

# Longitudinal Analysis of Digital Misinformation and Routine Immunisation Hesitancy in Burkina Faso,

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## Abstract

### Background:

The proliferation of digital misinformation is a documented challenge to public health programmes, including routine immunisation. In Burkina Faso, where immunisation coverage requires strengthening, understanding the sustained relationship between online misinformation and vaccine hesitancy is necessary for formulating effective responses.

### Purpose

and

objectives:

This longitudinal study aimed to assess the impact of exposure to digital misinformation on hesitancy towards routine childhood vaccines in Burkina Faso from 2021 to 2023. Its objectives were to identify prevalent misinformation themes and quantify their association with changes in parental vaccination intent over this period.

### Methodology:

A nationally representative cohort of 1,500 primary caregivers was surveyed annually from 2021 to 2023. Surveys measured immunisation attitudes, intent, and self-reported exposure to vaccine-related digital content. A systematic content analysis of prevalent social media and messaging platform discussions in Burkina Faso was conducted in parallel to catalogue misinformation narratives.

### Findings:

A positive correlation was found between frequent self-reported exposure to digital misinformation and increased vaccine hesitancy. By 2023, caregivers with high exposure were 2.3 times more likely to delay or refuse at least one routine vaccine compared to those with low exposure. Predominant misinformation themes included false claims about vaccine safety, fertility, and religious incompatibility.

### Conclusion:

Digital misinformation functioned as a sustained and significant driver of routine immunisation hesitancy in Burkina Faso between 2021 and 2023, undermining public health efforts.

### Recommendations:

Public health authorities should prioritise sustained digital literacy campaigns in local languages and proactively disseminate accurate information via trusted community and religious leaders on the platforms where misinformation circulates.

### Key

words:

Vaccine hesitancy, immunisation, misinformation, social media, Burkina Faso, longitudinal study.

Contribution

statement:

This study provides the first longitudinal evidence from Burkina Faso quantifying the association between digital misinformation exposure and routine immunisation hesitancy, offering a basis for targeted communication interventions.

**Keywords:** *Vaccine hesitancy, Digital misinformation, Immunisation coverage, Sub-Saharan Africa, Longitudinal cohort study, Public health communication, Infodemic*