



Continuing Dilemmas in Endemic Infections – Malaria

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Dilemmas



1. Diagnosis
2. Case management
3. Prophylaxis
4. Accessing anti-malarial drugs



What role do rapid diagnostic tests have in malaria?

#1 - MALARIA DIAGNOSIS

DETECTION LEVELS OF DIAGNOSTIC METHODS

Method	Parasites per ul
Rapid diagnostic tests 	100-200/ul
Thick and thin blood film microscopy 	50/ul
Small volume PCR	1
Large volume PCR	<1

Role of malaria RDTs

- Used to diagnose malaria in areas/facilities where good quality malaria microscopy is not available.



- Should be performed and interpreted by trained people.
- Has limitations in malaria diagnosis (patency limit and sensitivity)
- Procure from reliable sources
(<http://www.who.int/malaria/publications/rdt/en/>)



Case from Antipolo – treatment any different from case from another area?

Role of quinine.

#2 - CASE MANAGEMENT



Treatment regimen for uncomplicated falciparum malaria

Day 0 – 2 Artemether (20mg)/ lumefantrine (120 mg)	34 kg	25 to 34 kg	15 to 24 kg	5 to 14 kg		
Day 0	4 tabs	3 tabs	2 tabs	1 tab		
8 hrs later	4 tabs	3 tabs	2 tabs	1 tab		
Day 1	4 tabs BID	3 tabs BID	2 tabs BID	1 tab BID		
Day 2	4 tabs BID	3 tabs BID	2 tabs BID	1 tab BID		
Day 3 – Primaquine (26.3 mg or 15 mg base tablet; 0.75mg/ kg single dose)	Adults	Above 12 years	7 to 11 years old	4 to 6 years old	1 to 3 years old	Below 1 year
	3 tabs	3 tabs	2 tabs	1 tab	½ tab	Contra- indicated





Alternative drugs to artemisinin combined therapy (ACT) for *P. falciparum* malaria

Uncomplicated

- Higher ACT doses
- Longer ACT courses
- Alternative drugs
 1. Oral quinine-doxycycline combination
 2. Fosmidomycin + clindamycin (Phase III trials)
 3. Ozonide OZ439 (Phase II trials)
 4. Spiroindolones – (KAE609 PI)

Severe

- Parenteral artesunate and quinine





Treatment regimen for uncomplicated vivax malaria

Day of treatment	Drug	Dose (no. of tablets)													
		Adult	Children												
0 and 1	Chloroquine 150 mg base tablet; 10 mg/kg/day	Four tablets once a day for Days 0 and 1	<table><tr><td>0-11 mos</td><td>½</td></tr><tr><td>1-3 years</td><td>1</td></tr><tr><td>4-6 years</td><td>1 ½</td></tr><tr><td>7-11 years</td><td>2</td></tr><tr><td>12-15 years</td><td>3</td></tr><tr><td>>16 years</td><td>4</td></tr></table>	0-11 mos	½	1-3 years	1	4-6 years	1 ½	7-11 years	2	12-15 years	3	>16 years	4
0-11 mos	½														
1-3 years	1														
4-6 years	1 ½														
7-11 years	2														
12-15 years	3														
>16 years	4														
2	Chloroquine 150 mg base tablet; 5 mg/kg	Two tablets	Half the above dose per age group												
3 to 17	Primaquine 15 mg base tablet; 0.25 mg/kg/day	One tablet each day	<table><tr><td>Below 1 year</td><td>Contra- indicated</td></tr><tr><td>1-3 years</td><td>1/3</td></tr><tr><td>4-6 years</td><td>½</td></tr><tr><td>7-11 years</td><td>¾</td></tr><tr><td>> 12 years</td><td>1</td></tr></table>	Below 1 year	Contra- indicated	1-3 years	1/3	4-6 years	½	7-11 years	¾	> 12 years	1		
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> 12 years	1														

- In mild-to-moderate G6PD deficiency, primaquine 0.75 mg base/kg body weight given once a week for 8 weeks.
- In severe G6PD deficiency, primaquine is contraindicated and should not be used.



Malaria case management

1. Case from Antipolo vs. case from Palawan?

- ✓ Species
- ✓ Response to treatment
- Geographical location?

1. What is the role of IV quinine? Oral quinine?

- Objectives of treatment of severe malaria:
 - a. Prevent worsening of the condition; and
 - b. Maintain and sustain gains.



What drug is given to children visiting sites in Palawan (e.g. PPC, Coron and others)? How is it administered?

What other places in the Philippines require malaria prophylaxis?

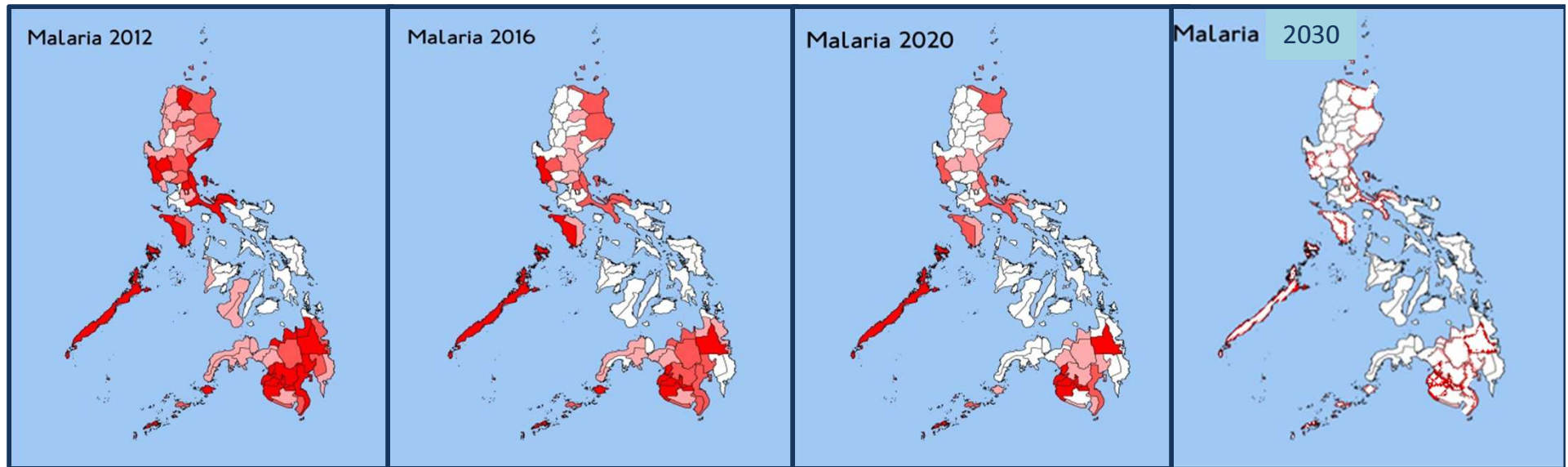
#3 - MALARIA PROPHYLAXIS

Chemoprophylaxis



Drug	Adult dose	Pediatric dose
<p>Doxycycline tablet (100 mg); start two to three days prior to travel; continue up to four weeks upon leaving the area.</p> <p>Mefloquine tablet (250 mg base); start one week before travel; continue weekly up to four weeks after leaving the area.</p>	<p>100 mg daily (contraindicated in pregnant and lactating women)</p> <p>250 mg weekly</p>	<p>2 mg/kg up to 100 mg daily (not recommended for seven years and younger)</p> <p>5mg/kg BW; max 250 mg 45 kg = 250 mg or 1 tab >30-45 kg = ¾ tab >19-30 kg = ½ tab >9-19 kg = ¼ tab < 9 kg = 4.6 (base) or 5 mg salt)</p>

Shrinking Philippine malaria map



Year	Population	Cases	Incidence /10 ⁵ pop'n	Deaths
2007	88,706,000	36,235	40.85	73
2014	100,008,667	4,461	4.461	4
2030	?	0	0	0

Slide modified from Dr. M. Baquilod, Malaria Program, DoH



Municipality	2014	2015
ABORLAN	87	168
ARACELI	0	0
BALABAC	191	209
BATARAZA	601	1520
BROOKE'S POINT	455	1245
BUSUANGA	0	0
CORON	1	0
CULION	0	0
DUMARAN	3	4
EL NIDO (BACUIT)	1	2
LINAPACAN	0	0
NARRA	67	109
PUERTO PRINCESA CITY (Capital)	190	357
QUEZON	413	339
RIZAL (MARCOS)	1274	2691
ROXAS	40	19
SAN VICENTE	11	6
SOFRONIO ESPAÑOLA	264	319
TAYTAY	10	8
Grand Total	3608	6996

Source:
Provincial
Health Office,
Palawan, 2016



#4 - Anti-malaria drugs

- First-line drugs are for free
- These drugs are obtained only from government health facilities.
- Only patients with proof of malaria diagnosis and/or prescription are given anti-malaria drugs.



Questions?

THANK YOU!