

# The first reactive mass vaccination campaign against Hepatitis E in Bentiu, South Sudan

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## Background

Hepatitis E (HEV) is likely the most common cause of acute viral hepatitis and jaundice worldwide. The virus causes high mortality among pregnant women with case fatality risks of 10-25%, and adverse fetal outcomes. A safe and efficacious 3-dose recombinant vaccine (Hecolin®) has been licensed in China since 2011 and considered for use during outbreaks by the WHO since 2015.

South Sudan has reported confirmed Hepatitis E cases for over a decade, with protracted outbreaks occurring in camps of displaced people. Bentiu IDP camp in Unity State hosts over 100,000 people displaced from conflict and flooding. A large outbreak of hepatitis E occurred in 2015, and despite numerous interventions, cases and deaths continue. In response, the MoH and MSF planned the first mass reactive vaccination campaign of the Hecolin® vaccine.

## Methods

The first round of vaccination started on 22 March 2022 and second round on 19 April 2022. The target population was 26,686 individuals aged 16-40 years residing in Bentiu IDP camp. Operational research alongside the vaccination campaign, including clinical surveillance at MSF Bentiu hospital, a case-control study, and a pregnancy cohort, is ongoing to document feasibility, safety and two-dose vaccine effectiveness.

## Results

Using a combination of fixed and mobile sites, 49,903 doses were administered during the two rounds of vaccination. Based on administrative population counts, coverage in the first round was 91% and second round was 95%.

Clinical surveillance documented 288 suspect hepatitis E cases and 2 deaths from 21 March – 15 May, 2022. Among them, 61.5% of cases and both deaths were children less than 16 years, ineligible for vaccination. HEV IgM RDT positivity overall was 41.6%; 74.6% of RDT confirmed cases had elevated ALT ( $\geq 2.5$ -times ULN) and 29.7% of suspect cases testing negative.

## Conclusion

The deployment of Hecolin® in a humanitarian emergency setting achieved high administrative vaccination coverage. This experience and the anticipated research results could allow for broader use of the vaccine in the fight against epidemics caused by hepatitis E virus.

The first mass reactive vaccination campaign against Hepatitis E was conducted in Bentiu IDP camp, South Sudan with high administrative vaccination coverage. Most cases in Bentiu are ineligible for vaccination due to age limitations of the vaccine.

