

# **Introduction to Field Epidemiology and Outbreak Response**

Michael E. DeWitt

2024-07-01

# Table of contents

<b>Preface</b>	<b>3</b>
<b>1 Introduction</b>	<b>4</b>
<b>I Human epidemiology</b>	<b>5</b>
<b>2 Defining a case</b>	<b>7</b>
<b>3 Bioethics during an outbreak</b>	<b>8</b>
<b>II After action</b>	<b>9</b>
<b>4 Reporting</b>	<b>10</b>
4.1 Situation Reports . . . . .	10
4.2 After Action Reports . . . . .	10
<b>III Conclusion</b>	<b>11</b>
<b>5 Conclusion</b>	<b>12</b>
<b>References</b>	<b>13</b>
<b>Appendices</b>	<b>14</b>
<b>A PPE</b>	<b>14</b>

# Preface

The handbook evolved after my experience during the International Field Epidemiology program conducted during June 2024 in Lima and Tumbes, Peru.

# 1 Introduction

During an outbreak, the key mission is two-fold– save as many lives as possible and learn enough to stop the outbreak. Zoonoses are growing (Woolhouse and Gowtage-Sequeria 2005).

## **Part I**

# **Human epidemiology**

Human epidemiology.

## 2 Defining a case

One of the key aspects of an outbreak investigation is establishing the case definition.

### **3 Bioethics during an outbreak**

Ethical considerations are vital during an outbreak in order to preserve the trust of the community



## **Part II**

# **After action**

## **4 Reporting**

### **4.1 Situation Reports**

### **4.2 After Action Reports**

## **Part III**

# **Conclusion**

## 5 Conclusion

Importantly, field epidemiology requires a diverse team from a variety of skillsets in order to be successful.

## References

Woolhouse, Mark E. J., and Sonya Gowtage-Sequeria. 2005. "Host Range and Emerging and Reemerging Pathogens." *Emerging Infectious Diseases* 11 (12). <https://doi.org/10.3201/eid1112.050997>.

# A PPE

Personal protective equipment (PPE) is vital to protecting your staff and yourself during an outbreak investigation. Loss of personnel to sickness and quarantine can disrupt ongoing outbreak response actions. Importantly, while supplies allow and until testing indicates otherwise, you should operate at higher levels of PPE. This may include the use of N-95 respirators with facial shields and gloves (i.e., mask, gowns, and glasses/goggles). Depending on the pathogen suspected and the transmission modality, higher levels of PPE may be required. For instance during outbreaks of [Marburg and Ebola](#), higher levels of PPE are required including full protective suits, gloves, and PAPRs.