelty of assessing the impact of climate change.

On top of the goals set in the last review, I have:

- Applied the model to the RCP 8.6 scenario of the climate change for England and Wales. This included downloading, extracting, manipulating and combining big datasets from 15 different possible climate models from the MetOffice Hadley Centre (HadGEM3-GC3.05).



## 2. List of all training activities or workshops undertaken

<b>Title of Training</b>	<b>Date:</b>
<b>How can mathematical and statistical models combine with big data to improve our response to pandemics? Virtual conference - LSHTM</b>	02/02/2022
<b>Beyond Academia opportunities for PGRs – Doctoral College</b>	16/03/2022
<b>BioRender 101 webinar</b>	30/03/2022
<b>London Centre for NTD Research anniversary event</b>	31/03/2022
<b>Public Engagement Workshop – Faculty of engineering and physical sciences</b>	01/04/2022
<b>The inaugural UoS Open Research Lecture</b>	08/04/2022
<b>Introduction to Git – UoS Open Research and Reproducibility Society</b>	27/05/2022
<b>OHEJP ASM 22 (Italy)</b>	11-13/04/2022
<b>OHEJP Short-Term Mission – RIVM (NL)</b>	20/04/2022-20/05/2022
<b>Research Celebration Event - UoS - Faculty of Health and Medical Sciences</b>	16/06/2022
<b>ONE Conference (Brussels)</b>	21-24/06/2022
<b>Modelling workshop - “A Tasting Menu of Quantitative Modelling for Researchers in the Life and Earth Sciences” . U. Tennessee (online)</b>	08-09/07/2022
<b>Demonstrating in the lab VMS1003 – Microscopy</b>	29/09/2022
<b>Demonstrating - Microscopy</b>	06/10/2022
<b>Neglected Tropical Disease (NTD) Workshop</b>	14/10/2022-15/10/2022
<b>Demonstrating – Identifying endoparasites</b>	21/10/2022
<b>Hackaton - Introduction to LaTeX</b>	28/10/2022
<b>How to Influence Policy – SkillInfluence training</b>	08/11/2022
<b>The Researcher Showcase – Building Connections Surrey Research Park</b>	30/11/2022
<b>OHEJP Final school (online)</b>	05/12/2022
<b>Demonstrating Ante-mortem and post-mortem examination</b>	08/10/2022
<b>Neglected Tropical Disease (NTD) research group meeting</b>	Biweekly