

Status of MALARIA CONTROL in Malaysia

by

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June 2004

Scope of Presentation

- Current Status of malaria in Malaysia
- Areas of Concern
 - Sarawak
 - Sabah
 - Pahang
- Drug Resistance Study
- Future Interventions
- Conclusion

INTERVENTIONAL MILESTONES IN MALARIA CONTROL

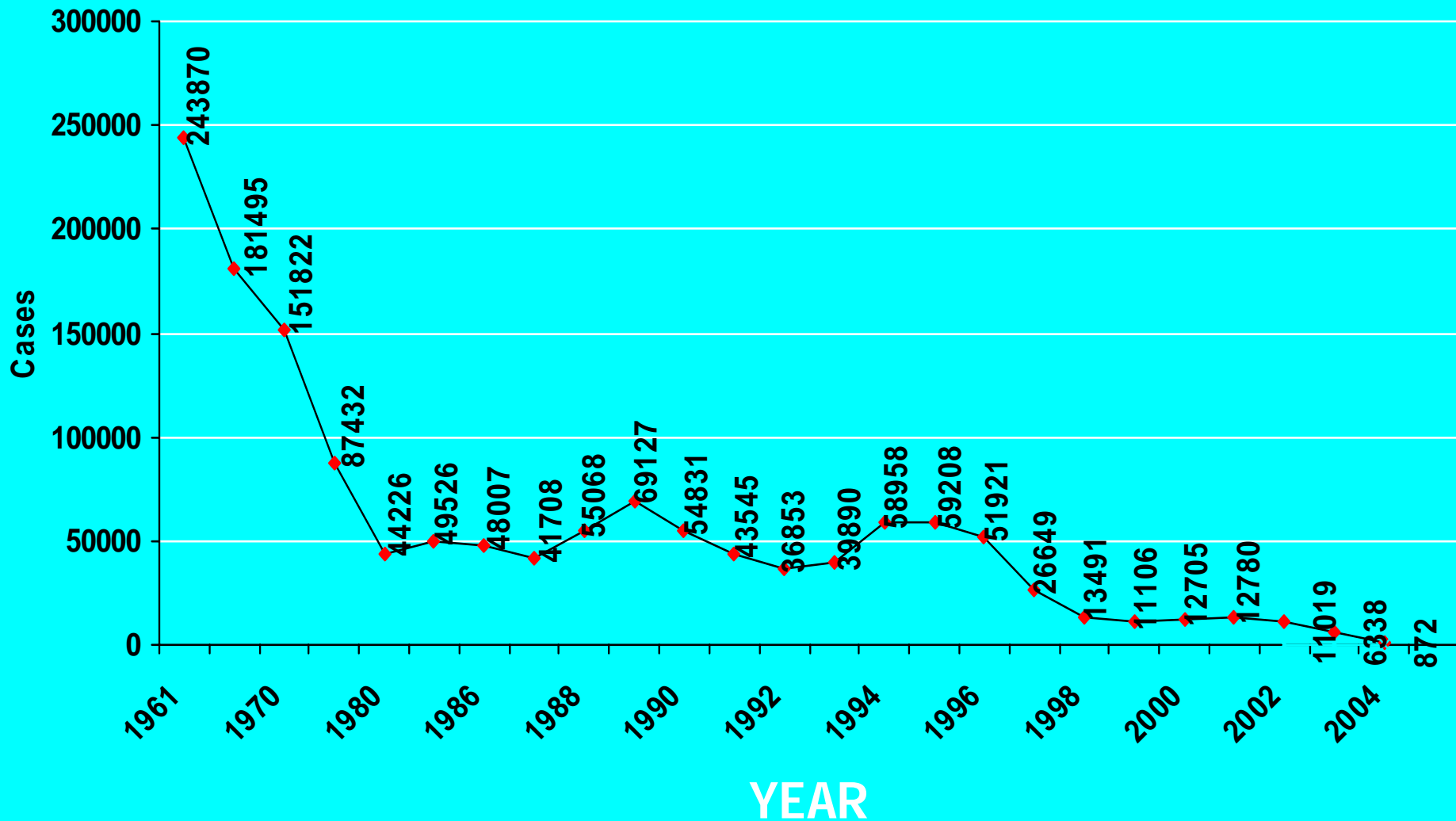
2002

Increase bednets coverage and strengthen malaria surveillance in Sarawak, Pahang and Sabah,

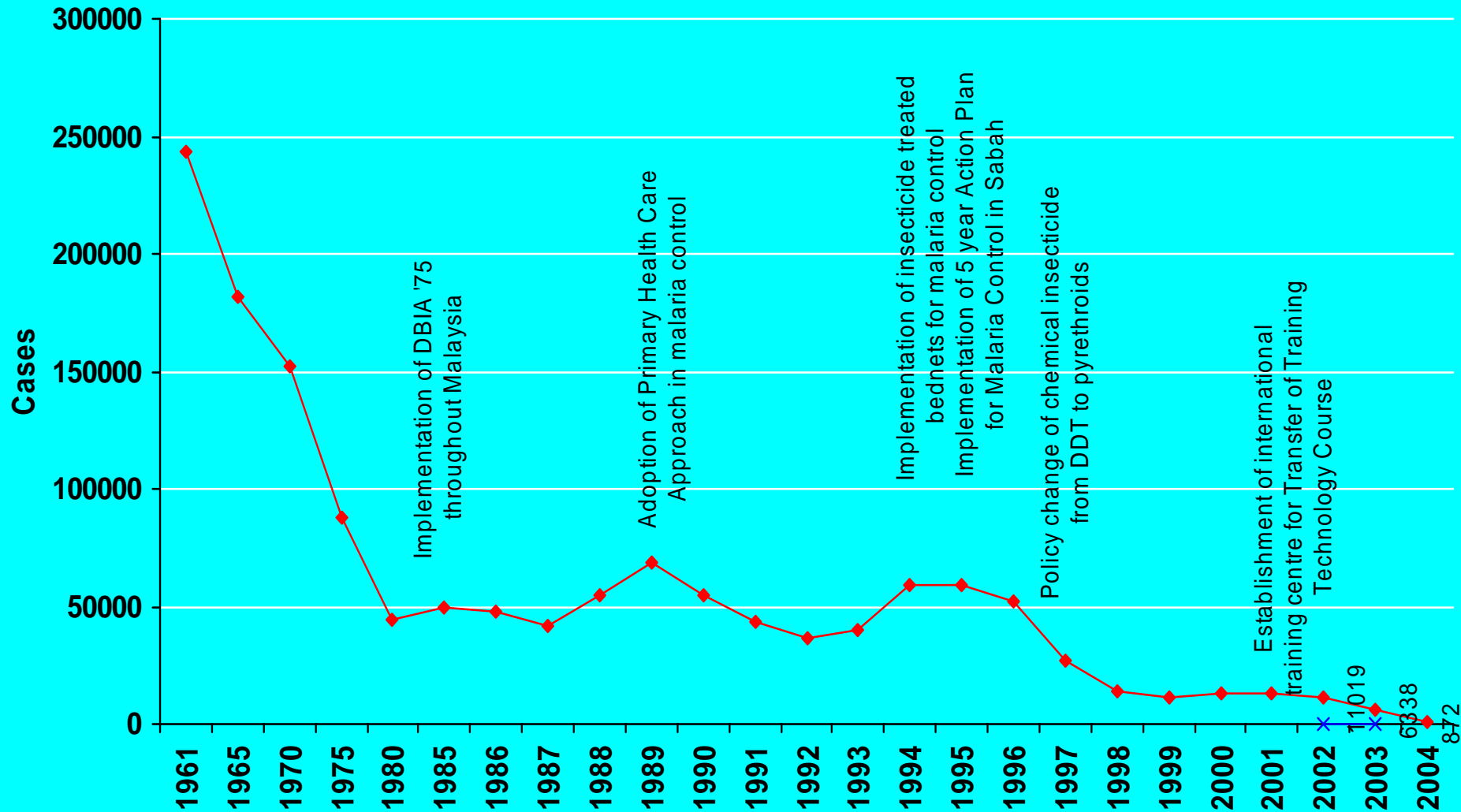
2003

- Intensify case detection and vector control in Orang Asli areas,
- Intensify malaria surveillance in urban areas and malaria prone areas,

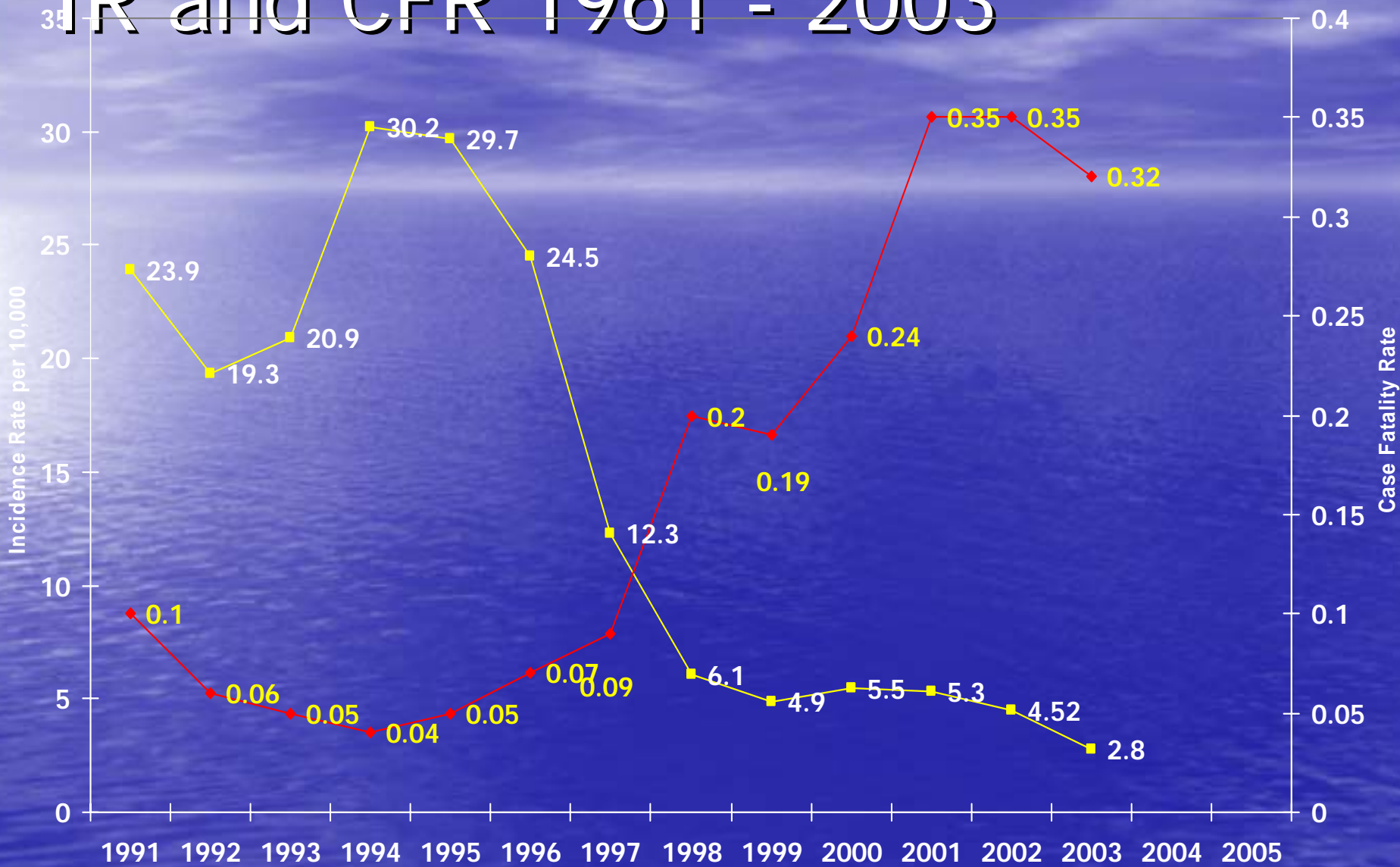
Malaria Burden in Malaysia 1961-2003



IMPACT OF INTERVENTIONS IN MALARIA CONTROL FROM 1961 - 2003

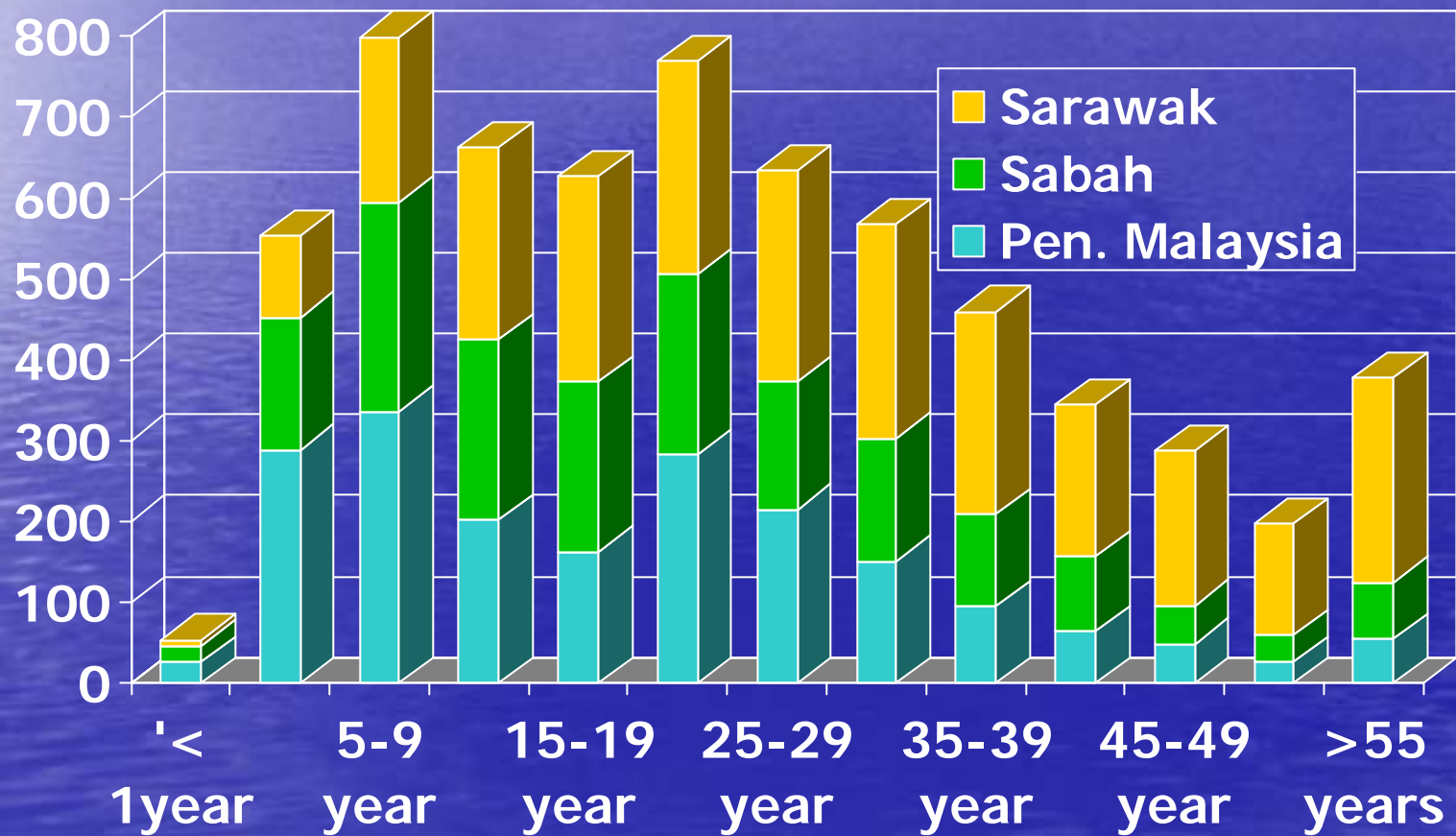


IR and CFR 1961 - 2003



■ I.R. ◆ C.F.R.

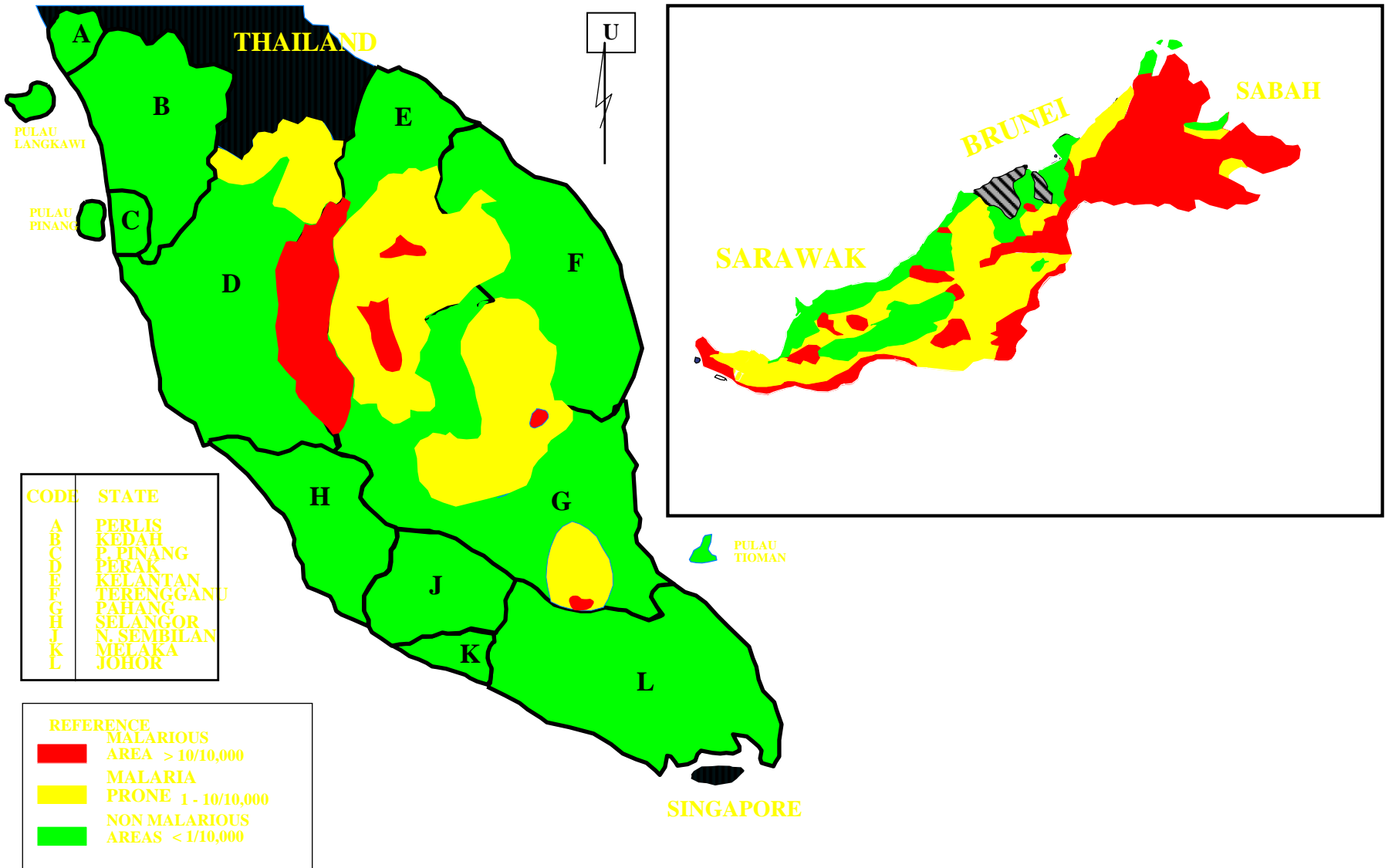
Malaria Cases by Age Group, 2003



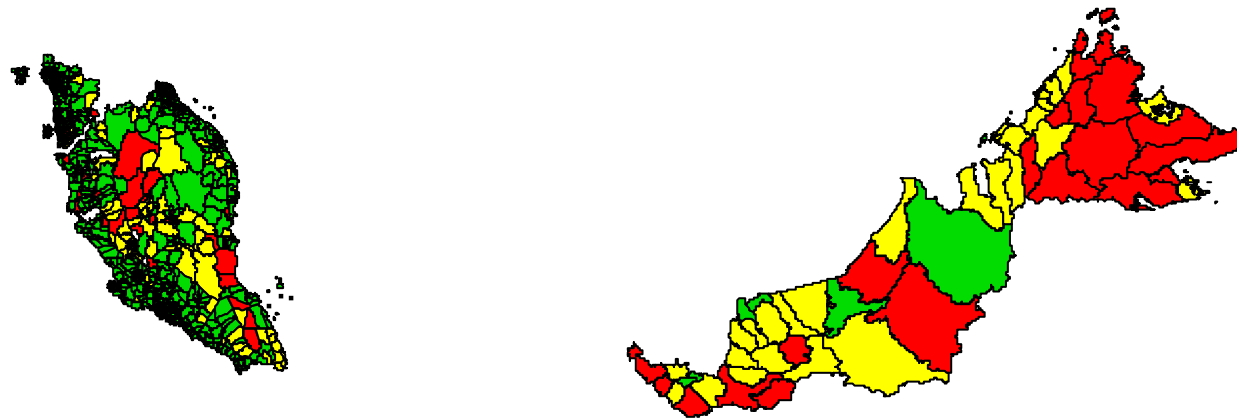
CRITERIA FOR MALARIA STRATIFICATIONS

- No indigenous cases within 3 years
- Annual Parasite Incidence (API) less than 0.1/1000
- Annual Blood Examination Rate (ABER) more than 10%
- Absence of malaria vectors
- Matured surveillance system
- Availability and accessibility of Health Clinics

MAP OF MALARIA STRATIFIED AREAS IN MALAYSIA 2001



MALARIA STATIFICATION AREA 2003



Malarious Area (>10 Kes/10,000 penduduk)

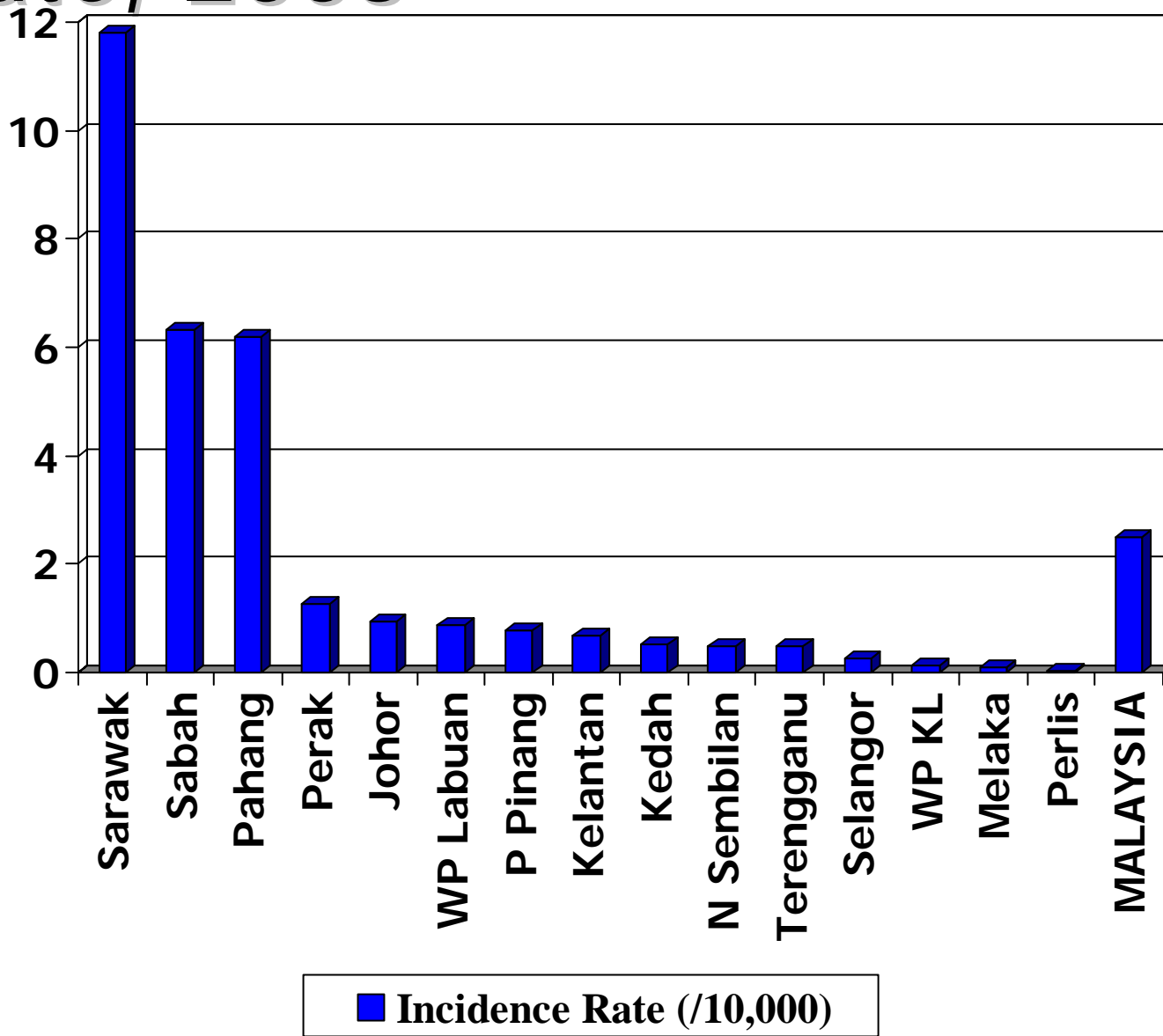


Malaria Prone (1-10 kes/10,000 penduduk)

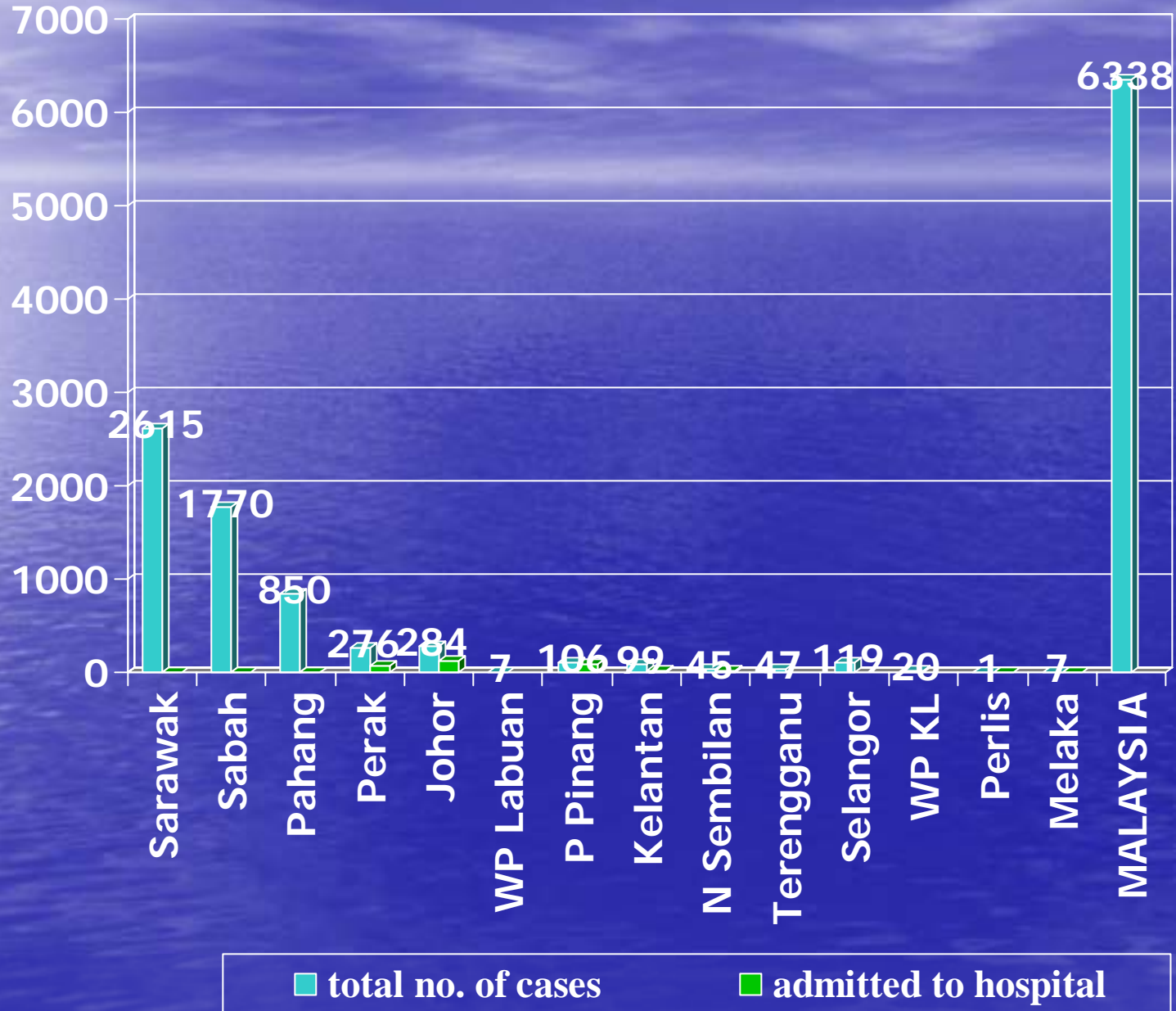


Malaria Free (<1 kes/10,000 penduduk)

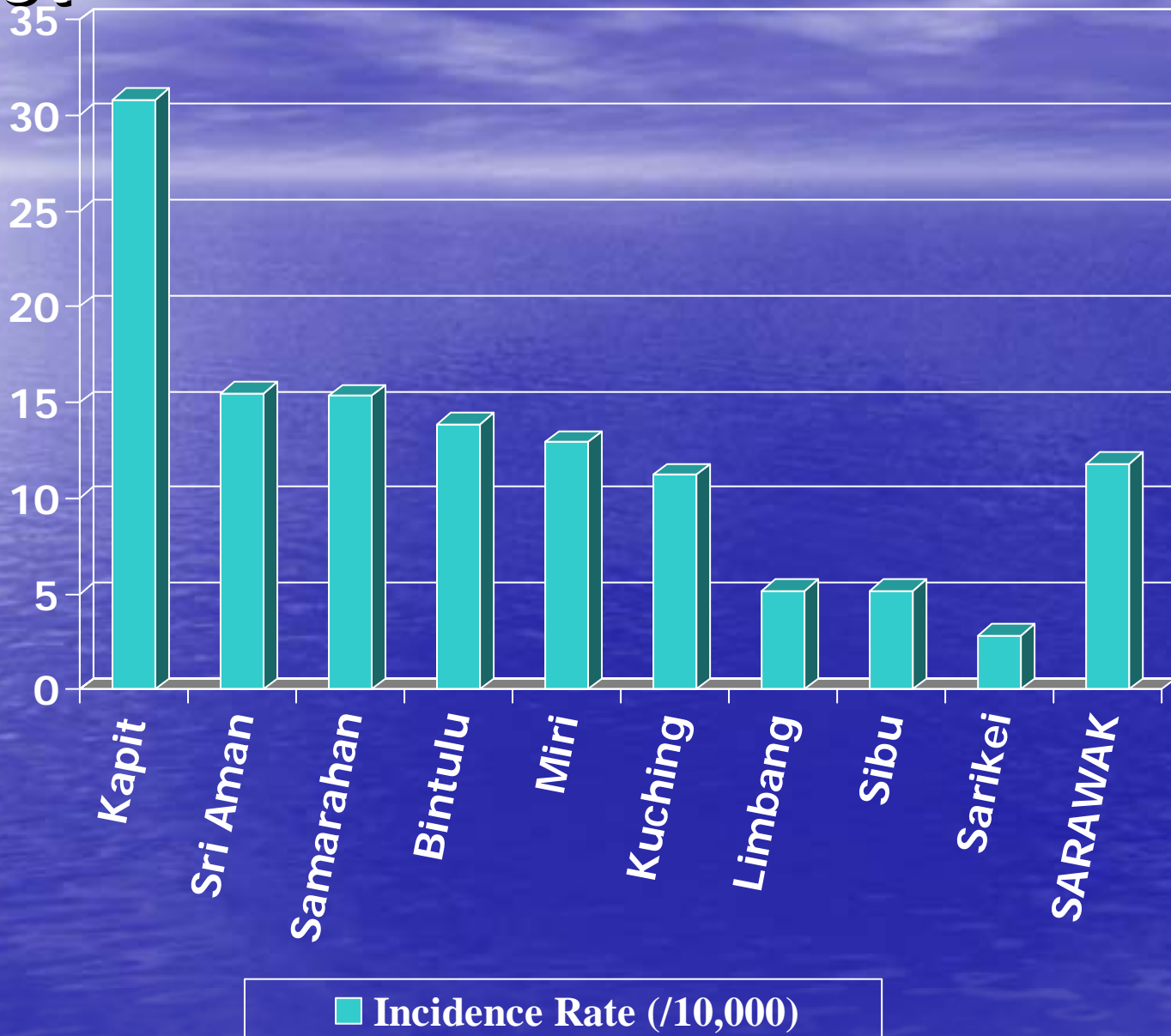
Incidence Rate/10,000 by State, 2003



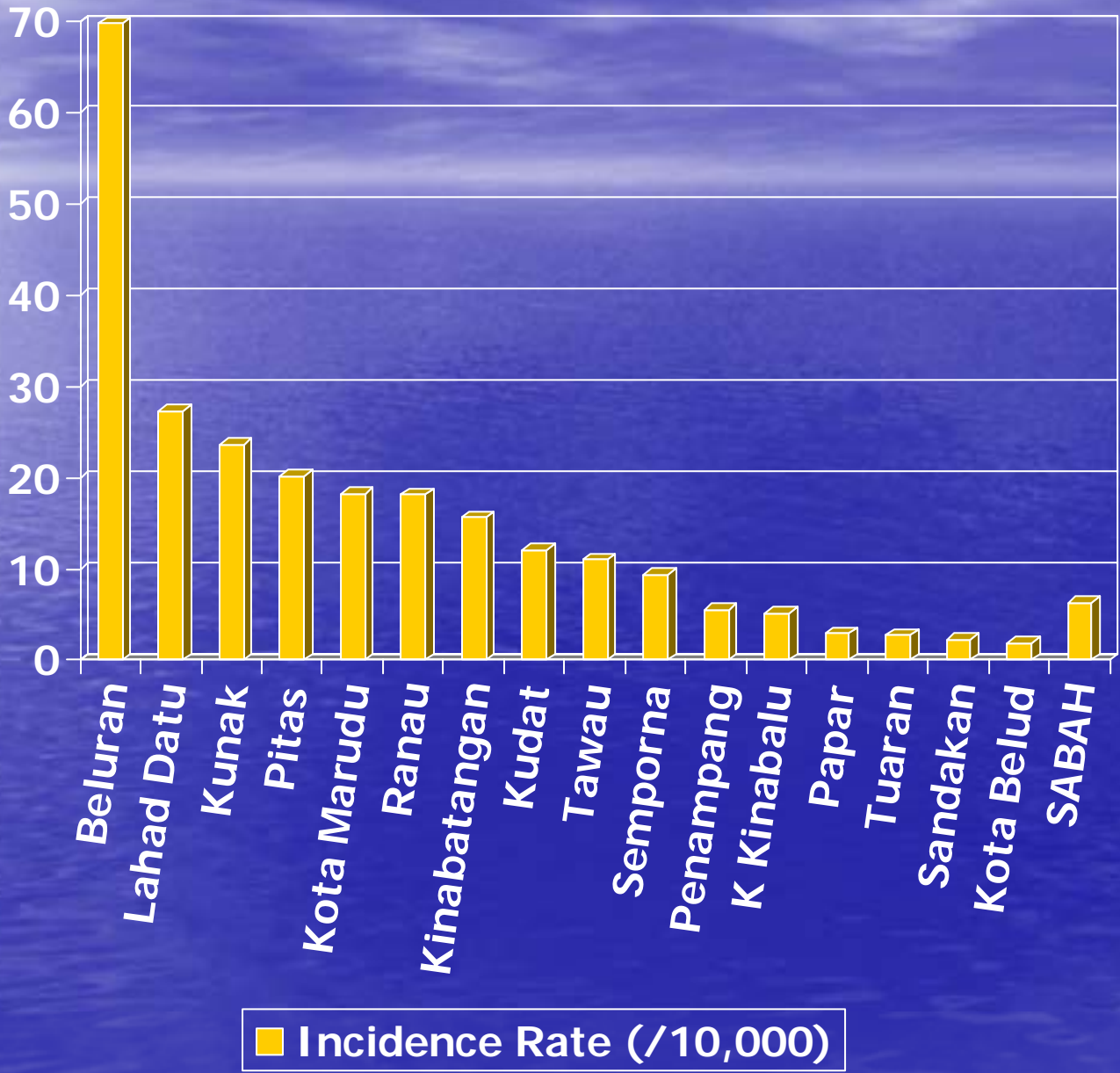
Malaria cases admitted to hospital 2003



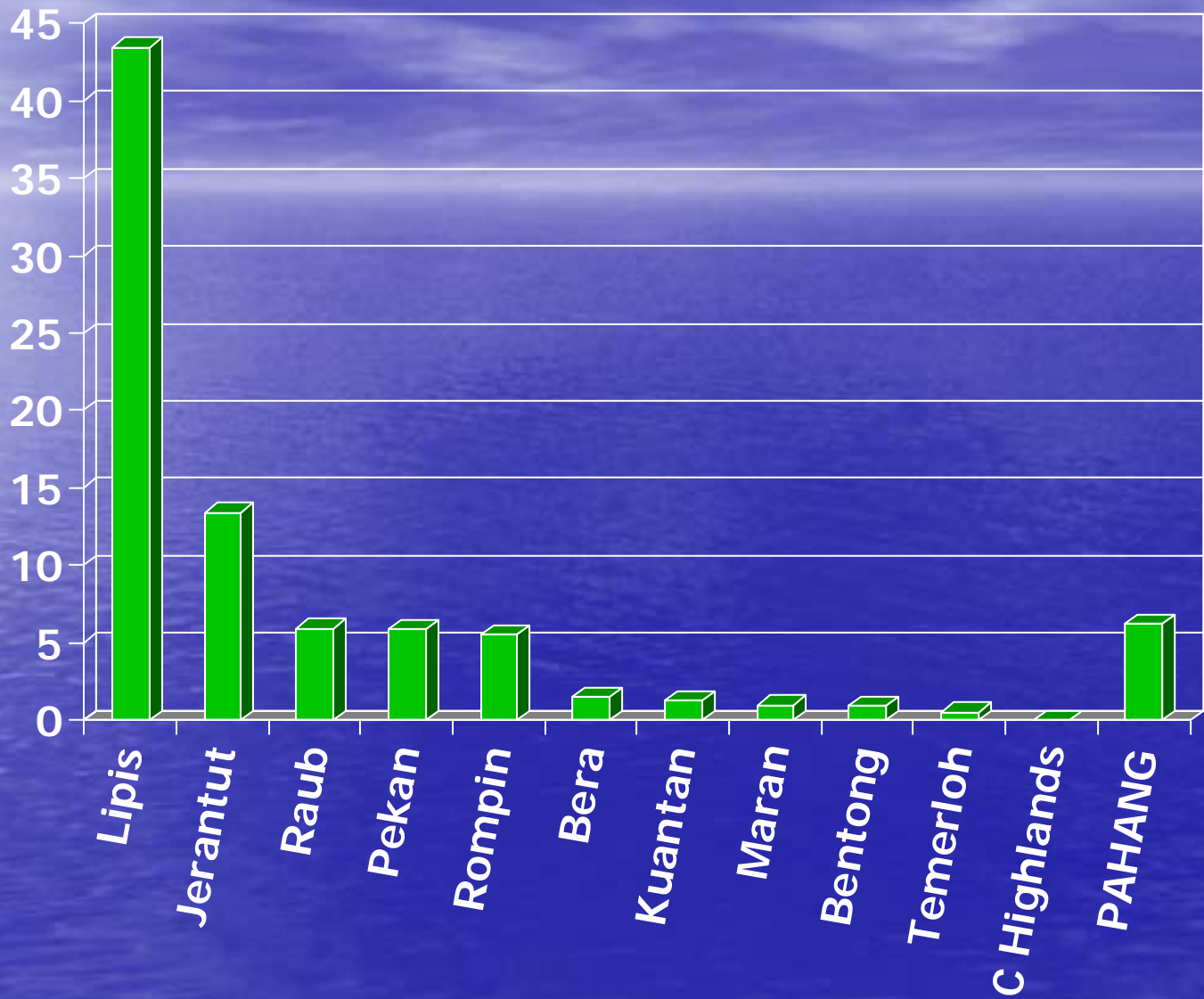
Incidence Rate In Sarawak by District



Incidence Rate in Sabah by District

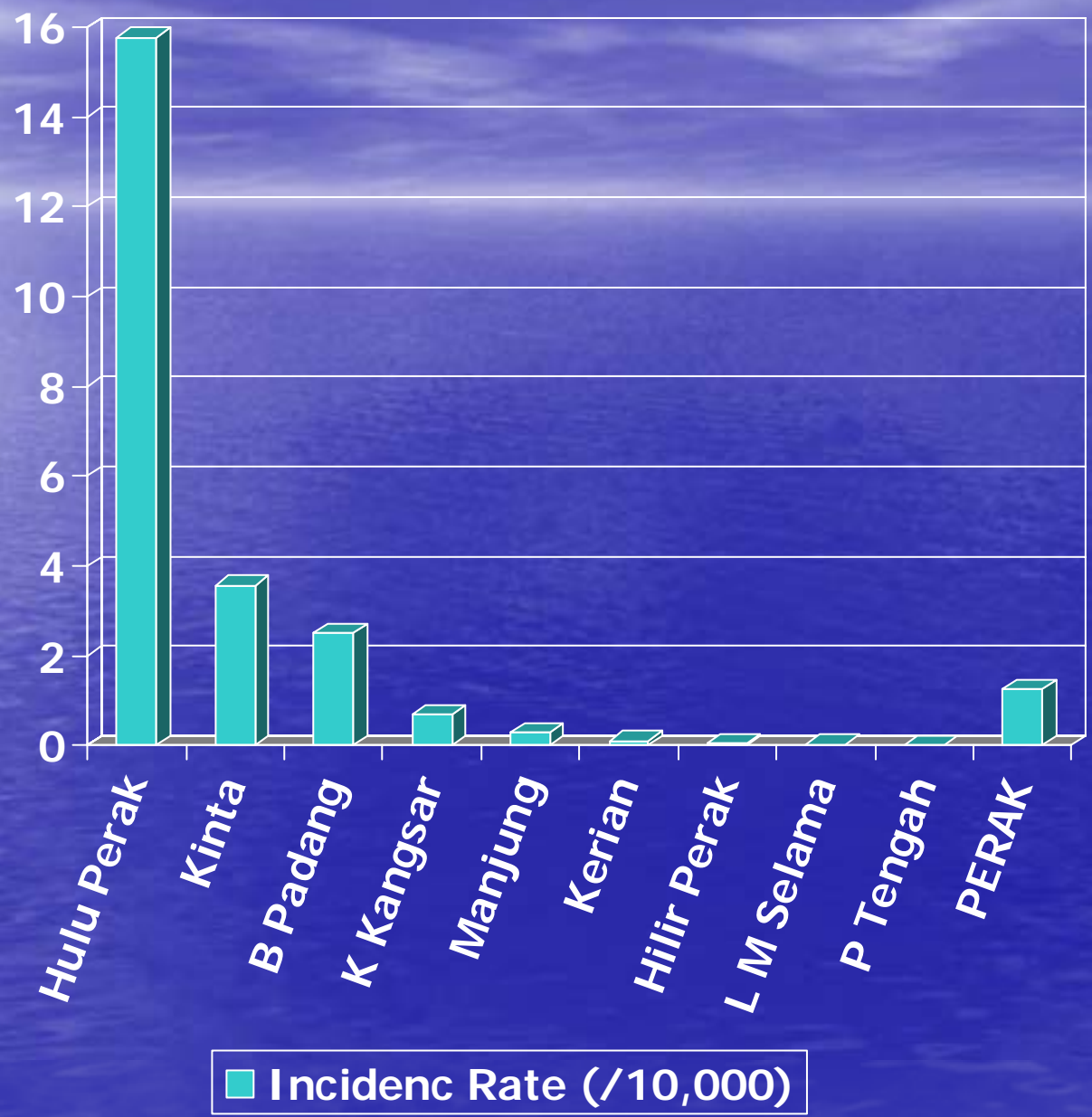


Incidence Rate in Pahang by District



■ Incidence Rate (/10,000)

Incidence Rate in Perak by District



Issues in malaria control

- Geographical inaccessibility
 - Delay in diagnosis and treatment
 - Delay in follow-up
 - Increased transmission
- Mobile populations
 - Orang Asli, ethnic groups
- Immigrants from endemic countries
 - Re-emergence of malaria in previously free areas
- Rapid turn-over and retirement of malaria workers
 - Loss of skill, knowledge

Strategies in malaria control

- Extended detection and treatment of malaria in remote areas in Sabah
 - Subsector offices
- Integration of control operations
 - Border states of Malaria Triangle in Orang Asli areas
- Active surveillance of foreign workers and outbreak control
- Vector control
 - IRS and ITN
- Community involvement
- Capacity building
 - MMFO, microscopy
- Area prioritisation
 - Sarawak Sabah Pahang

National Anti-malarial Drug Response Surveillance Programme

- Started from January 2003
- Rationale
 - First line anti-aseexual have been used since 1960's (CHL) and since late 1970's (SP)
 - Effective first line anti-malarials are important for clinical cure (prevention of complication and death) and effective control (source reduction)
 - To gather representative data from the whole country to monitor the situation of resistance and to confirm the expected trend of increasing drug resistance.

18 sentinel sites in 7 endemic states

State	No. of sites	Sites
Kedah	2	Kulim, Baling
Kelantan	1	Gua Musang
Pahang	4	Raub, Lipis, Jerantut, Muadzam
Perak	2	Tapah, Gerik
Terengganu	1	Kemaman
Sarawak	2	Sri Aman, Serian, Lundu
Sabah	4	Telupid, Kota Marudu, Banggi, Pitas

Criteria for inclusion

- Asexual *P. falciparum* mono-infection
- Non-severe
 - (severe defined as
 - Requiring quinine treatment
 - Requiring referral)
- Started on first line drugs:
 - CHL (+ PRI) : Sarawak
 - SP (+ PRI) : Sabah
 - CHL + SP (+ PRI) : Peninsular Malaysia

Sentinel sites to submit, on monthly basis:

- The report on:
 - Cases completing 28-day follow up
 - Failure of follow up to D28
 - Conversion to 2nd line drugs treatment or referral

Definition

Valid	Recruited patient conforms to inclusion / exclusion criteria
In-valid	Recruited patient not conforming to criteria / not given appropriate drugs and dosage
Sensitive	Adequate drug response (Complete clearance of asexual stages until D28)
Resistant	Persistent or reappearance of asexual parasitemia before D28, or referred, or changed to quinine treatment, or clinical deterioration
Early treatment failure	Persistent or reappearance of asexual parasitemia before D7
Late treatment failure	Persistent or reappearance of asexual parasitemia after D7
Inconclusive	Valid cases recruited, responding to initial treatment, but lost to follow up

Summary of response by drugs at D28

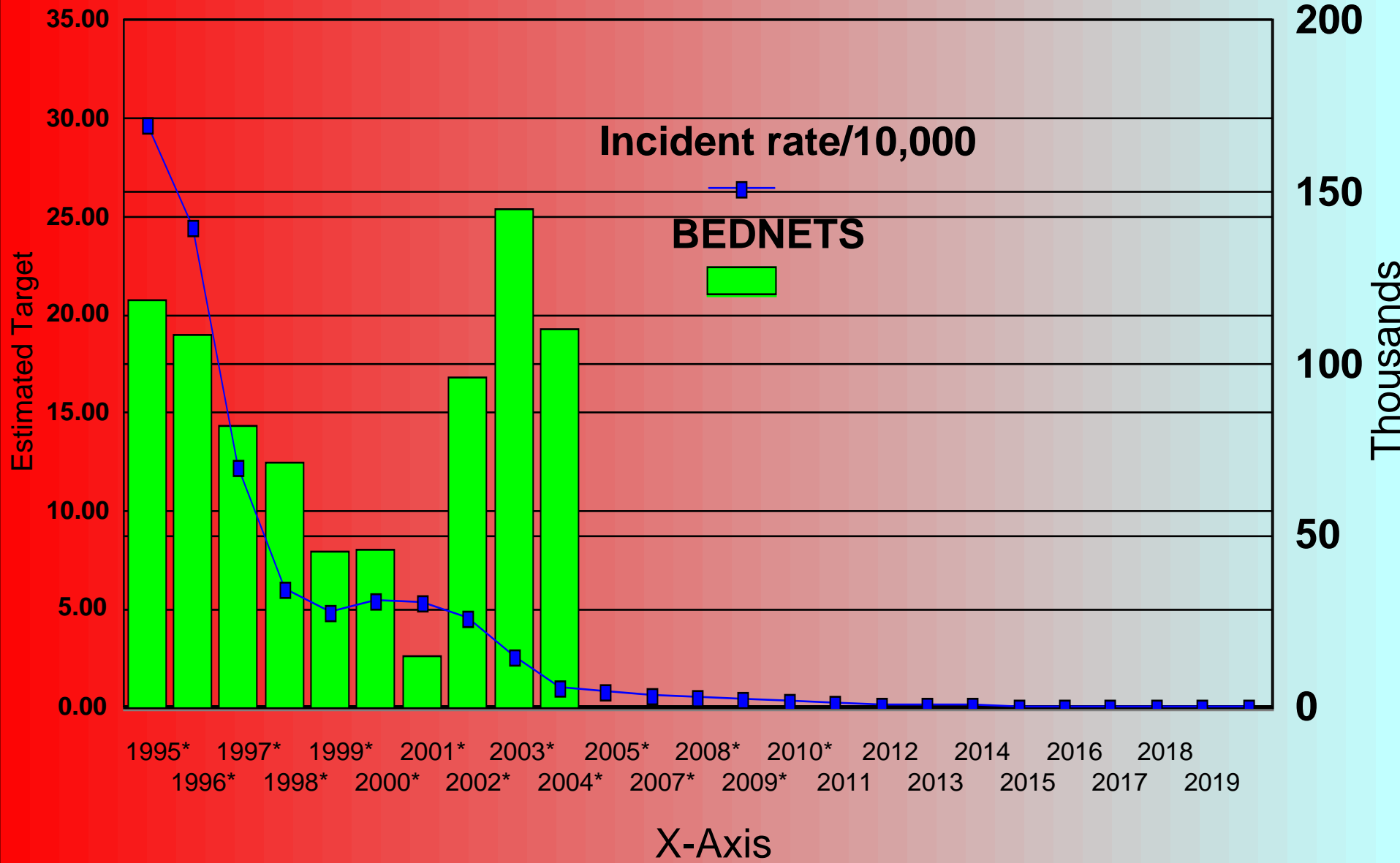
Drug	Valid cases	Completed D28	Incomplete (%)	Adeq. Response (%)	Early failure (%)	Late failure (%)	Total failure (%)
CHL	93	73	20 (20.4)	40 (54.8)	18 (24.7)	15 (20.5)	32 (45.2)
SP	52	12	40 (76.9)	10 (83.3)	1 (8.3)	1 (8.3)	2 (16.7)
CHL + SP	164	112	52 (31.7)	77 (68.8)	16 (14.3)	19 (17.0)	35 (31.3)
Total	309	197	112 (36.2)	127 (64.5)	35 (17.8)	35 (17.8)	70 (35.5)

Future Interventions (2004)

- Improving of bed nets coverage among Orang Asli in Peninsular Malaysia.
- Improving coverage in the interior of Peninsular Malaysia
- Drug Policy Change
- Improving of Coverage of bed nets in Sarawak
- Special projects carried under National MMFO in 2003-4 projects implemented and continuous monitoring-twice/year
- Online surveillance of malaria activities
- Increase professional capacity and surveillance capability in malaria control

2004/2005 -3rd National MMFO

Projected Target for Malaria Control in Malaysia, 2003-2020



THANK YOU