

## Current major event

### YF Preventive Campaign in Sudan

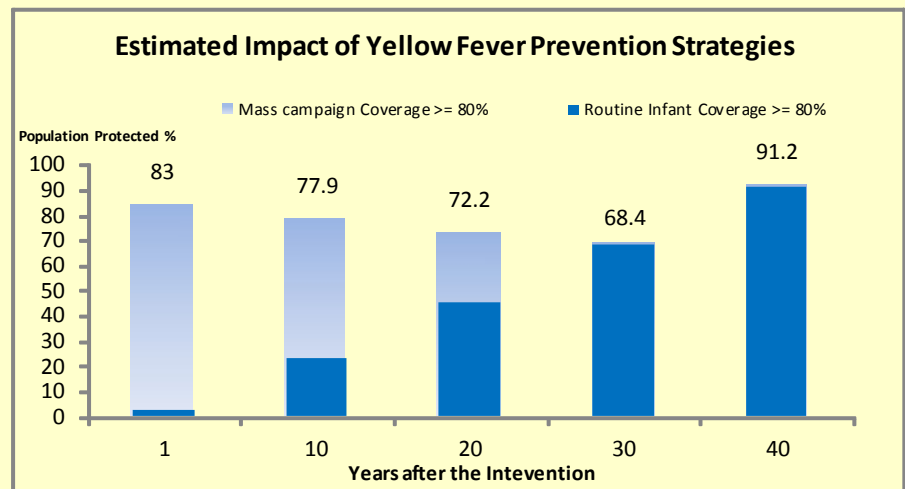
Sudan has launched yellow fever (YF) mass preventive vaccination campaigns. The campaigns started on 1st December and will end on 10th December 2014. The target population is 7.5 million people aged between 9 months and 60 years old in seven States. This is the first of three phases that will cover the whole country. The campaigns will be followed by introduction of YF vaccine in national routine immunization programme.

### Editorial note

The seven states included in the first phase of the YF mass preventive vaccination campaign include South Darfur, North Darfur, Central Darfur, East Darfur, White Nile, South Kordofan and West Kordofan States. These States, except White Nile State, have had at least one YF outbreak since 1940 (*please see above table*).

The need for YF mass preventive vaccination campaigns was based on risk assessment serological prevalence survey and entomological studies that were conducted in Sudan between December 2012 and January 2013. The YF serological prevalence survey used multistage cluster design. The country was divided into four ecological zones based on rainfall, vegetation and altitude. The findings showed that YF serological prevalence in the population ranged between 2.1% to 7.3% in all the four ecological zones. Three out of the four zones had active circulation of YF virus. Entomological studies in all the zones assessed showed high density of *Aedes aegypti* mosquito vector.

Yellow fever mass preventive vaccination campaign is an effective tool for rapidly increasing population (herd) immunity especially in settings such as Sudan where YF vaccine has not been introduced in the national routine immunization programme and the country experiences large recurrent YF outbreaks. Mass vaccination campaign coverage levels of 80% or more can achieve 80% population immunity in the first year of



### Reported YF cases by year and Affected States, Sudan

year	cases	deaths	CFR %	Affected State
1940	15000	1500	10	S&W Kordofan
1959	1818	88	4.8	Blue Nile
2003	178	27	15.2	E. Equatoria
2005	615	183	29.8	S. Kordofan
2012	849	171	20.1	All Darfurs
2013	44	14	31.8	West Kordofan

implementation. While population immunity is expected to drop to around 55% within 10 years, immunity levels of between 60-80% have been shown to provide sufficient herd immunity in the population to prevent YF outbreaks.

Yellow fever vaccination at nine months of age using the vaccine as part of routine immunization programme is considered the most effective means of preventing YF epidemics (*please see above graph*). Sudan plans to follow the preventive YF mass campaigns that are currently being implemented with introduction of YF vaccine in the national routine immunization programme. The two pronged strategy is expected to contribute to effective prevention and control of YF in the country. Mass vaccination campaign may continue to have role in future, especially in states, or districts, where routine immunization coverage does not reach sufficient levels for herd immunity, and are at increased risk of YF epidemics.

### Update on outbreaks

in the Eastern Mediterranean Region

**MERS-CoV in Saudi Arabia and Avian Influenza in Egypt**

**Current public health events of international concern**  
[cumulative N° of cases (deaths), CFR %]

#### Avian Influenza A (H5N1): 2006-2014

Egypt [184 (69), 37.5%]

#### MERS-CoV: 2012-2014

Saudi Arabia [785 (300), 38.2%]

Jordan [11 (6), 54.5%]

Oman [2 (2), 100%]

UAE [68 (8), 11.8%]

Kuwait [3 (1), 33.3%]

Tunisia [3 (1), 33.3%]

Qatar [9 (4), 44.4%]

Yemen [1 (1), 100%]

Egypt [1 (0), 0%]

Lebanon [1 (0), 0%]

Iran [5 (2), 40%]

#### Ebola Hemorrhagic Fever: 2014

Guinea [2134 (1260), 59%]

Liberia [7168 (3016), 42.1%]

Sierra Leone [6559 (1398), 21.3%]

Nigeria [20 (8), 40%]

Senegal [1 (0), 0%]

Spain [1 (0), 0%]

USA [4 (1), 25%]

Mali [8 (6), 75%]

#### Wild poliovirus: 2014

Pakistan [268 (0), 0%]

Afghanistan [23 (0), 0%]