

# Alerte Covid-19: an electronic platform for receipt and investigation of Covid-19 alerts in Niger

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## Introduction

In early 2020, Niger's Ministry of Health (MoH) launched a system for collecting and investigating Covid-19 alerts. This system was paper based and used unstructured data sharing via text messages, hence did not allow for rapid and exhaustive data collection or effective investigation of alerts. Consequently, MSF teams were unable to accurately assess Covid-19 epidemiology in Niger, affecting decision-making about what support to offer and where. Covid-19 patients were not being diagnosed until in the late stages of disease, or would never be diagnosed at all. Hence, MSF teams feared care would not be effective. Epicentre and the MSF Foundation collaborated with Medic, a not-for-profit organisation designing open-source digital tools for healthcare, to develop an electronic tool to improve receipt and investigation of Covid-19 alerts in Niger. We aimed to collect structured data, to increase the number of alerts investigated, and to improve the timeliness and completeness of investigations. This would facilitate earlier diagnosis of symptomatic disease, earlier orientation of patients towards care, and improve accurate and timely epidemiological reporting.

## Methods

The digital platform, Alerte Covid-19, replaced the existing paper-based system. Patients and health workers across Niger were instructed to phone a national MoH hotline to report suspected cases. Each alert was registered on the digital platform; this then guides users to determine if investigation is necessary, and allocates alerts to a regional alert centre. Investigation teams follow up alerts via patient testing, direct patients towards relevant care, and report Covid-19 test results and the outcome of positive cases in the digital platform. The platform links to dashboards to provide an overview of alerts and outcomes at regional and national levels.

## Ethics

This description/evaluation of an innovation project did not involve human participants or their data; the MSF Ethics Framework for Innovation was used to help identify and mitigate potential harms.

## Results

The hotline service handles up to 6,000 calls per day, 5% of which are Covid-19 related and most require investigation. From May 2020 to November 2021, 11,295 Covid19-related alerts were received, of which 10,100 were investigated and 9,386 tested. Timeliness was improved from several days to a few hours and data was more structured and complete.

## Conclusion

Implementation of Alerte Covid-19 is ongoing. Success of the project to date has triggered further work to develop a digital platform to improve the processing of alerts for other epidemic-prone diseases in Niger. It is hoped this will enable earlier and more effective epidemic responses by MoH and MSF teams. The use of such digital tools is feasible, low-cost, and can impact on epidemic surveillance in low-income settings.

## Conflicts of interest

None declared.



Nsaibirni Robert holds a PhD in computer science and is the coordinator of the data management, research information technology, and compliance unit of the research department of Epicentre. His main interest is in innovative information technology solutions for data management, security, and protection adapted for resource-constrained settings and optimised for clinical research. As a researcher, he specialises in the modelling of dynamic collaborative data-centric and human-driven systems with applications in public health.