

# Vaccination coverage and adverse events following immunisation after the first reactive mass vaccination campaign against Hepatitis E in Bentiu, South Sudan



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## Introduction

Hepatitis E (HEV) is a common cause of jaundice and acute viral hepatitis that can cause large-scale outbreaks.

HEV infection is associated with adverse fetal outcomes and case fatality risks up to 26% among pregnant women.

Hecolin®, an efficacious three-dose recombinant vaccine, has been licensed in China since 2011.

## MSF and the MOH implemented the first ever mass reactive vaccination campaign against hepatitis E using the Hecolin® vaccine.

Vaccination was conducted in three rounds in **March, April and October 2022** targeting 26,848 individuals aged 16-40 years residing in Bentiu IDP camp.

## Methods

We conducted a vaccination coverage survey using simple random sampling from a sampling frame of all camp shelters following the third round of vaccination in October.

For survey participants vaccinated in October, we asked about new symptoms experienced within 72 hours of vaccination.

At vaccination sites and health facilities, we implemented passive surveillance of adverse events following immunisation (AEFI).



Hepatitis E Vaccine, Bentiu IDP camp. © MSF

## The vaccine was well accepted and well tolerated in the Bentiu IDP camp community and should be considered for use in future outbreak response.



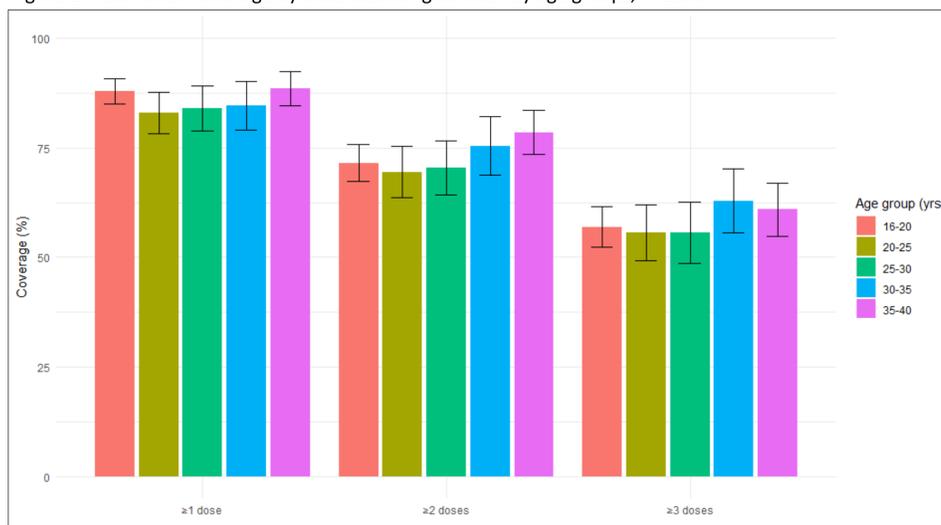
Aerial view of Bentiu IDP camp, Unity State, South Sudan. © MSF 2022

Table 1. Vaccination coverage by dose according to recall and card, n=1599.

Coverage by dose	According to recall or card		Confirmed by card	
	% (n)	95 % CI	% (n)	95 % CI
One or more doses	86% (1377)	[84-88]	40% (644)	[37-43]
Two or more doses	73% (1160)	[70-75]	19% (305)	[17-21]
Three doses	58% (924)	[55-61]	10% (163)	[9-12]

*Note that confirmed by card means that all doses reported were verified on vaccination card. Very few individuals retained vaccination cards or had them available at interview.*

Figure 1. Vaccination coverage by dose according to recall by age groups, n=1599.



This study was approved by the MSF and South Sudan Ethics Review Boards.



MSF nurse in Bentiu IDP camp doing door-to-door vaccination against Hepatitis E. © Peter Caton / MSF 2022

## Results

A total of 1599 vaccine-eligible individuals were included.

### Coverage according to recall was:

- ≥1 dose: 86% (1377) [95% CI 84-88]
- ≥2 doses: 73% (1160) [95% CI 70-75]
- 3 doses: 58% (924) [95% CI 55-61]

Coverage did not differ by sex, age group, or camp sector of residence.

Partial vaccination did not differ by pregnancy status, complete 3 dose coverage was lower among pregnant women (44% [95% CI 34-53] vs 58% [95% CI 54-61], p=0.006).

Passive surveillance captured few mild AEFI. In the survey, 91 (7.6%) out of 1,195 individuals vaccinated in October reported new symptoms within 72 hours of vaccination, most commonly headache (n=68, 75%) or fever (n=29, 32%).

## Conclusion

We found a high coverage of at least one dose of the Hecolin® vaccine following three rounds of vaccination, and a low incidence of AEFI.

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