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# Case Report Measles Outbreak in a Refugee Settlement-a Public Health Response in Northern Kenya 2025

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## Abstract

This case report describes a localized measles outbreak in a refugee settlement in Northern Kenya, highlighting the challenges in vaccination coverage, rapid public health response, and disease control in complex humanitarian settings. A total of 47 confirmed cases were reported between March and April 2025. Immediate intervention, including mass vaccination and public health education, successfully contained the outbreak. This report underscores the importance of immunization campaigns, surveillance, and health system preparedness in vulnerable populations.

## Introduction

Measles remains one of the leading causes of vaccine-preventable deaths worldwide, especially in regions with low immunization coverage and weakened healthcare infrastructure [1]. Refugee populations are particularly vulnerable due to overcrowded living conditions, limited healthcare access, and transient vaccination histories [2,3]. In March 2025, an outbreak of measles was detected in a refugee camp located in the Turkana County of Northern Kenya, home to over 120,000 displaced individuals. This case report documents the outbreak, response strategies, and outcomes.Measles remains one of the most contagious viral diseases worldwide, despite the availability of a safe and effective vaccine. In humanitarian settings—especially refugee settlements—factors such as overcrowding, poor sanitation, low vaccination coverage, and limited access to healthcare contribute significantly to the risk of large-scale outbreaks. The situation is particularly concerning in regions with fragile health systems, where rapid transmission can lead to high morbidity and mortality, especially among children under five. In early 2025, a confirmed measles outbreak occurred in a refugee settlement located in Northern Kenya, home to thousands of displaced individuals fleeing regional conflicts and climate-related crises. The outbreak posed a major public health threat, prompting an immediate response from local health authorities, non-governmental organizations, and international health partners. This case report presents a detailed account of the outbreak, including epidemiological findings, the public health interventions implemented, challenges encountered, and key lessons learned. The aim is to inform future preparedness and response strategies in similar high-risk, resource-constrained environments.

## Case Presentation

The outbreak was first identified on March 3, 2025, when a 3-year-old male presented with high-grade fever, conjunctivitis, and a maculopapular rash. The child had no prior measles vaccination record. Within a week, 12 additional children from the same block of shelters exhibited similar symptoms.

By April 15, a total of 47 laboratory-confirmed measles cases had been reported, with patients ranging in age from 6 months to 17 years. The majority (68%) were children under five years old. The attack rate was estimated at 1.2% within the affected section of the settlement [4].

### Public Health Intervention

The Ministry of Health (MoH), in collaboration with Médecins Sans Frontières (MSF) and the World Health Organization (WHO), launched an emergency response within 72 hours. Key actions included:

**Mass Vaccination Campaign:** A rapid immunization campaign targeted children aged 6 months to 15 years. Over 40,000 children were vaccinated within two weeks [5].

**Surveillance and Case Finding:** Active case surveillance was intensified through door-to-door health checks and community informants [6].

**Health Education:** Community health workers disseminated information on measles symptoms and transmission to encourage early reporting and isolation [7].

**Isolation Measures:** A temporary isolation ward was set up in the camp's field clinic to manage confirmed cases and reduce spread.

### Outcomes

following the interventions, the number of new cases declined significantly [Figure 1], and no new infections were reported after April 20. No deaths were recorded. The outbreak was declared over on May 5, 2025, after two incubation periods (42 days) with no new cases.

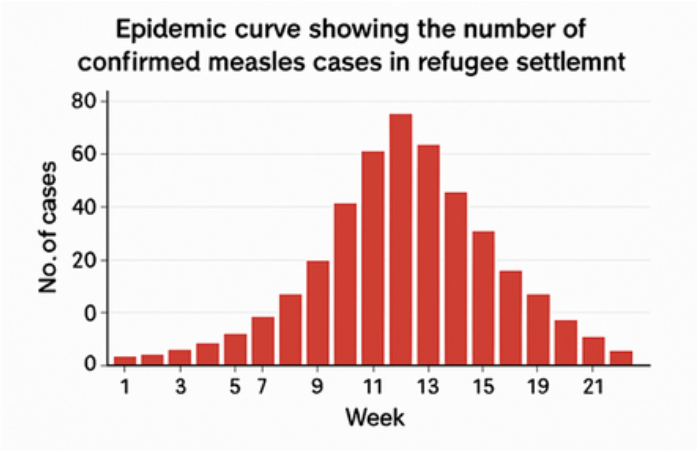


**Figure 1:** Epidemic curve showing the number of confirmed measles cases in refugee settlement

## Discussion

This outbreak illustrates the persistent risk of measles in displaced populations with suboptimal immunization. High population density and low baseline vaccination coverage (estimated at 53%) facilitated rapid transmission. The swift public health response, however, demonstrates the effectiveness of coordinated interventions even in resource-limited settings.Routine immunization coverage in refugee settings must be prioritized, with systems in place for rapid outbreak response. Additionally, digital health tools for surveillance and vaccination record tracking could enhance preparedness in future emergencies.

## Conclusion

The successful containment of this measles outbreak highlights the critical role of early detection, vaccination, and community engagement in managing public health threats in vulnerable populations.

## References


1. (2019) World Health Organization. Measles outbreaks in refugee camps. WHO. Centers for Disease Control and Prevention. (2020). Measles (Rubeola): For healthcare professionals. CDC.
2. Moss WJ (2017) Measles. The Lancet 390: 2490–2502.
3. Gayer M, Legros D, Formenty P, Connolly MA (2007) Conflict and emerging infectious diseases. Emerging Infectious Diseases 13: 1625–1631.
4. Spiegel PB, Checchi F, Colombo S, Paik E (2010) Health-care needs of people affected by conflict: Future trends and changing frameworks. The Lancet 375: 341–345.
5. Mahamud A, Burton A, Hassan M, Ahmed JA, Wagacha JB, et al. (2013) Risk factors for measles mortality among hospitalized Somali refugees displaced by famine, Kenya. Clinical Infectious Diseases 57: e160–e166.
6. Dabbagh A, Laws RL, Steulet C, Dumolard L, Mulders MN, et al. (2018) Progress toward regional measles elimination-worldwide, 2000–2017. Morbidity and Mortality Weekly Report 67: 1323–1329.
7. Roberts L (2010) Measles epidemic in refugee camps: Lessons for health care in crises. Health and Human Rights Journal 12: 1–10.



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