

# ARTEMISININ RESISTANCE STUDY



23-03-2015





Guyana is bordered by Suriname to the east; by Brazil to the south and southwest; by Venezuela to the west; and by the Atlantic Ocean to the north

**At 215,000 square kilometres (83,000 sq mi)**

# Objectives



- ❧ Assess the PCT of Artesunate for seven days in the Tx of P.f in Guyana.
- ❧ Measure the PCT with blood sampling for parasites counts every 8 hrs.
- ❧ Artesunate for seven (7) days followed by Primaquine

# Inclusion



Patient enrolled from Central Vector Control Department

- >2 years old
- Only *P. falciparum* by microscopy
- Parasitemia of 1000- 100,000/  $\mu$ l asexual forms
- Temp  $>37.5^{\circ}\text{C}$  or a hx of fever in the past 24 hrs
- Ability to swallow
- Willingness to comply

# Process



- Confirmation of results
- Patient is then enrolled after consenting etc
- Transported to hotel
- All laboratory and treatment are started at 2 pm sharp
- Smear is taken off once again at 10pm as well as Tx and vitals etc
- And again at 6 am
- Continues in this fashion for seven (7) days
- Then sent home on day 7 and followed up day 14, day 21 and day 28 ( smears, filter paper, vitals etc

# Treatment

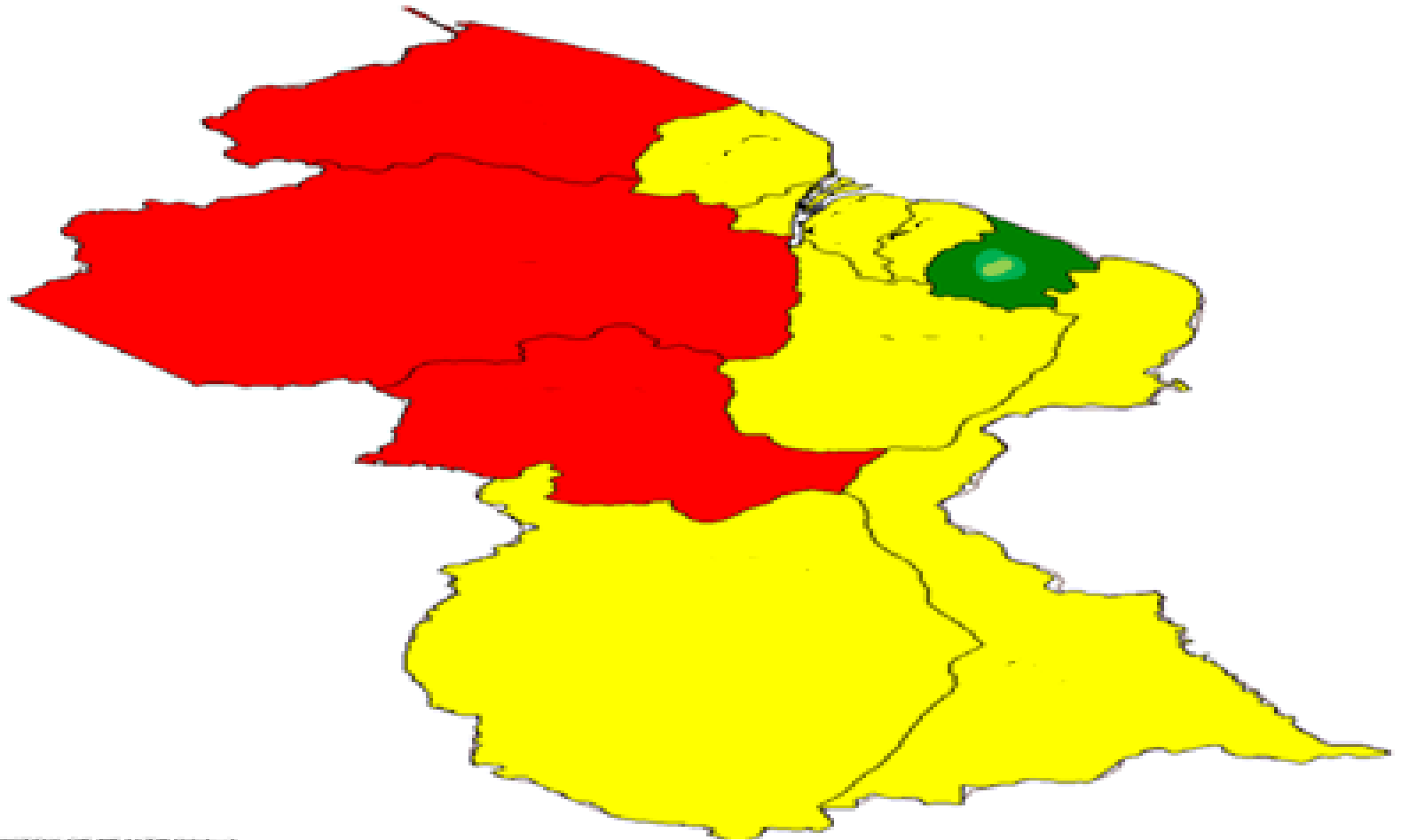


- Artesunate 4mg/kg per day
- Primaquine 0.75mg/kg on day 7

# Sample

**Malaria Risk area**

Patients were taken from all endemic regions in Guyana



# Challenges



- Mounting Medium was of poor quality and damaged smear
- Quality of stain is questionable
- *P. vivax* was noticeable in 3 patients after being enrolled on day 21 (1) and 28 (2).



Region infected	Female	Male
Region 7 (24)	9	39
Region 1 (14)		
Region 8 (9)		
Region 9 (1)		















# Updates on Efficacy studies

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- ❧ IP-Cayenne: 48 samples tested; no K13 mutations detected





# Malaria in Guyana and the Country Context

Table 1: Number of Malaria Cases by Species by Year Guyana

Species	2010	2011	2012	2013	2014
P. falciparum (P.f)	11,244	15,945	16,695	13,655	3,599
P. vivax (P.v)	8,402	9,066	11,225	13,953	6,707
P. malariae (P.m)	132	96	83	101	41
Mixed Infections (MI)	3,157	4,364	3,598	3,770	1,132
Positives Total	22,935	28,341	31,601	31,489	11,479

Source: Malaria Information System, MOH Guyana 2011

Thank You

