

# Monitoring Efficacy of first line *P. falciparum* treatment in Suriname

## New challenges

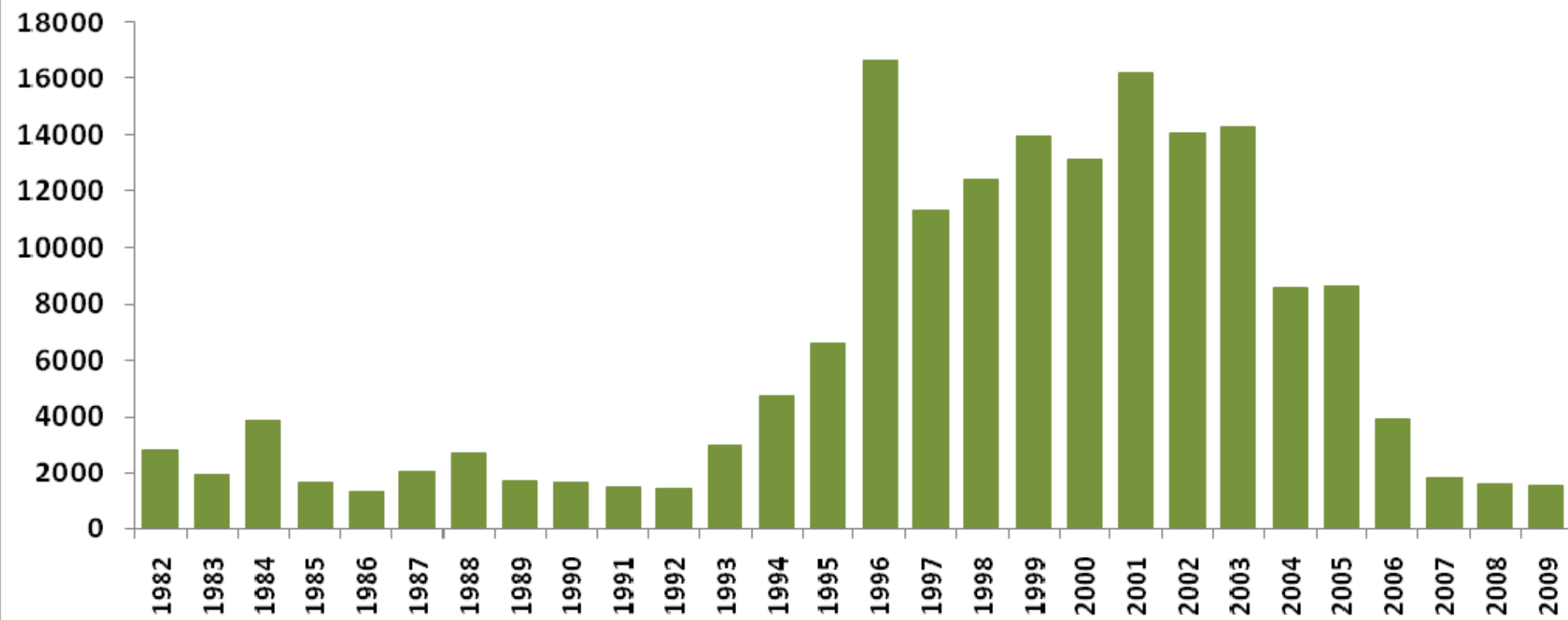
# Monitoring efficacy

- In vivo study every 3 years
- Multiple sites/countries
- In vitro studies
- Molecular studies

# Malaria epidemiology Suriname

- Number of *P. falciparum* cases diagnosed in Paramaribo in recent years
- Location of diagnosis
- Conclusion: Tourtonnelab is the place to be

# Decreasing incidence of malaria in Suriname



# Location of malaria diagnosis 2011

- Tourtonne-lab (gold miners) 646 (81.1 %)
- AMC and hospitals 82 (10,3 %)
- Medical Mission 68 (8,5 %)
- Total 796

# Challenges

- Almost exclusively goldminers (reliability issues)
- Almost exclusively Brazilians (language problems)
- Almost exclusively short stayers

# Study design

- Enrolment/ follow up according to RAVREDA protocol
- One week stay is OK (parasite clearance time as an endpoint)
- Enrolment by bilingual staff (Portuguese /Dutch)
- 7x24 hour assignment of a Brazilian interpreter
- 28 days follow up when possible
- Daily slides until parasite clearance + 1 day

# Results

- Jitan's data sheet
- Info about positive cases at tourtonnelab from april 1 to october 15
- Ask Jitan about distribution of population (Suriname/F. Guyana)



# Results

- Enrolment from April 13 to October 13 2011
- 94 cases of *P. falciparum* malaria diagnosed in this period at the Tourtonne laboratory
- 67 patients enrolled (vast majority working in French Guyana)

# Results

- 9 patients were excluded (protocol violations)
- 6 patients were lost to follow up before parasite clearance
- 41 patients were followed at least until parasite clearance (comparison of PCT to 2003 study pending)
- 11 patients were followed until day 28 (no treatment failures)

# Conclusion

- Number of cases that completed 28 days follow up is too small to draw conclusions on efficacy
- PCT may be a tool for future assessment of emerging resistance
- Data represent mainly the situation in French Guyana

# Questions

- Assessing emerging artemisinin resistance with PCT using monotherapy (7 days)?
- Is resistance surveillance of Transborder malaria relevant for Suriname?

# Possible differences between parasite strains Suriname/F. Guyana

- Because of virtual absence of legal antimalarials in French mining fields, probably high use of counterfeit medication, i.e. artecom

# Possible differences between parasite strains Suriname/F. Guyana

- Quality assessment (minilab) of artecom in Suriname has so far not shown inadequacies, except for the appropriateness of primaquine (quantity and quality)

# Possible differences between parasite strains Suriname/F. Guyana

- However:
- Goldminers do not tend to complete their counterfeit treatment schedule due to the high expense!
- Is this a threat for emerging resistance?

# Way forward

- All samples from Tourtonnelab are stored at the genebank, as well as samples from 2003.
- Whenever markers for artemisinin resistance become available, current samples can be compared to 2003: resistance mutations are most likely to appear first in gold miners.



# Way forward

- In vitro testing of resistance is currently the most viable option for surveillance of resistance in Suriname.
- Monitoring of emerging resistance in (import) malaria using PCT needs to be considered.



Muchas Gracias