



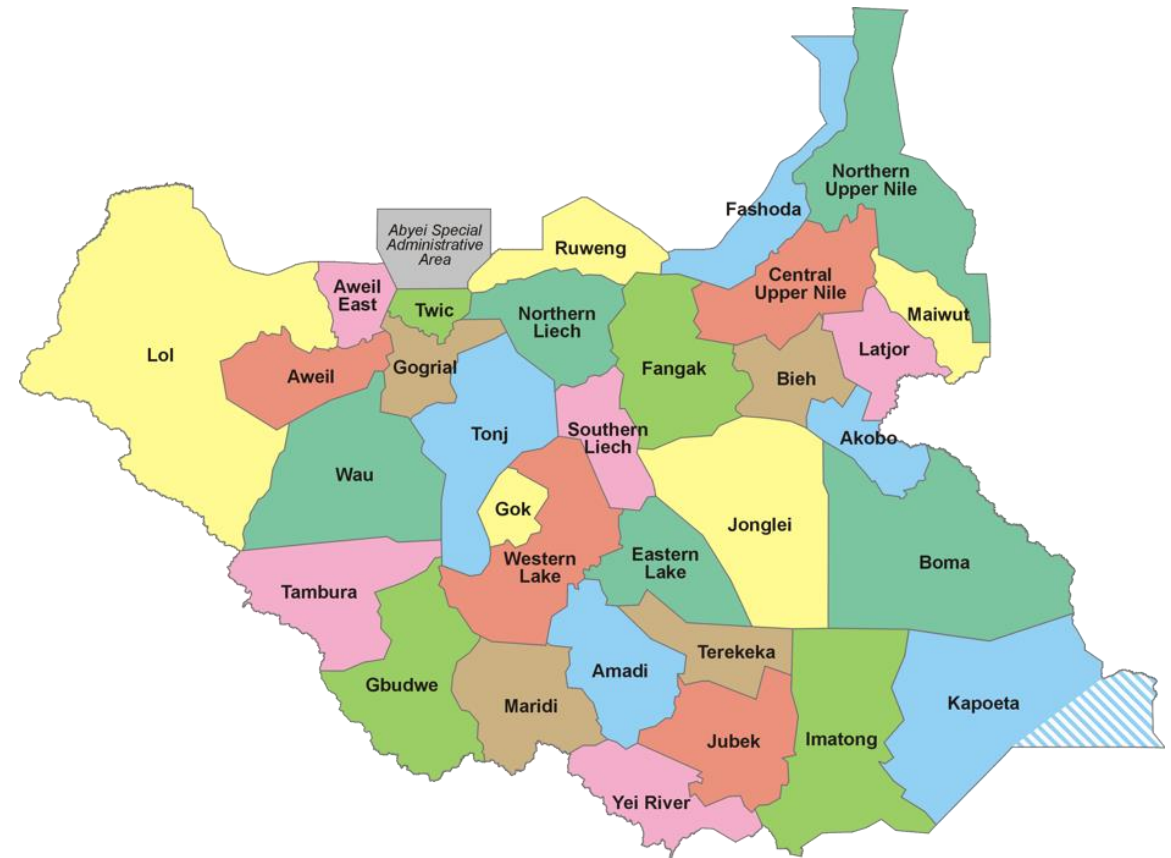
# CHOLERA SITUATION ANALYSIS AND HOTSPOT MAPPING IN SOUTH SUDAN

GTFCC Meeting for the  
Working Groups on  
Surveillance  
(Epidemiology and  
Laboratory) (15<sup>th</sup> to 17<sup>th</sup>  
March 2019)

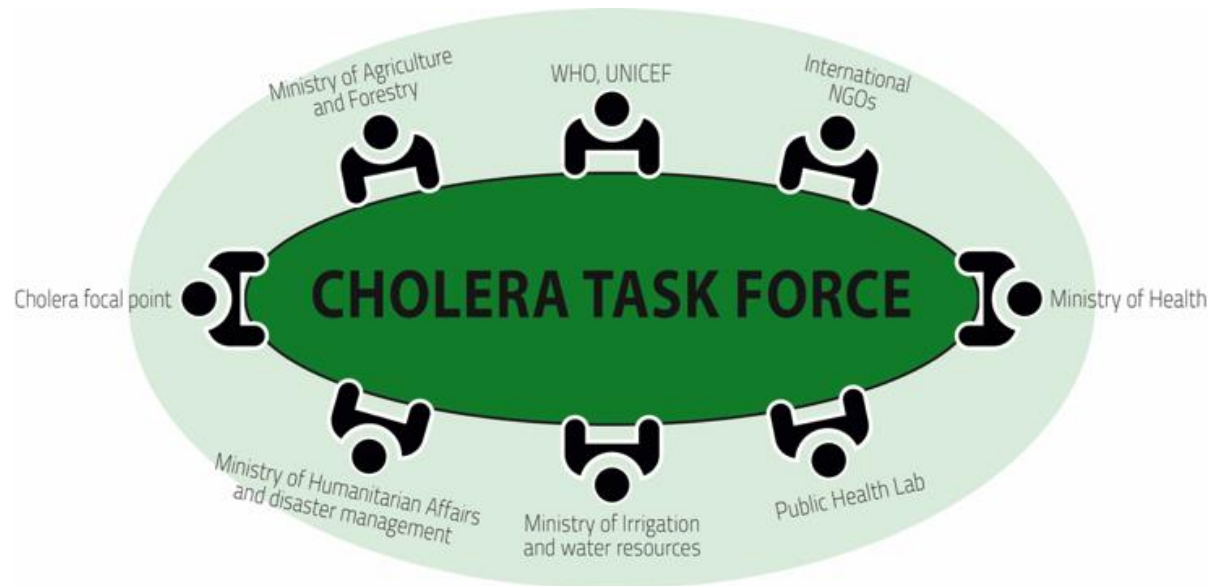


# BACKGROUND

1. South Sudan borders Uganda, Kenya, Ethiopia, Sudan, DR Congo, & CAR
2. Got **independence** in **2011**
3. Protracted Grade 3 **crisis since 2013** (situation improving since Sept 2018)
4. Severe **food insecurity** – **7.1 million** (63% of population) – 45,000 faced with famine
5. **1.87 million IDPs** & 2.27million refugees to neighboring countries



# COORDINATION OF CHOLERA CONTROL



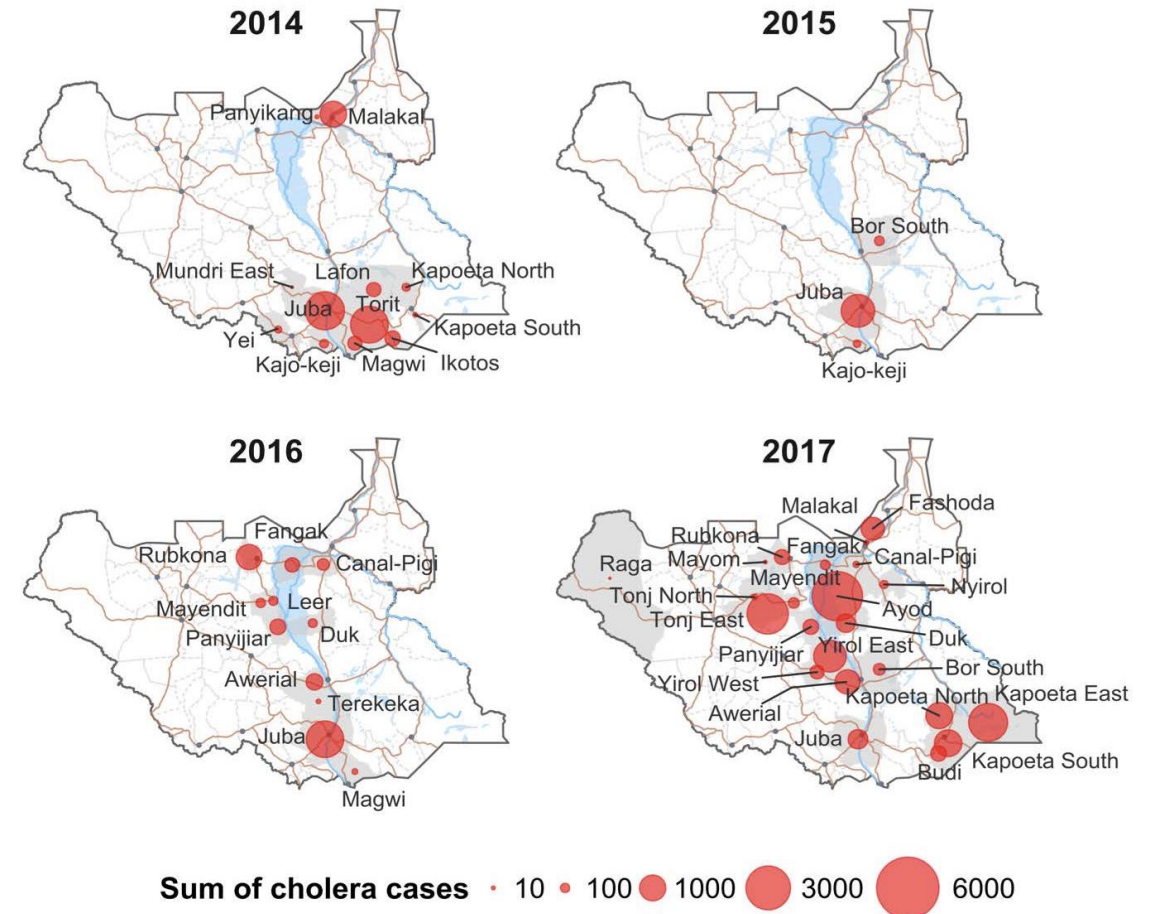
## Technical sub-committees

- OCV
- Laboratory, Surveillance & Case Management
- Social Mobilization
- WASH

1. Multisectoral taskforce in place chaired by MoH with the other sectors (Water & Humanitarian Affairs) and partners (Health + WASH) clusters as members
2. Draft National Cholera Control Plan pending WASH assessment & stakeholder review/costing
3. Implemented preventive OCV campaigns since 2017 (2.9 million doses approved 27/Mar/2019)
4. Sub-optimal involvement of other sectors and WASH in OCV preventive campaigns

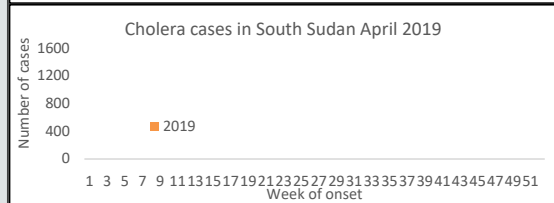
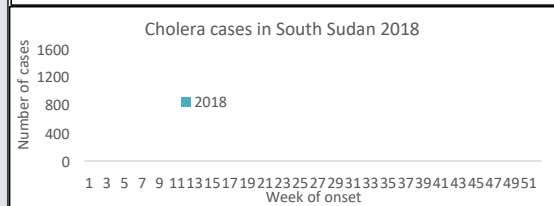
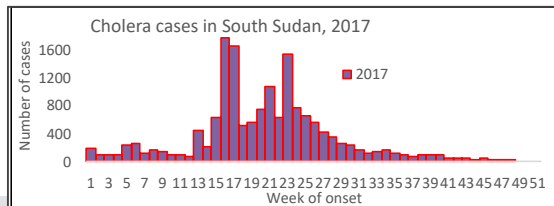
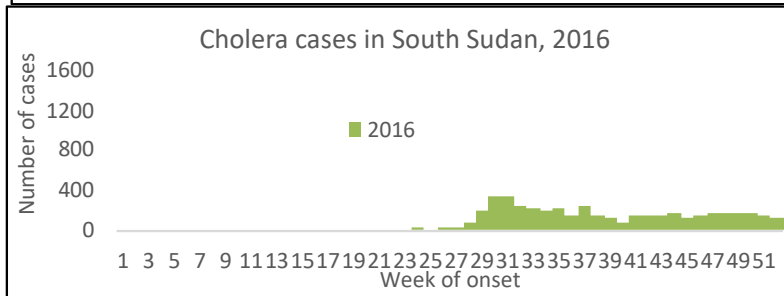
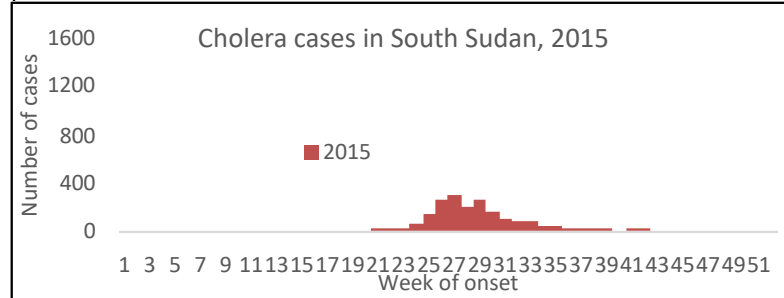
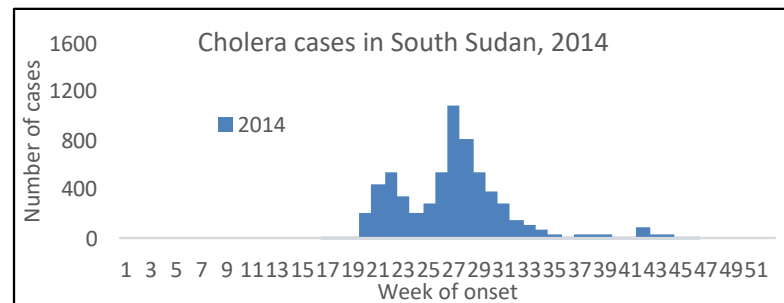
# CHOLERA IN SOUTH SUDAN

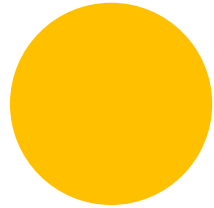
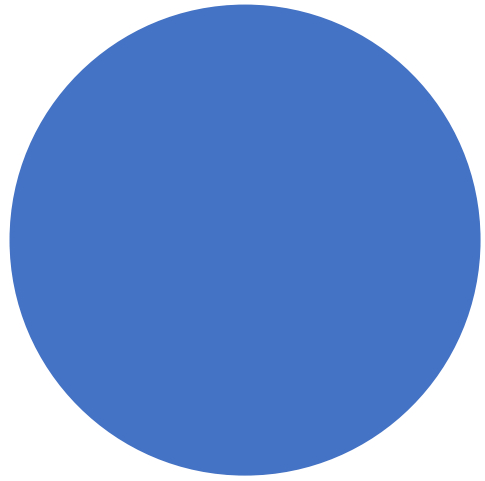
1. South Sudan is endemic for cholera
2. Since the 2013 crisis onset – cholera outbreaks – 2014 – 2017
3. Between 2014–2017 at least 28,676 cases & 644 deaths reported
4. All outbreaks started in Juba
5. Cases reported along River Nile, cattle camps, IDPs, islands, & commercial hubs



# CHOLERA IN SOUTH SUDAN

1. From 2014 to 2017
  1. Case amplitude highest in 2014 & 2017 (1000–1500 cases/week)
  2. Longest duration in 2016/17 (77 weeks)
  3. Geog. spread highest in 2017 (23 counties)
2. No cholera cases confirmed in 2018
3. No cholera cases confirmed by April 2019





# Cholera hotspot mapping

South Sudan experience

# Cholera Hotspot definition

- A *cholera hotspot* is defined as a **geographically limited area** (e.g. city, administrative level 2 or health district catchment area) where **environmental, cultural and socioeconomic conditions facilitate disease transmission** and where **cholera persists or re-appears regularly**. Hotspots play a central role in the spread of disease to other areas.

*(Source – Cholera surveillance definitions – GTFCC)*

# Cholera Hotspot mapping - GTFCC guidance

- Use **recent cholera data** - at least last 5 years
- Mapping cholera hotspots **by district level**
  - Incidence and mortality by hotspot
- Description of **contextual factors** that favor cholera transmission in the hotspots
- Review **local capacities** for implementing control interventions (incl. finances, surveillance, patient care, WASH, ability to conduct OCV campaigns)



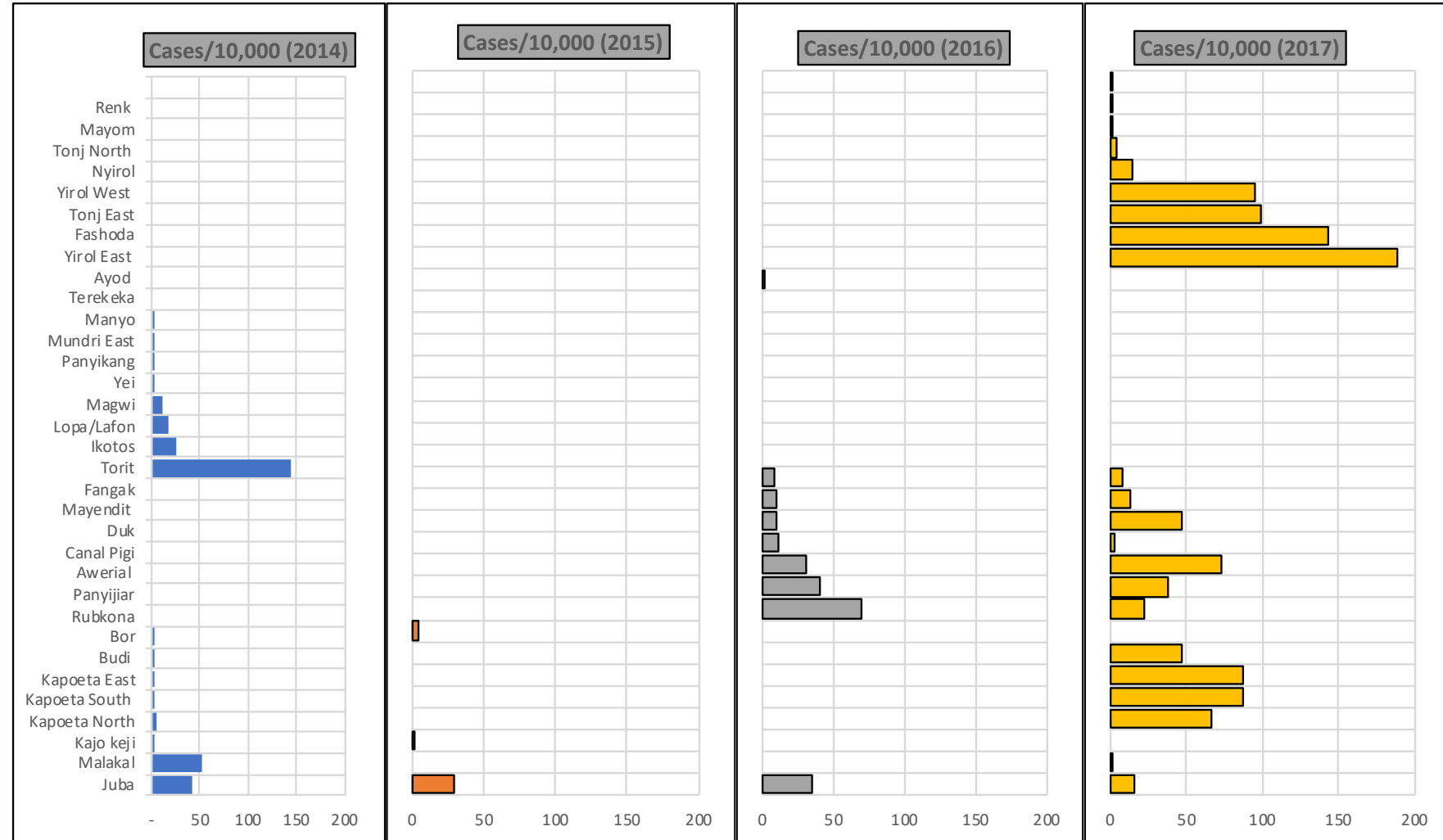
# South Sudan Hotspot mapping – data used

- Cholera line list data used
  - Annual cholera attack rates by county
  - Annual cholera CFR by county
  - Assessment of high-risk groups in hotspot areas
  - Context and capacities assessed



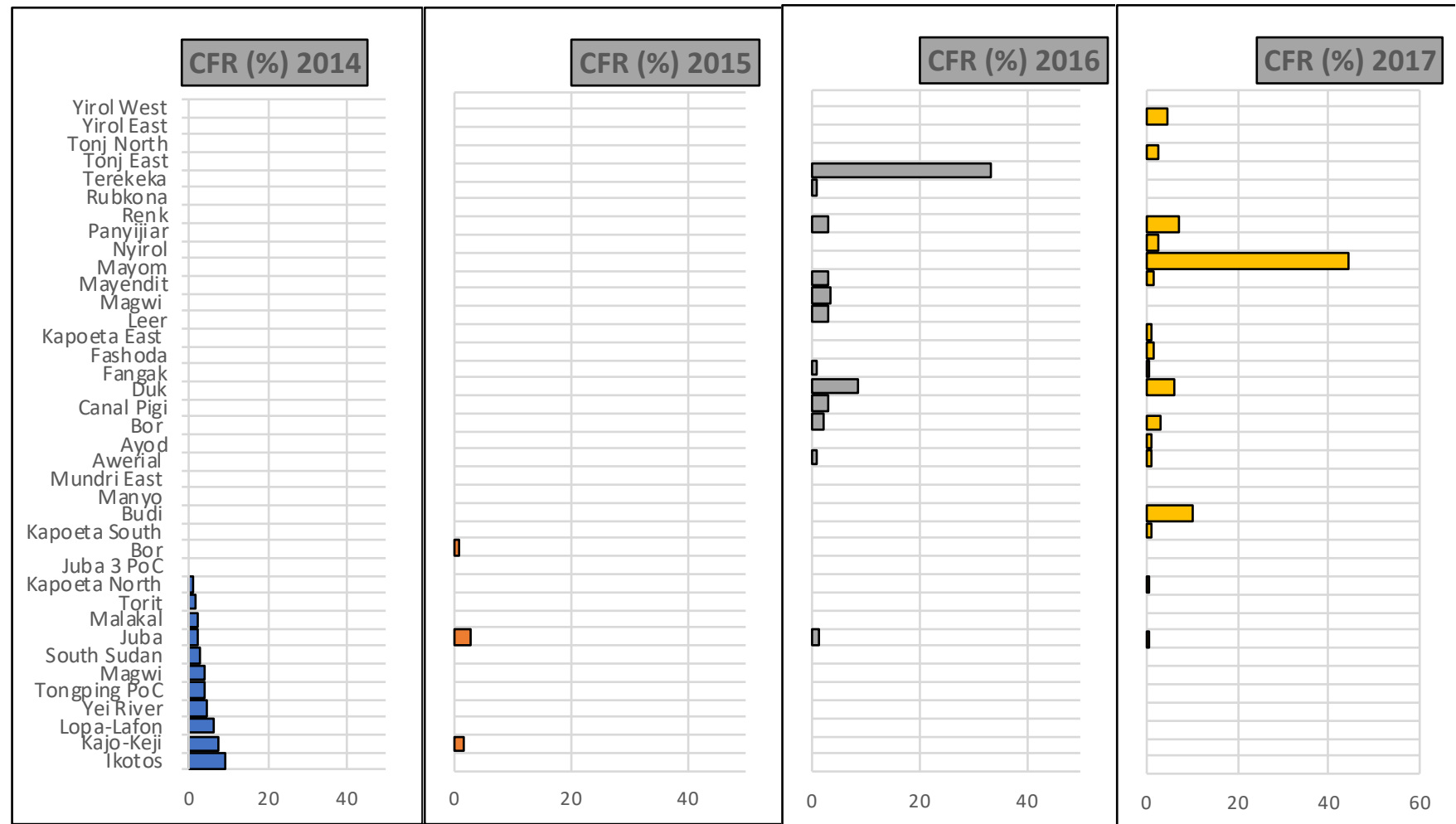
Microsoft  
Excel Worksheet

# Cholera Hotspot - analysis output

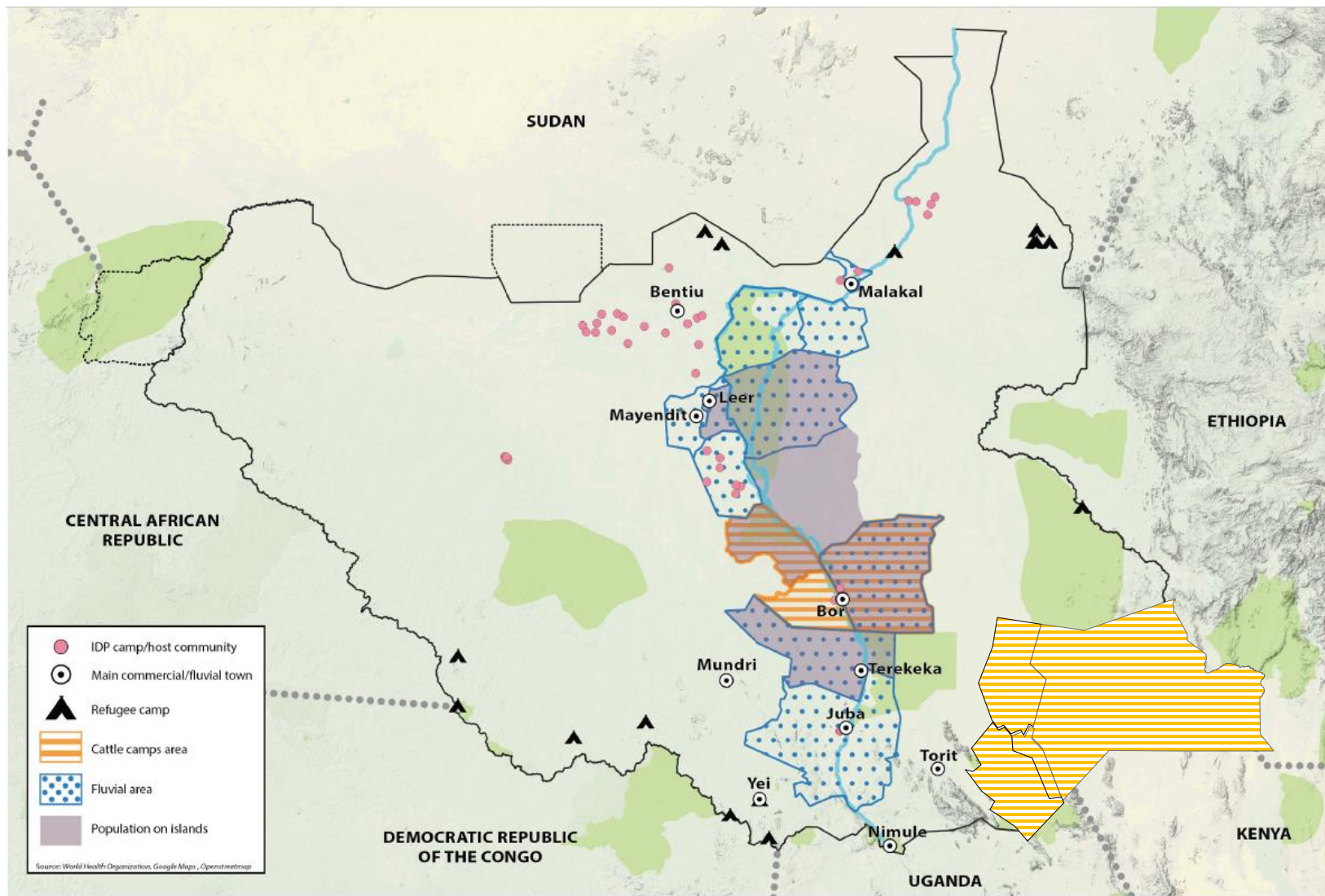


**Estimated Annual Incidence Rate per 10,000 population by county and year**

# Cholera Hotspot - analysis output



*Estimated CFR by county and year. Dashed vertical line represents 1% CFR cases*

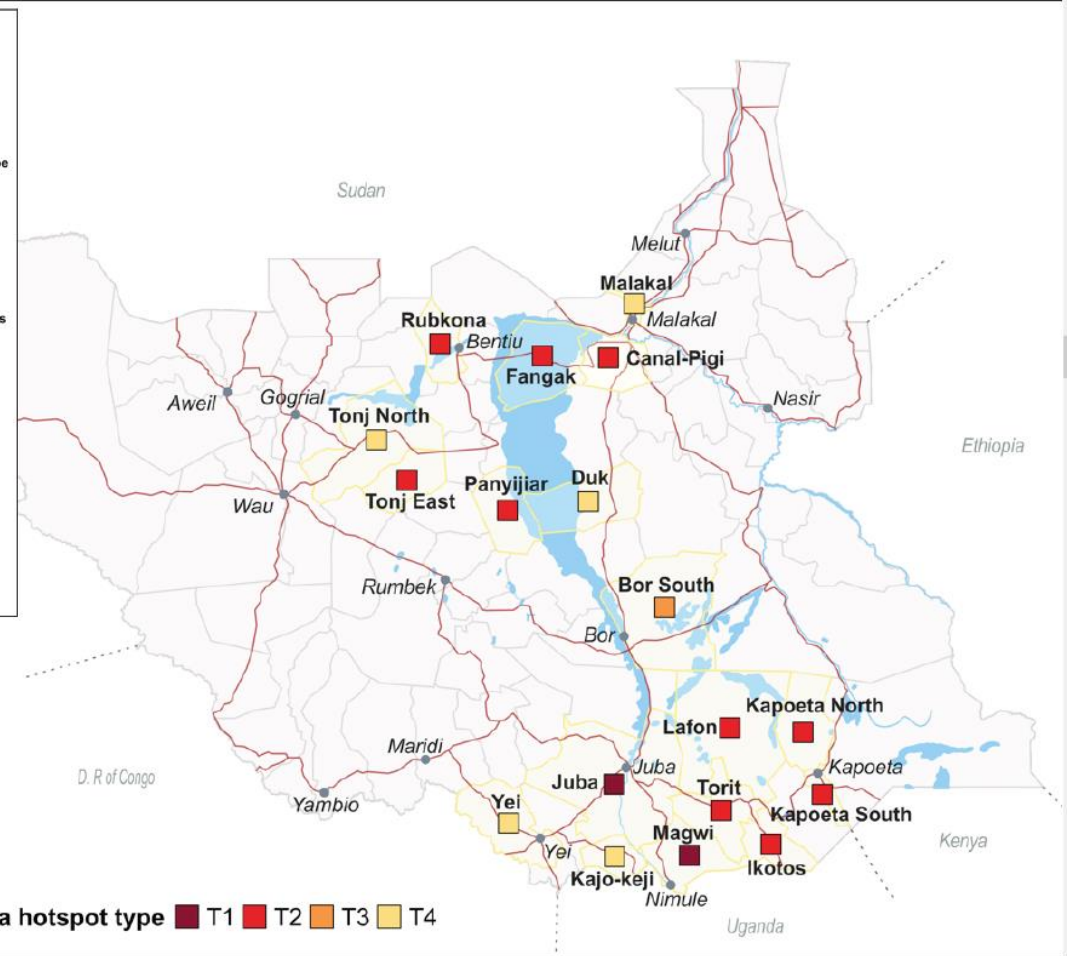
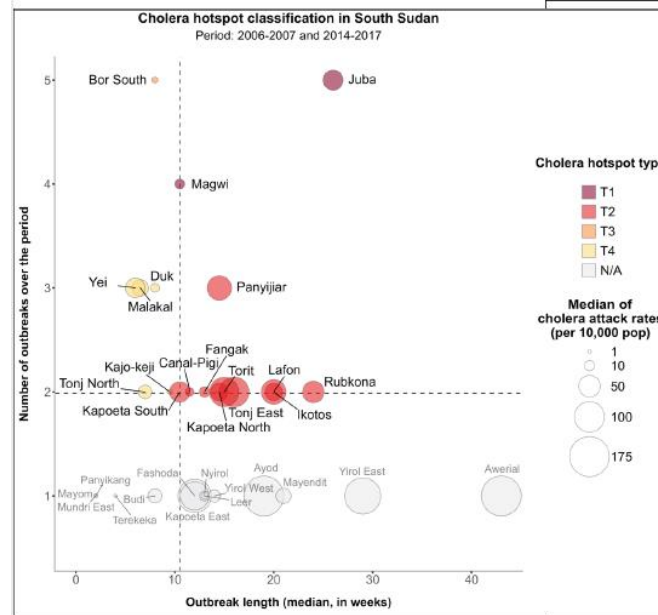


In recent years cholera outbreaks have been reported in:

1. Major commercial hubs
2. Communities along major rivers – River Nile
3. Cattle camp populations
4. Internally displaced populations (IDPs)
5. Populations on islands with no social amenities

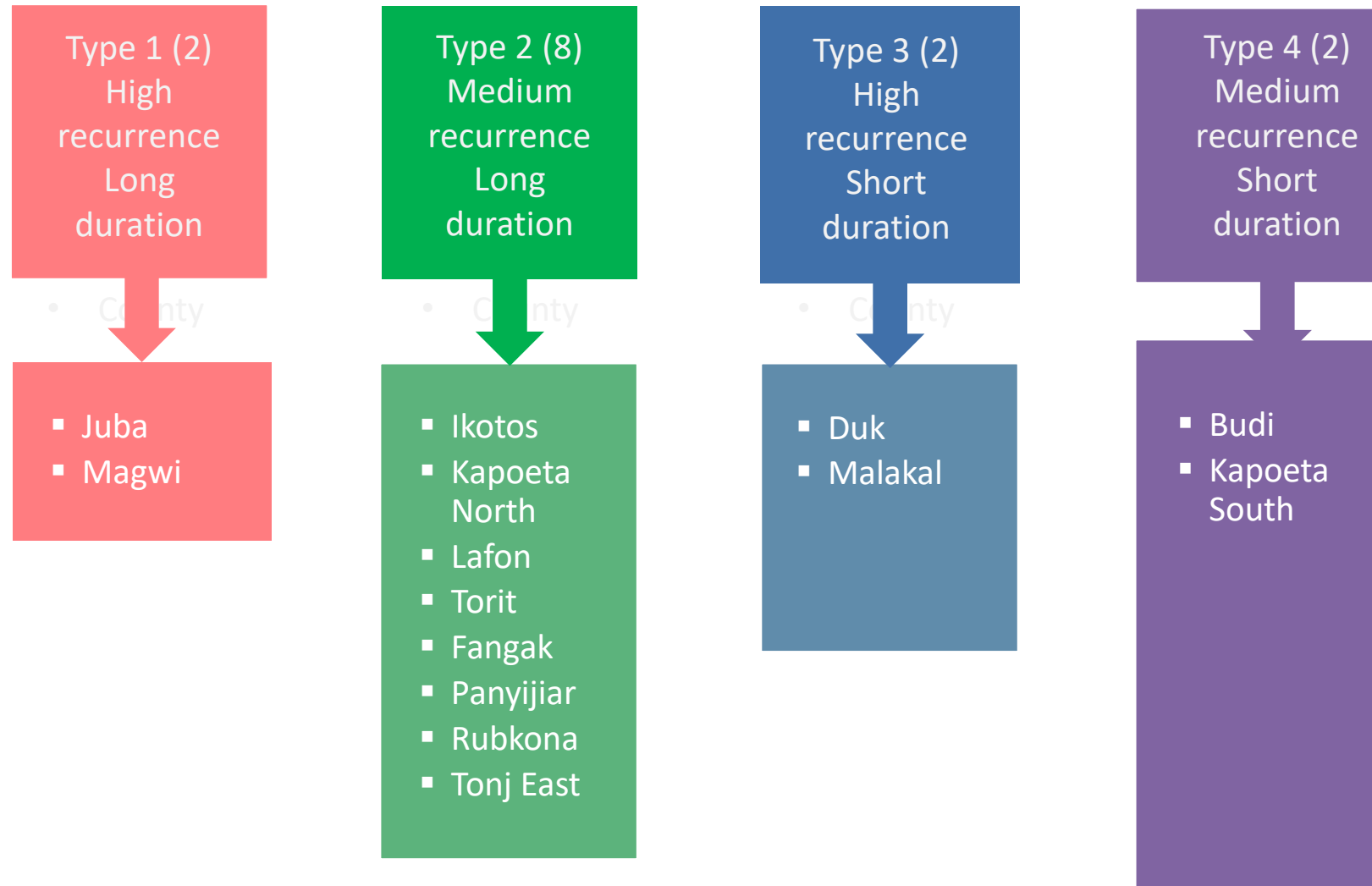
## CHOLERA HOTSPOT MAPS SOUTH SUDAN

# CHOLERA HOTSPOT MAP - UNICEF STUDY



## SSD - Cholera hotspots classification

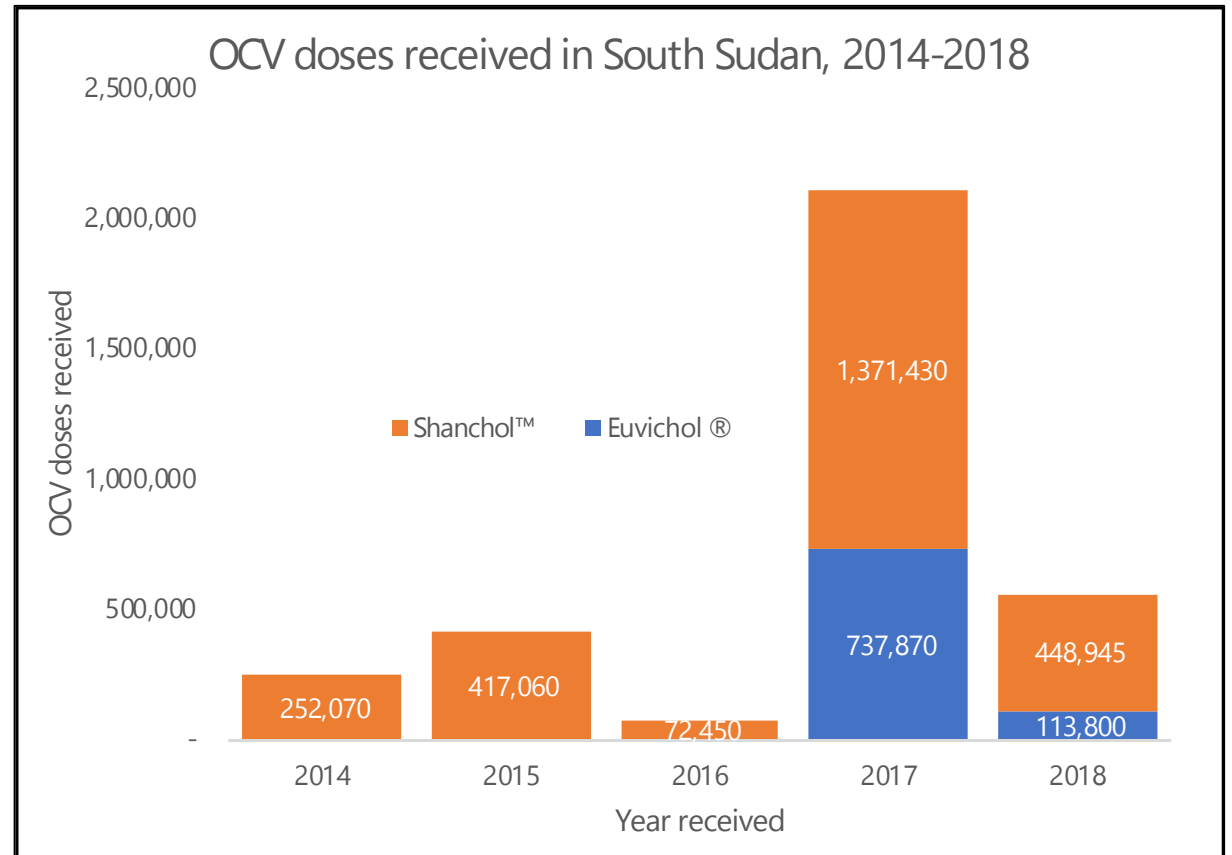
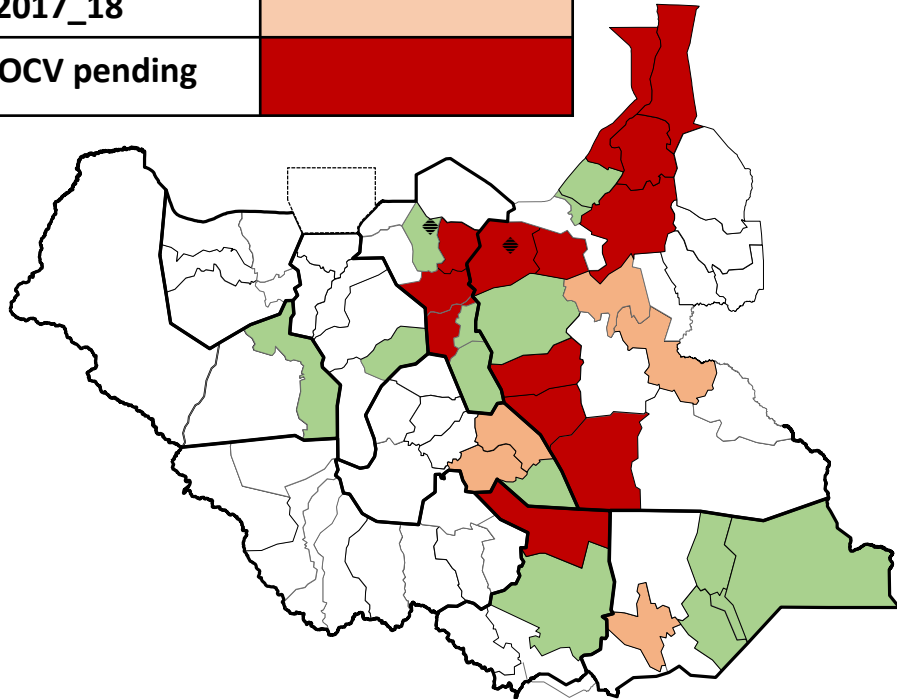
Preliminary version. Period: 2006-2007 and 2014-2017



Same datasets used hence the overlap in hotspot areas identified and targeted for the ongoing preventive OCV campaigns

# OCV CAMPAIGNS IN HOTSPOT AREAS

Two rounds (2017_18)	
First round (pending second) – 2017_18	
Hotspot – OCV pending	



Year	Euvichol®	Shanchol™	Total doses
2014		252,070	252,070
2015		417,060	417,060
2016		72,450	72,450
2017	737,870	1,371,430	2,109,300
2018	113,800	448,945	562,745
<b>Total doses</b>	<b>851,670</b>	<b>2,561,955</b>	<b>3,413,625</b>

- 3.4 million OCV doses deployed in South Sudan from 2014 - 2018
- No new confirmed cholera cases in South Sudan since 18 December 2017

# CHOLERA CONTROL CHALLENGES IN SOUTH SUDAN

1. Weak social services sector – Health & Water
2. Development funding still low & hence no progress on implementing long term WASH interventions for cholera prevention
3. Inadequate integration of WASH in OCV campaigns
4. Sub-optimal involvement of other sectors
5. Access constraints – security, rainy season



# NEXT STEPS

- Conduct an assessment of WASH needs that will be used to update the situation analysis and tailored WASH interventions in the NCCP
- Review, update, validate, cost & launch the National Cholera Control Plan for South Sudan that is aligned to the Global Roadmap for cholera elimination by 2030



# AKNOWLEDGEMENTS

South Sudan Ministry of  
Health

UNOCHA – South Sudan

UNICEF

Health Cluster partners

Health Pool Fund

USAID/IOM Rapid Response  
Fund

GAVI

GTFCC – Global Taskforce on  
Cholera Control

WHO



**Thank you**