

# Public Health Responses and Vaccine Strategies: Ebola Epidemic Vs Coronavirus Pandemic.



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## INTRODUCTION

Public health responses and vaccination development play a vital role in national and global health security. The project provides a critical understanding of the public health responses and vaccine developments to the COVID-19 pandemic in the United Kingdom and the Ebola virus outbreak from 2014 to 2016 in the West African Region. Using the *understanding*, it can be used to analyse how health systems responded, what lessons were learned and how to improve policies and outbreak management and preparedness.

## RESULTS

The findings of the research are evident: COVID-19 and Ebola exposed global weaknesses in preparedness, delayed responses, and health inequalities, highlighting the need for early intervention (Scally et al. 2020), stronger investments, and international collaborations.

### Preparedness and Infrastructure:

#### COVID-19:

- Public health funding cuts by approximal 40%, which weakened the responses.
- Reliance on outdated pandemic planning, which led to poor preparedness

#### Ebola:

- Fragile healthcare systems, which struggled to cope
- Heavy reliance on international aid, which exposed a lack of infrastructure

### Public Health Interventions

#### COVID-19:

- Lockdowns, test & trace, face coverings and social distancing were vital but implemented poorly

#### Ebola:

- Strong reliance on quarantine, contact tracing and isolation

### Vaccination Strategies

#### COVID-19:

- Rapid Development and rollout, but showed health inequalities

#### Ebola:

- Development was slow due to limited investment and political interest, but the vaccines demonstrated high effectiveness.

## Discussion

The discussion highlights similarities and differences between Ebola and COVID-19, particularly regarding healthcare responses, preparedness, and vaccination strategies.

- The UK COVID-19 response was criticised for delayed implementation of interventions such as lockdowns, social distancing and face coverings (Lee et al. 2020)
- Reliance on the 2011 Influenza Pandemic Strategy reduced the effectiveness of the UK's early COVID-19 response (Rietveld et al, 2024)
- The Ebola outbreak highlighted weaknesses in healthcare infrastructure within West Africa, including shortages of trained staff, limited surveillance systems and lack of resources (Akram and Kollwitz, 2021)
- Community mistrust and misinformation affected public compliance during both outbreaks, reducing the effectiveness of public health measures (Broom et al. 2017)
- COVID-19 vaccines were developed rapidly due to global collaboration, scientific advancement and substantial funding (Wherry et al. 2021)
- Ebola vaccine development was considerably slower because of limited investment and lower global priority (Wattle et al. 2016)

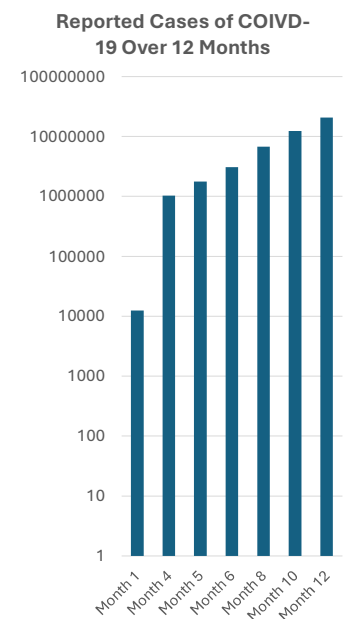
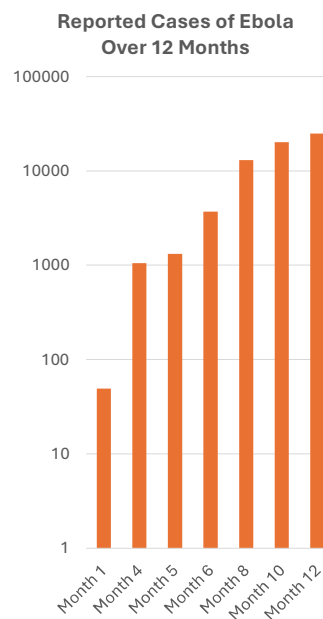
## METHODOLOGY

The research strategy used to conduct the project was the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. The primary database for these searches was Google Scholar, which led to other databases, such as the British Medical Journal.

Successful searches included key phrases such as 'public health', 'Coronavirus 19' and 'Ebola' and area of relevance.

The type of research sourced was:

- Research Studies
- Comparative reviews
- Cross-sectional studies
- Observational
- Surveys



## Conclusion

In conclusion, Ebola and COVID-19 both exposed weaknesses in global public health systems, but the scale, speed, and nature of the responses differed significantly. Ebola highlighted structural limitations in healthcare systems, whereas COVID-19 had weaknesses in preparedness, policy implementation and underinvestment in public health.

Future responses must prioritise adaptable planning, equitable vaccine access, and clear public communication to strengthen resilience against emerging infectious diseases.

## References

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