

WORLDWIDE REACH. HUMAN TOUCH.



Malaria in 2015 – Myths & Realities

Presenter: Dr Andrew Ebringer, International SOS
AAMEG Member Seminar
November 2015

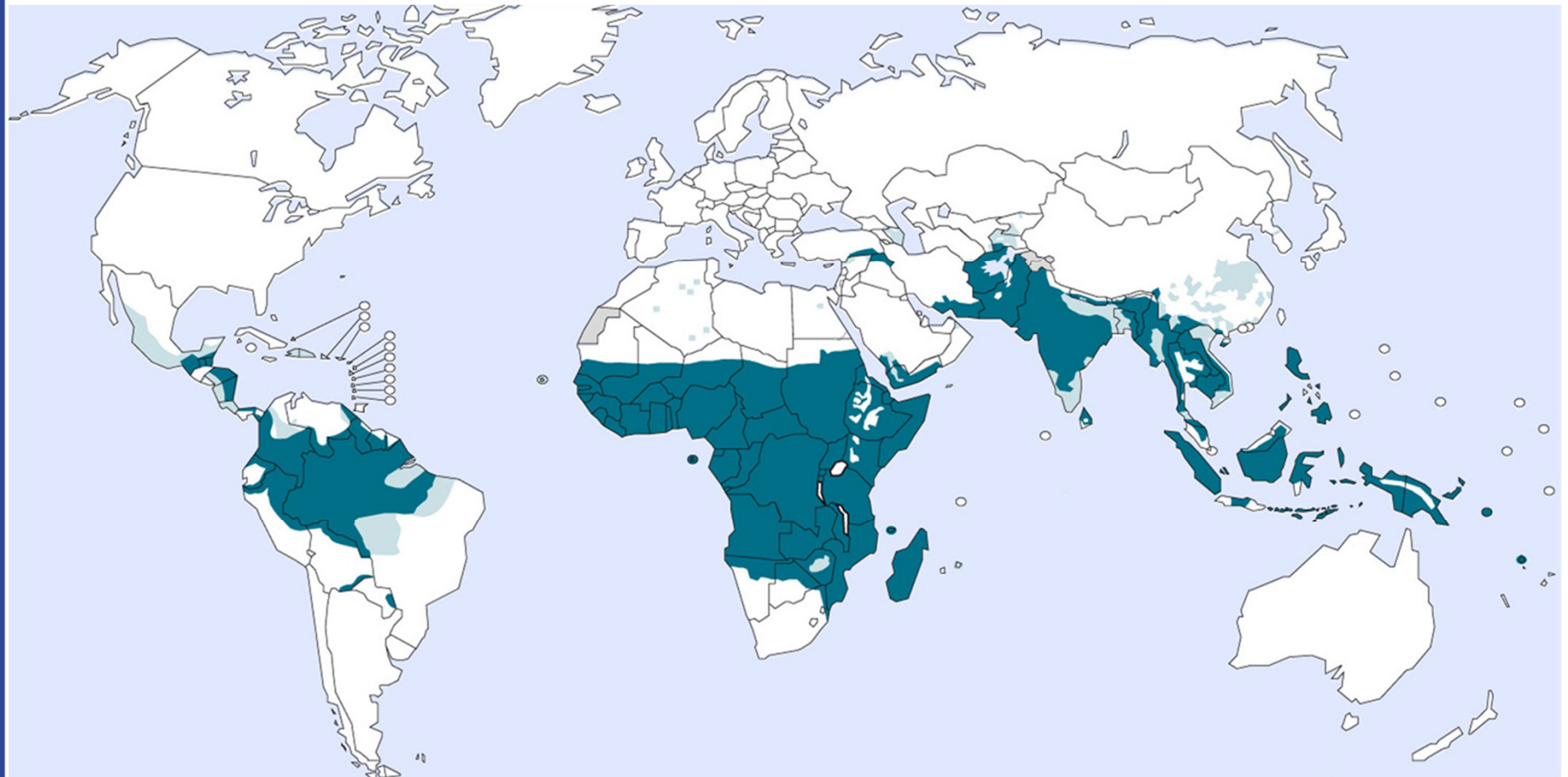
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Malaria 2015

Where is it?



Africa Health Risk Map 2015



Medical Care



Disease Risk



Food & Water Quality



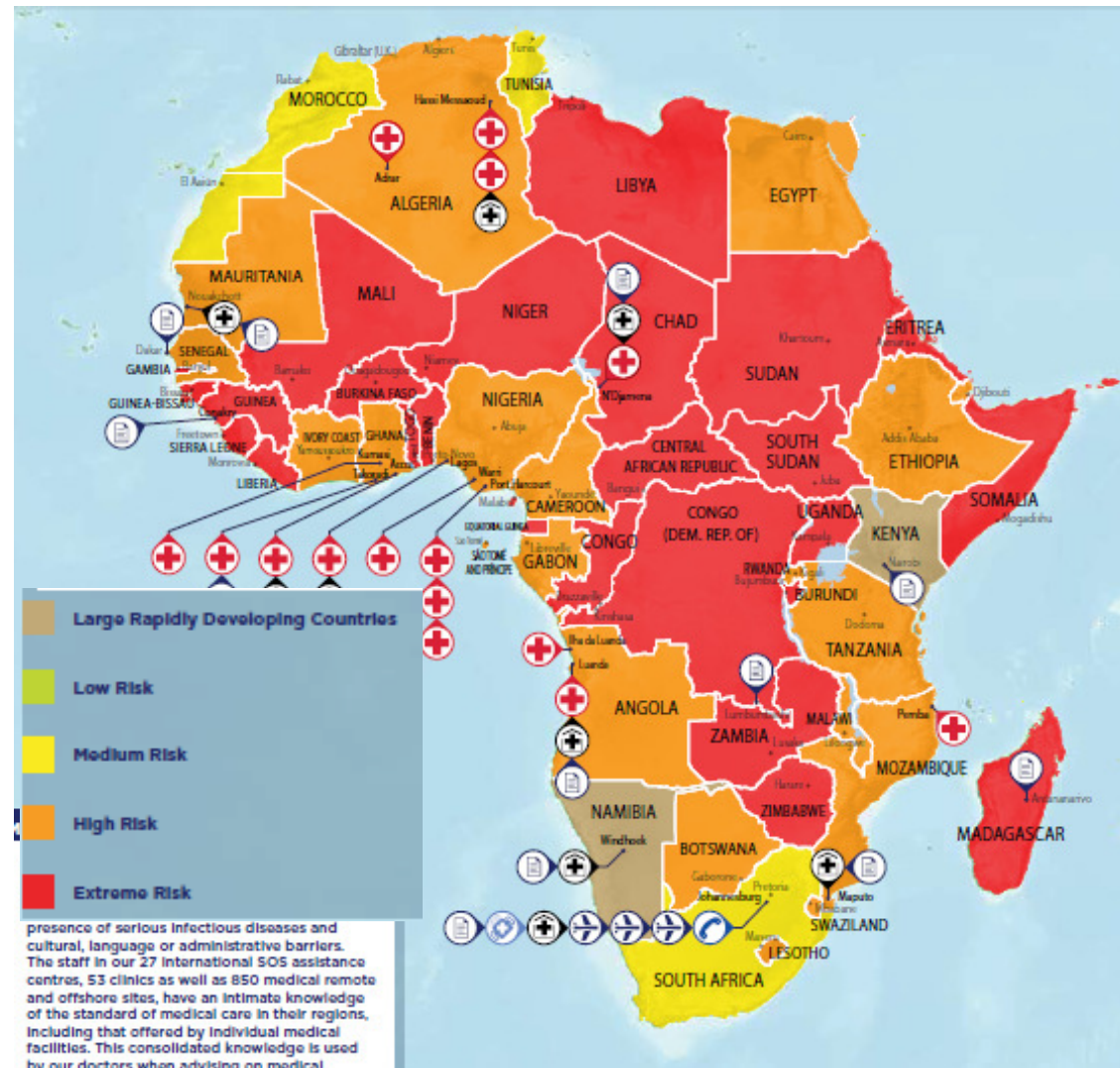
Risk of Malaria

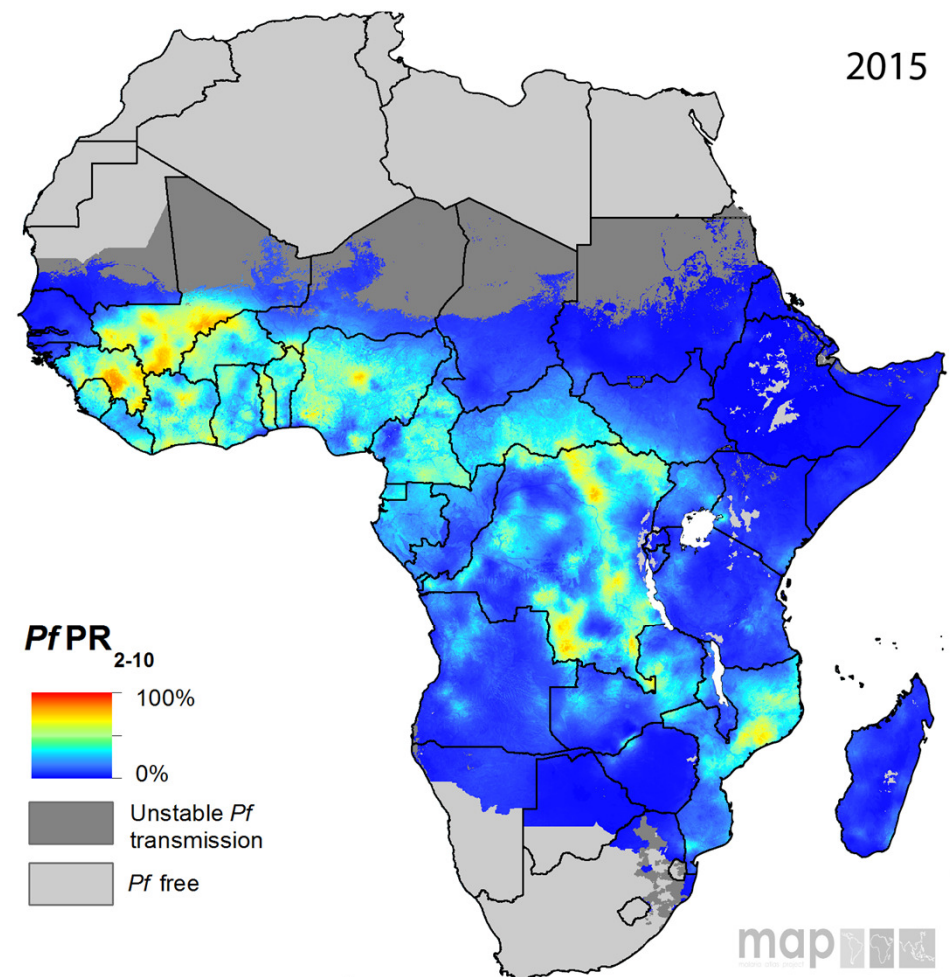
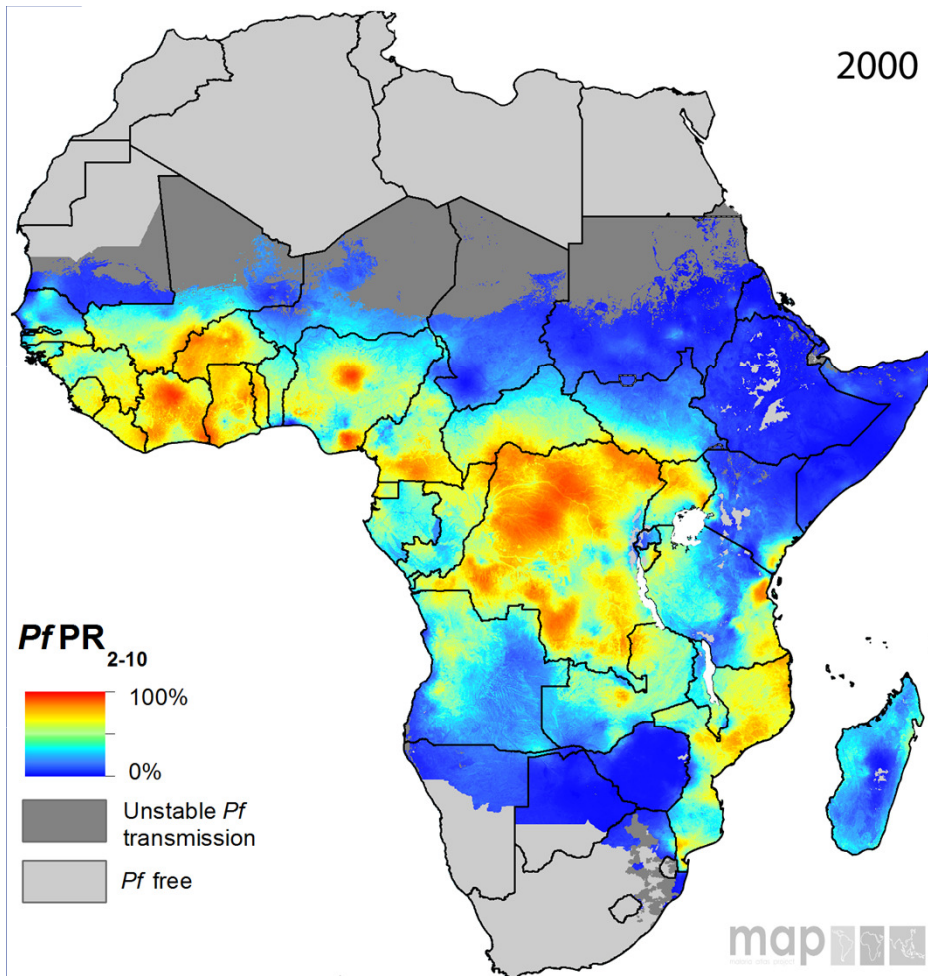


Risk of Rabies



Vaccinations





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MALARIA

Countries or Areas At Risk Of Transmission, 2014



*World Health Organisation, Facts Sheet No94, December 2014

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MALARIA

What Is The Risk?

Overall



Which



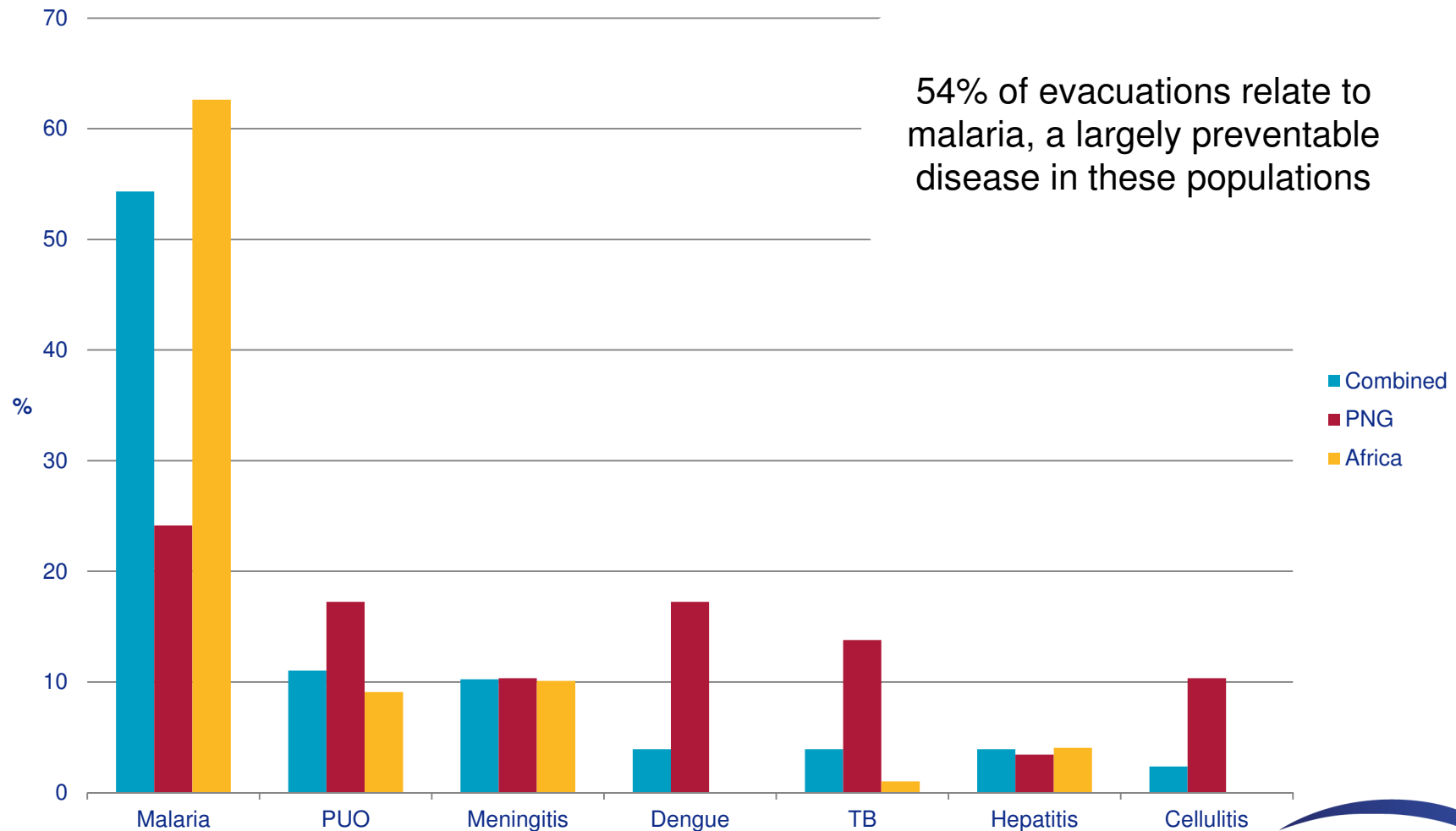
Delays to diagnosis and treatment may be life-threatening.

Malaria kills more expatriates worldwide than any other infectious disease. These deaths could have been prevented by:

- preventing mosquito bites.
- taking medications.
- early treatment if malaria is suspected.



Infective causes of air evacuation by International SOS



MALARIA

SYMPTOMS

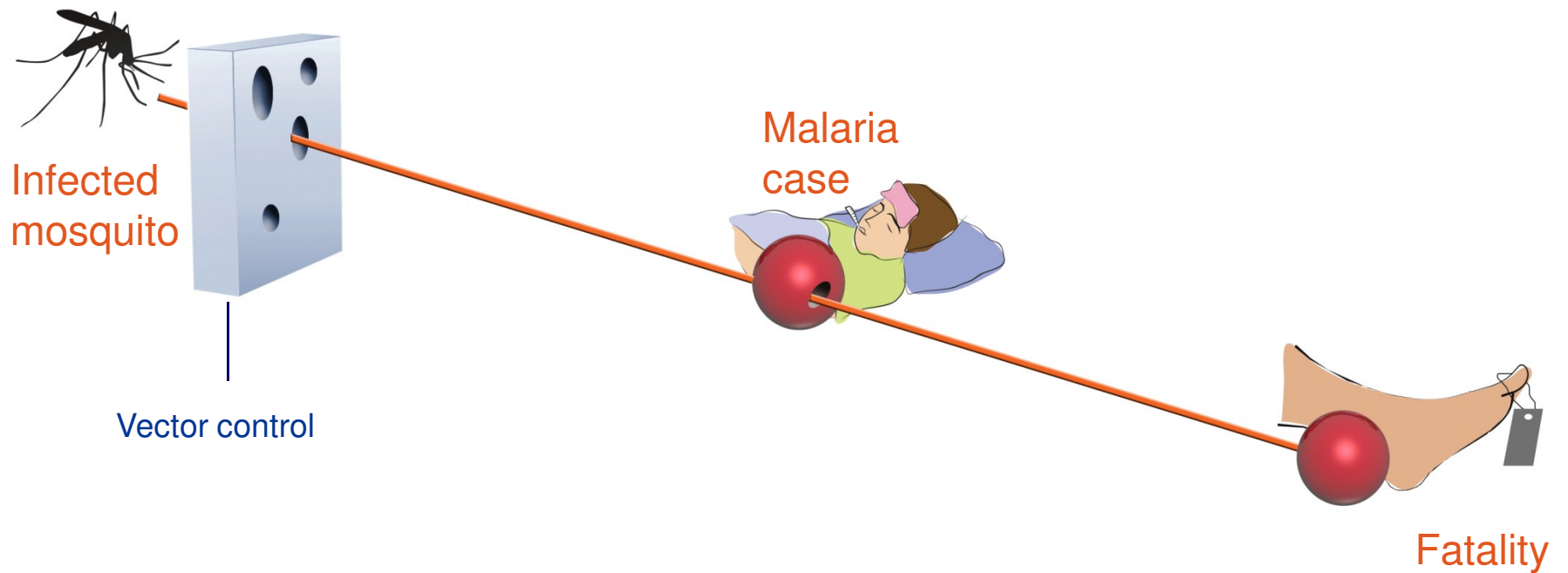
You can develop malaria:

- quickly – in a week.
- late – up to a year later



Malaria can also mimic the symptoms of another disease: i.e. gastro enteritis, influenza...

MALARIA PREVENTION



You can trust us

Malaria control programs from International SOS are some of the most advanced available, leveraging our vast network of multidisciplinary professionals and the resources of our global infrastructure. Our teams of medical and public health specialists have wide consulting, commercial and academic experience. In addition, several of them are leading international experts in their field. We can help you manage and control the threat of malaria to both your business and your employees - and all designed specifically with your organization and local context in mind.

Our expertise consists of in-house medical professionals such as:

- Medical entomologists / malariologists, who are experts on vector-borne diseases, lead the malaria and vector control surveys, and are responsible for developing survey protocols and all deliverables;
- Vector control specialists, who assist our medical entomologists / malariologist in surveys and in the development of integrated malaria and vector control management programs;
- Senior medical advisors, who provide advice and conduct peer reviews, including recommendation on malaria diagnosis, treatment and chemoprophylaxis.



Our comprehensive solution:

Defining your approach to malaria control

Risk management involves a clear definition of your company's standards, integrating them into the way you do business globally. To manage the complex issue of malaria, we can inform and assist in the development of your corporate policies and standards by providing the latest information and best practice in sound malaria control.

Tools to protect your travelers

Prevention is the strongest line of defense against malaria, and it starts with education. International SOS has a broad training curriculum, spanning Travel Risk Awareness Training and Malaria e-Learning, to Advanced First Aid Training in remote locations. With our malaria prevention and curative kits, backed up by our Assistance Platform, your employees will be adequately briefed and protected, wherever their jobs take them.



The Newmont malaria control program in Ghana, operated by International SOS won the Global Business Coalition Best Workplace HIV/TB/Malaria program award in 2010

Site malaria control programs

Whether you are considering starting up operations in a particular location or are actively deploying employees to areas of potential disease risk, accurately assessing your malaria risk is critical.

We assess:

- Local endemic malaria risk, based on international research
- The quality of malaria control measures currently in place
- The ability of local health facilities to treat malaria cases
- The risks associated with mosquito larval habitats, accommodation structures, human behavior and attitudes, levels of knowledge, and personal protection measures available to your workforce

Using this approach, our malaria experts will classify the level of malaria risk onsite as 'low', 'medium' or 'high' and develop a report consisting of an actionable and evidence-based set of recommendations.

We can design, implement and manage a tailored malaria/vector control program, specific to your corporate policies and based on a specific assessment of the risks in your area of concern. The result will be a 'fit for purpose' program to help you protect your employees and your operations.

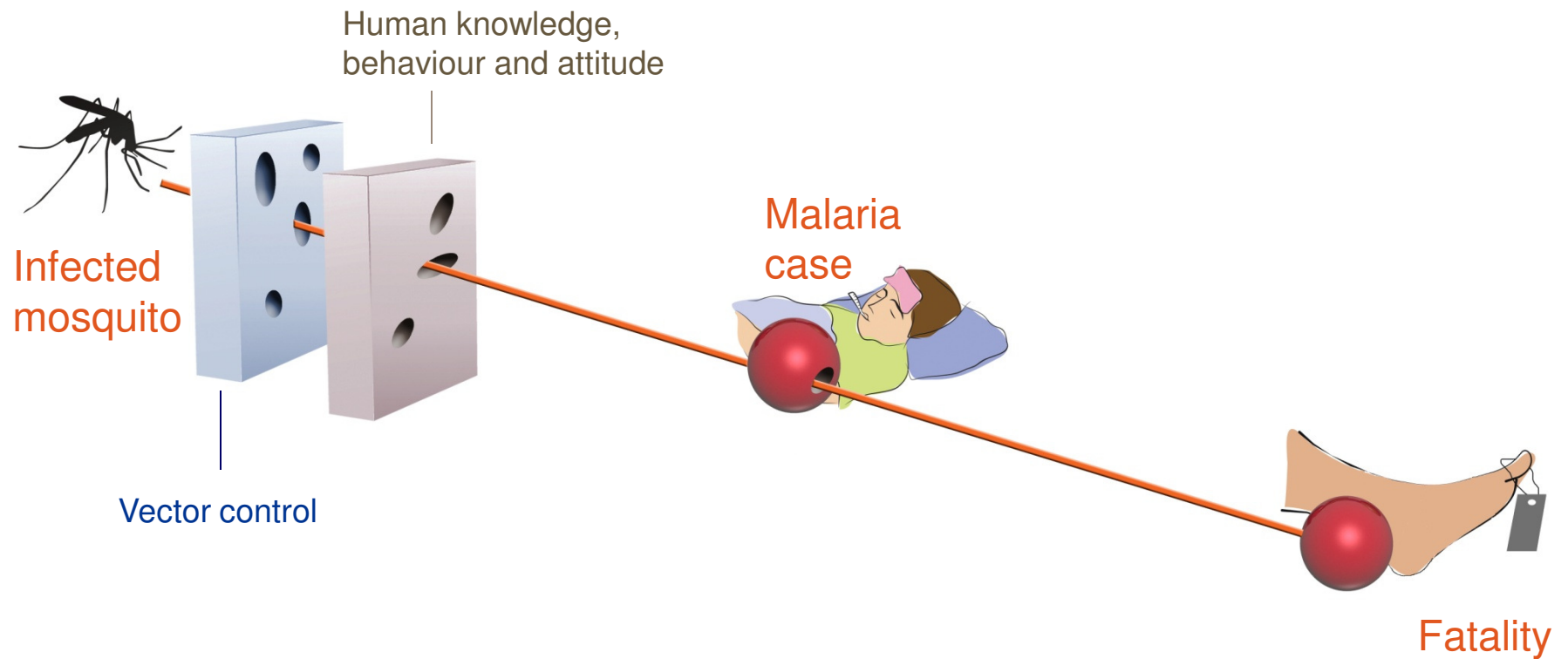
Malaria and community health

Malaria mosquitoes do not recognize boundaries between workites and villages, so more and more companies are extending their malaria programs to include communities around their projects. Maintaining a healthy workforce is an essential element to overall productivity, and providing specifically designed community programs as an extension of a site program can boost the overall level of productivity, improve the health of the local population and meet corporate social responsibility targets. International SOS has been part of award winning workforce programs with clients, designing, implementing and managing these complex programs throughout the world.

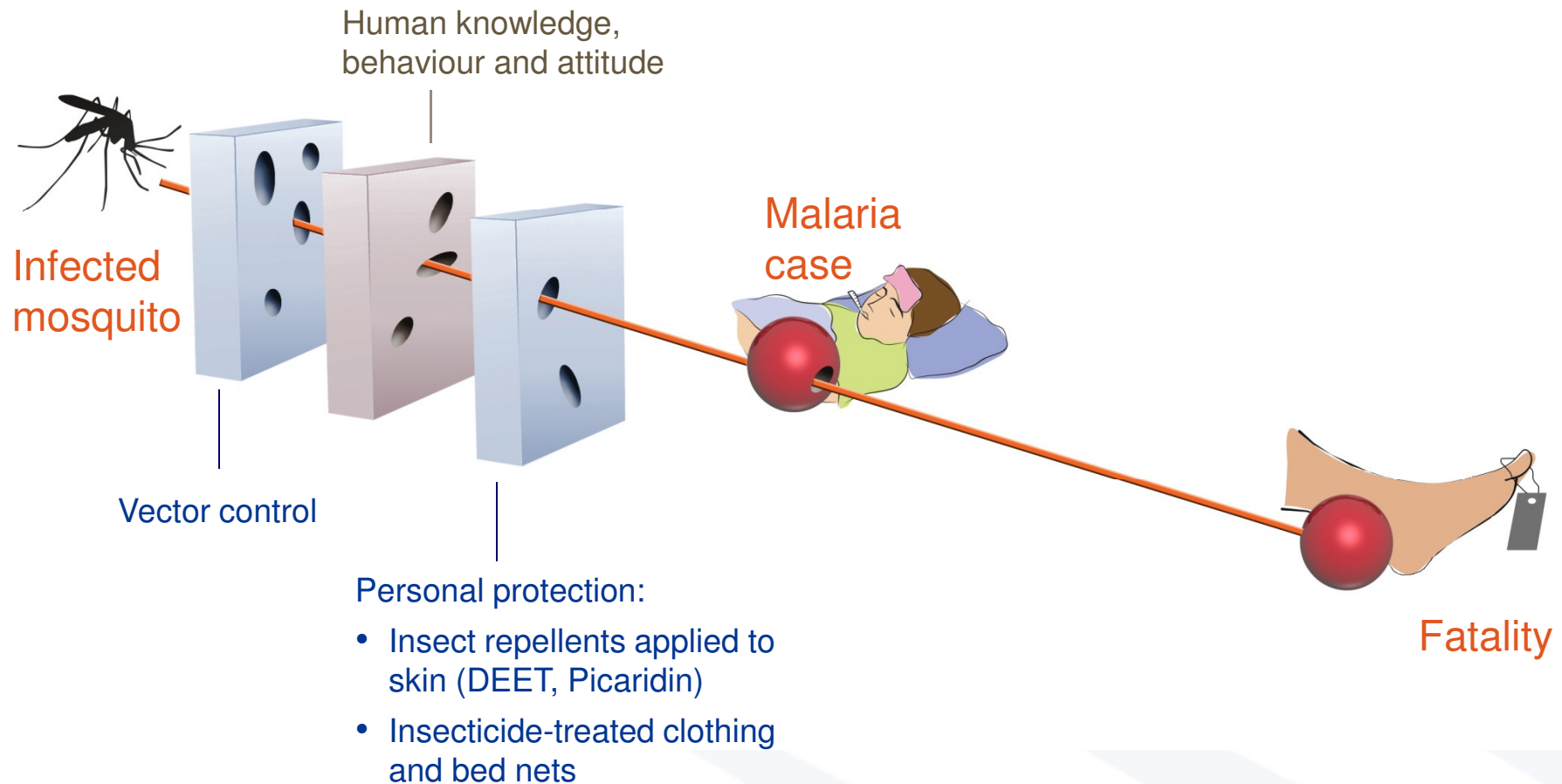


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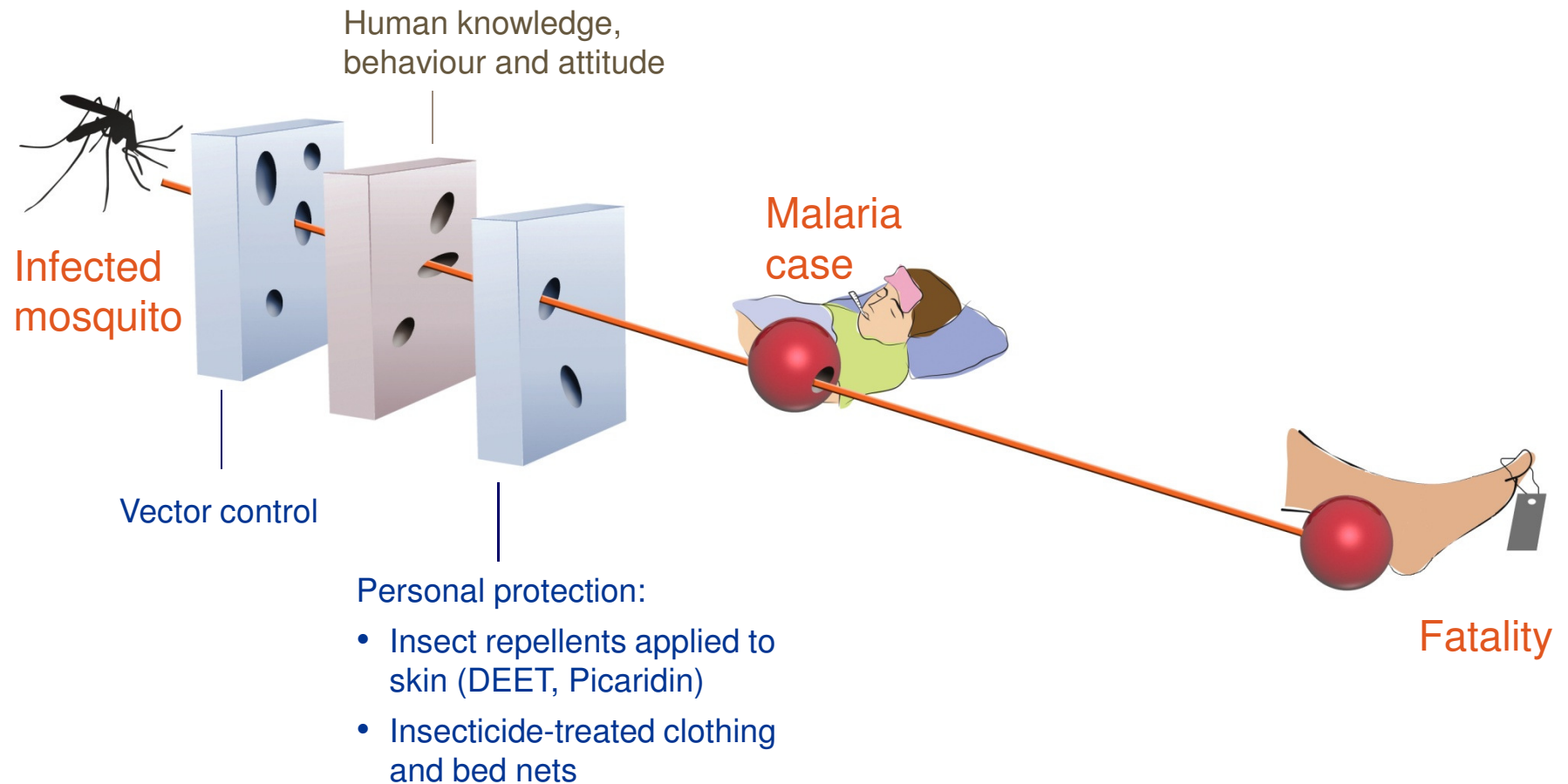
MALARIA PREVENTION



Malaria prevention



MALARIA PREVENTION



Avoid being bitten: outside

Repellents:

- DEET,
- Picardin,
- Clothing can be treated with repellent.

Reapply after swimming or excessive sweating.

Coils:

- Release pyrethroids which repels mosquitoes
- Use outdoors only

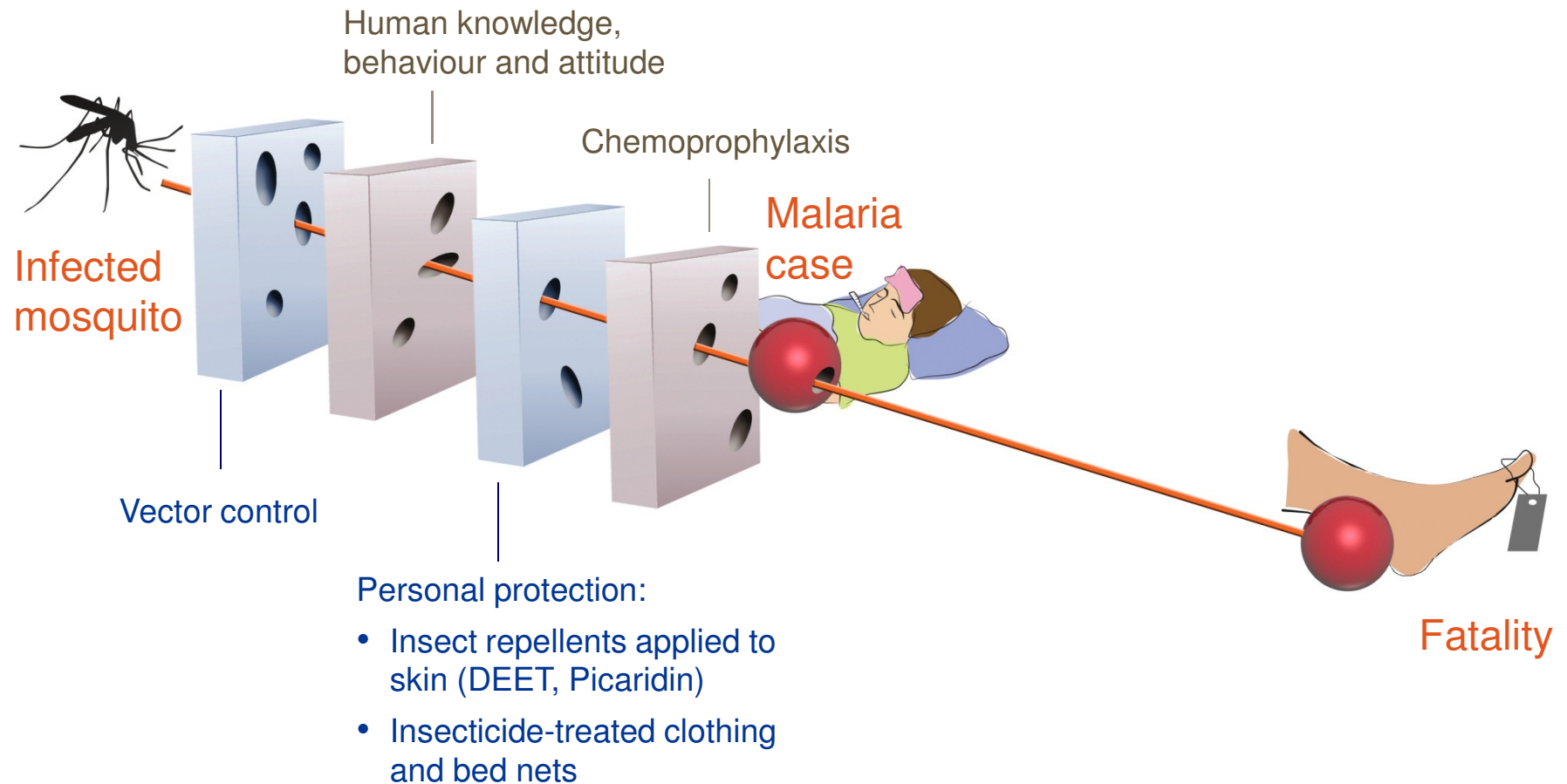


What does NOT repel mosquitoes:

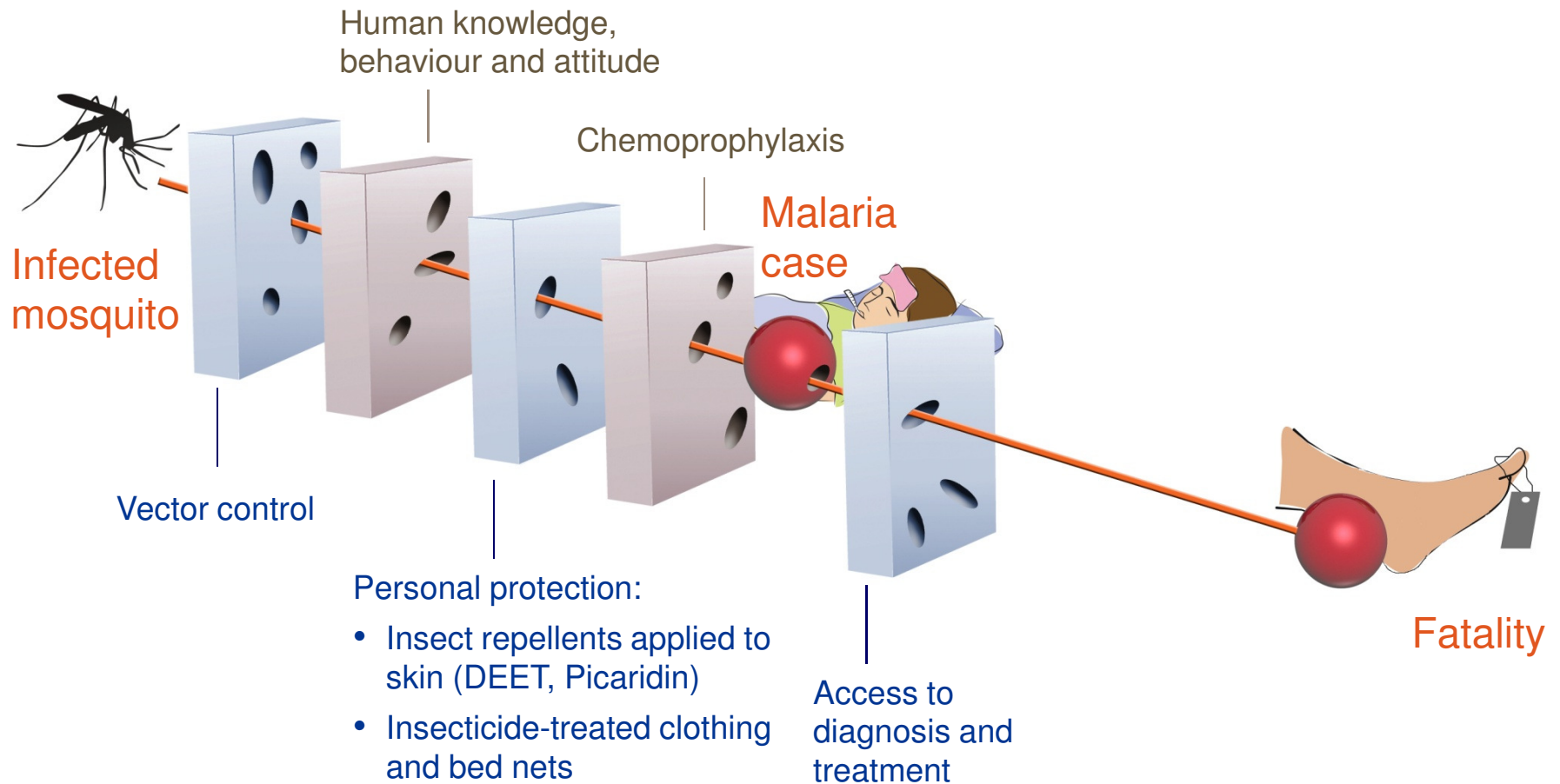
- Sound-producing vibrating buzzers
- UV Blue light electric zappers
- Herbal preparations
- Vitamins
- Citronella candles / burners



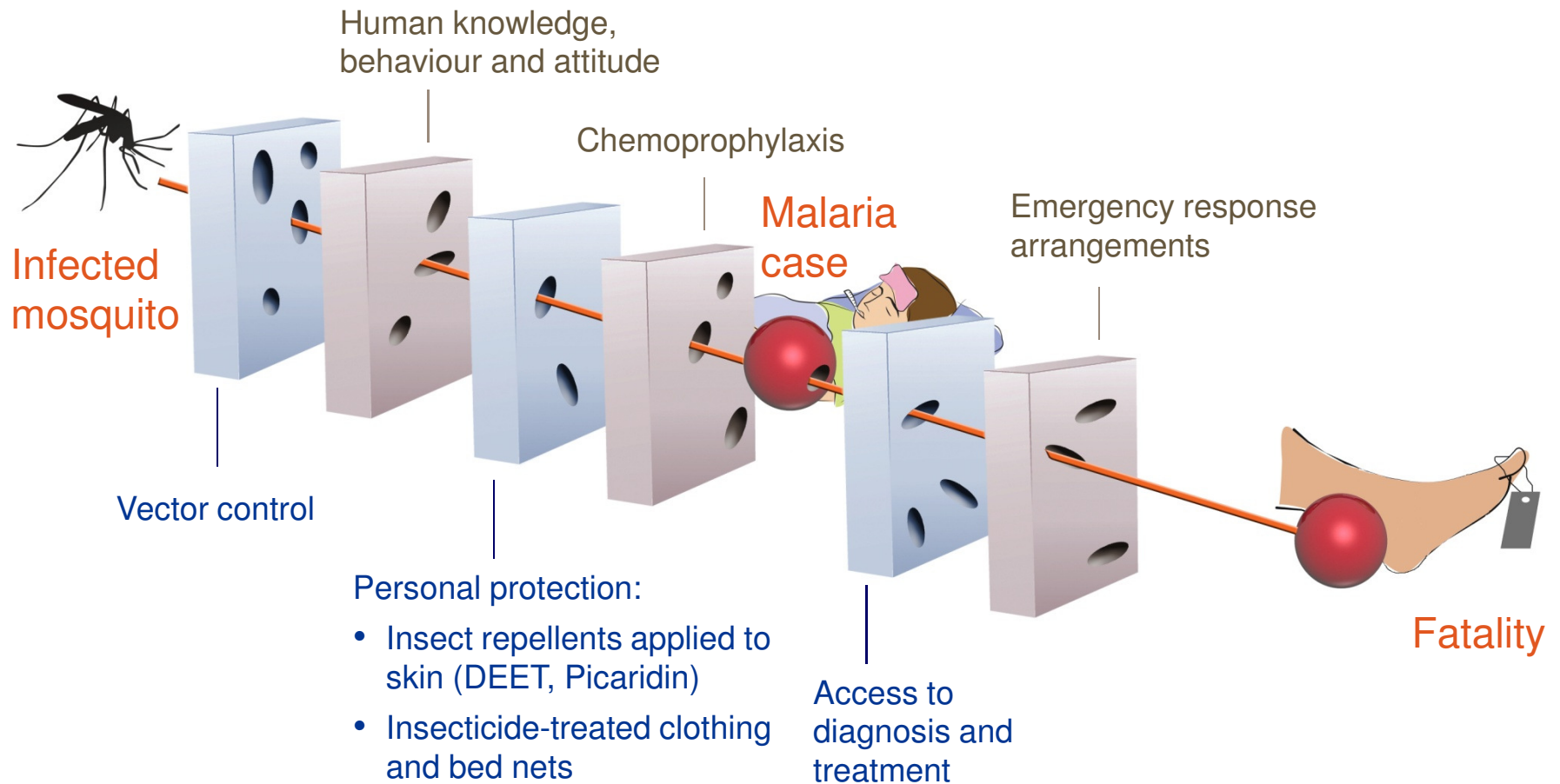
MALARIA PREVENTION



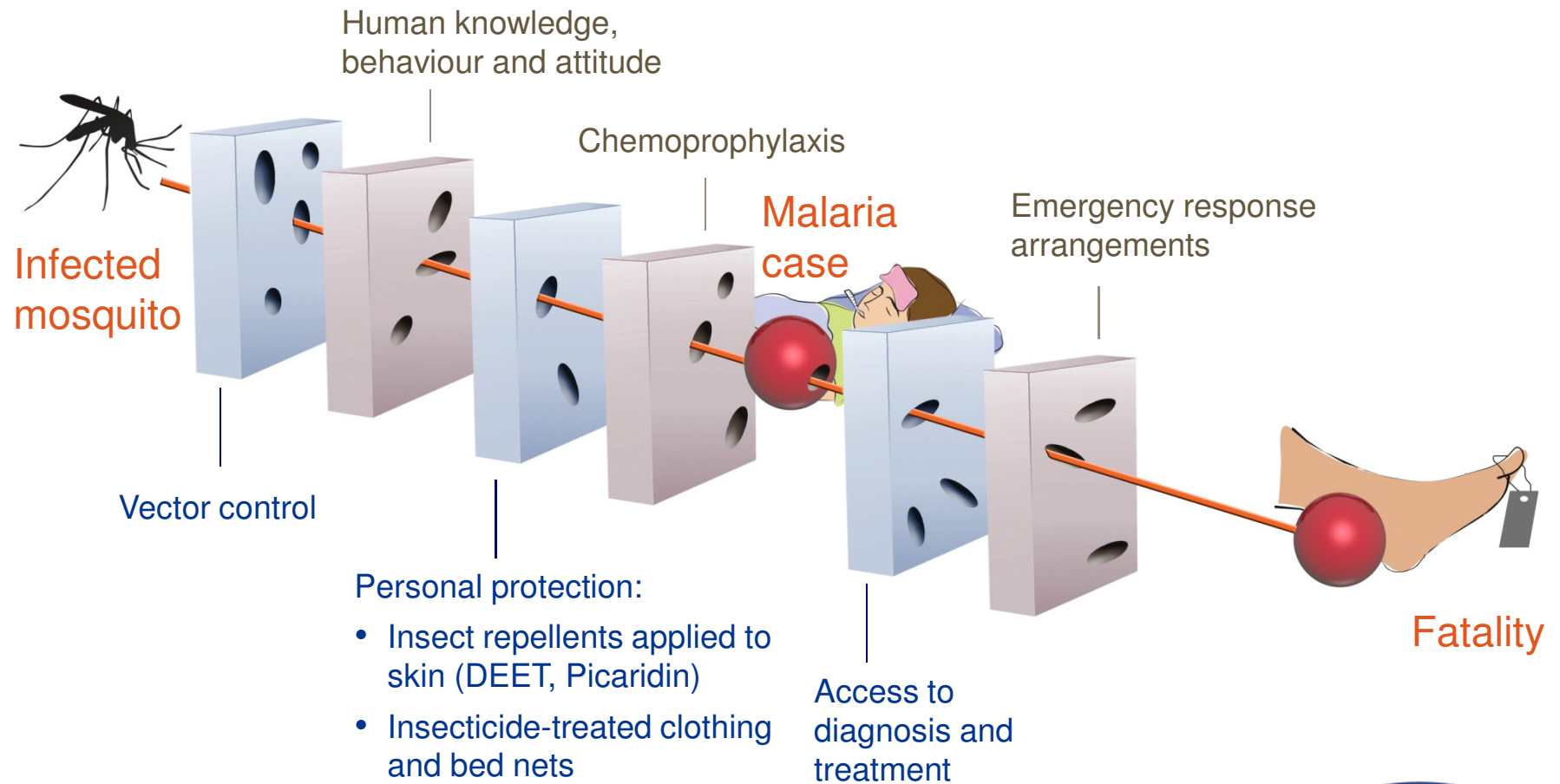
MALARIA PREVENTION



MALARIA PREVENTION



MALARIA PREVENTION



MALARIA MYTH #1

**It is not safe to take
malaria
chemoprophylaxis
medications long term.**



MALARIA **FACT** #1

**Millions of doses of Malarone[®],
Lariam[®] and doxycycline have
been taken with NO reported
adverse long-term reactions.**



Chemoprophylaxis: medication for prevention

- Atovaquone plus proguanil (**Malarone®** and generics)
- **Doxycycline** (many brands and generics)
- Mefloquine (**Lariam®** and generics)
- Chloroquine (Note: malaria in many areas is resistant to chloroquine. There are only a few countries where this is an appropriate choice)



MALARIA MYTH #2

Malaria chemoprophylaxis medications are 100% effective so it is **not necessary to use mosquito bite protection measures while taking these medications.**

MALARIA **FACT** #2

Malaria chemoprophylaxis medications DO NOT provide 100% protection.





'84 per cent of anti-malaria drugs in Lagos are fake'

NAFDAC, PSN differ over study's result

By Chukwuma Muanya

MANY a resident had dutifully used them as prescribed by their trusted physicians and wondered why the drugs failed to deliver on promise, as they did not get any better.

This may well be the reason: No fewer than 84.6 per cent of anti-malarial drugs sold in Lagos State are sub-standard, a research carried out by the Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Lagos (UNILAG), on 13 brands of Artesunate-amodiaquine combinations, also known as Artemisin Combination Therapy (ACT), bought from pharmacies in the state has shown.

The researchers found that 84.6 per cent of the drugs failed to meet the United States Pharmacopoeia (USP) specifications for one of the Active Pharmaceutical Ingredients (APIs).

All the 13 brands of ACT tested have the National Agency for Food, Drug Administration and Control (NAFDAC) registration numbers.

The situation, experts say, raises the risk of treatment failures and resistant strains of the malaria parasite. The USP Reference Standards are highly characterised physical specimens used in testing by pharmaceutical and related industries to help ensure the identity, strength, quality, and purity of medicines (drugs, biologics, and excipients), dietary supplements, and food ingredients.

The researchers, in the study published recently in *African Journal of Pharmacy and Pharmacology*, concluded: "Even though there is no case of outright counterfeiting from the results obtained in the study, the potency of the

drugs vary considerably. Only 15.4 per cent of the samples studied had required amount of active ingredients for the two drugs.

"It is clear that the quality of most brands of artesunate amodiaquine combined therapy in circulation in Lagos metropolis is less than adequate. This result can be extrapolated for other cities in the sub-Saharan Africa. This poses a great threat to the global effort to combat the scourge of malaria."

The study is titled: "Quality survey of some brands of artesunate-amodiaquine in Lagos drug market."

However, the Pharmaceutical Society of Nigeria (PSN) and the NAFDAC are divided over the result of the study.

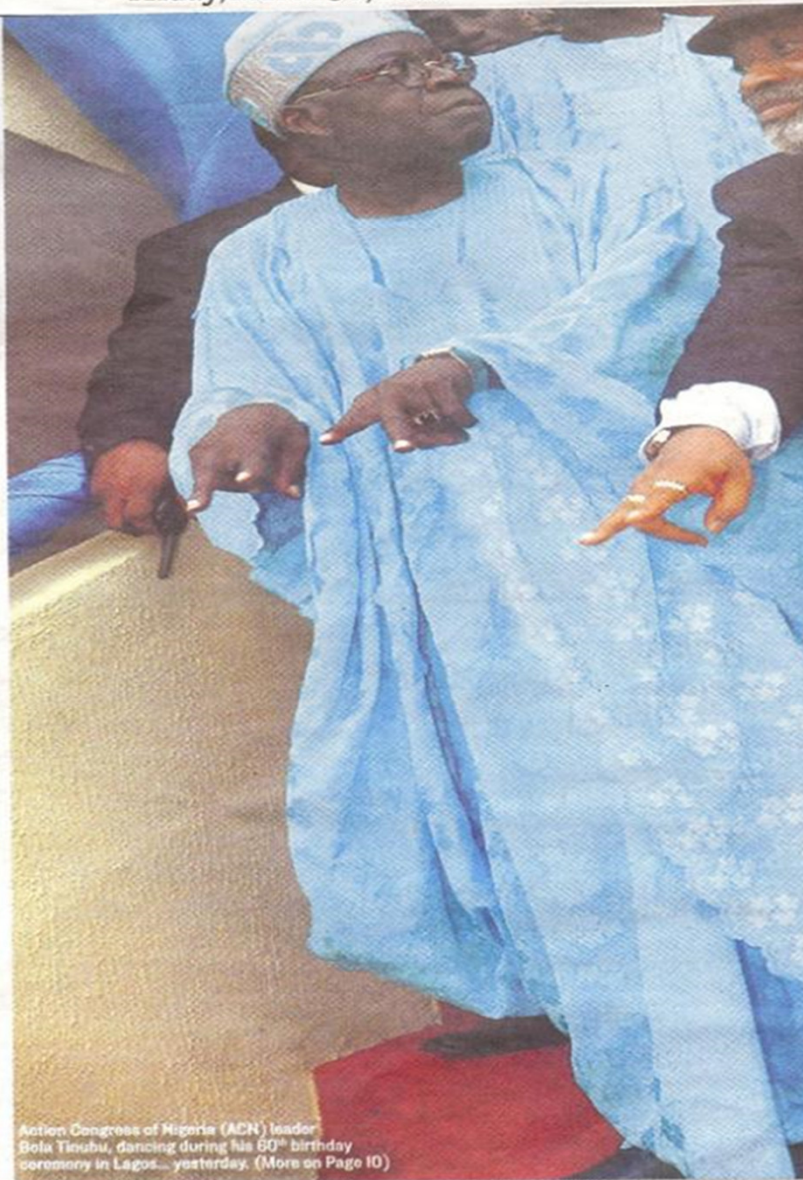
While NAFDAC says anti-malarial drugs registered by the agency are not sub-standard, the PSN says the study's finding could have been caused by improper drug storage and weak strategy in the fight against sub-standard and counterfeit drugs.

An earlier study published in the January 2012 edition of *Malaria Journal* warned that hopes of controlling malaria in Africa could be dashed due to production and circulation of sub-standard cum fake anti-malarial drugs. Except urgent actions are taken both within Africa and on the global stage, they argue, millions of lives could be put at risk.

In a study published in the journal, an international team of researchers reported that some batches of drugs on sale in Africa have been deliberately counterfeited by criminals or are of poor quality because of factory errors.

Both types are not only potentially harmful to the patient but also risk promoting

CONTINUED ON PAGE 4



Action Congress of Nigeria (ACN) leader Bola Tinubu, dancing during his 60th birthday ceremony in Lagos... yesterday. (More on Page 10)

MALARIA MYTH #3

Malaria chemoprophylaxis medications have side effects that are more severe than the disease.



MALARIA **FACT** #3

Malaria symptoms are more painful, uncomfortable and dangerous than the side effects of the chemo medications.



MALARIA MYTH #4

Malaria chemoprophylaxis medications cause violent mood swings.



MALARIA **FACT** #4

A very small percent of psychiatric problems have been associated with Lariam® when there has been a previous history of mental illness.



MALARIA MYTH #5

I can miss a dosage of my malaria chemoprophylaxis medications and not lose any protection from malaria.



MALARIA **FACT** #5

The medications work at less than full strength in as little as 12 hours. You will not be optimally protected if you miss a dose.



MALARIA KIT

Items	Simple Instruction	Quantity
Forehead thermometer	For temperature monitoring	3 sets
Alcohol wipes	Disinfect the skin for prick	3 pieces
Lancets	For drawing blood	3 sets
Rapid diagnosis kit	A rapid self test kit with a drop of blood	3 sets
Band dot	Cover skin puncture after pricking	3 pieces
Coartem® (artemether and lumefantrine)	Malaria standby self-treatment if needed	1 pack (24 tablets)



MALARIA Case Study

IN GUINEA

35 yr old Brazilian geologist in Guinea: 6 months with mining company - didn't take chemoprophylaxis

- Unwell for two days
- Malaria rapid test negative
- Treated as stomach ache /gastro enteritis

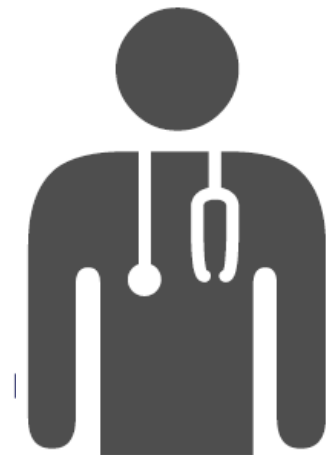


2 days after:

- Still unwell (gastrointestinal disorders) but nothing much to report
- No appetite, still feverish, feeling weak, pale
- Rapid test for malaria negative again

Paramedic calls the company Medical Director

- Proposes stronger treatment with oral large spectrum antibiotics



MALARIA Case Study

IN GUINEA

Following day

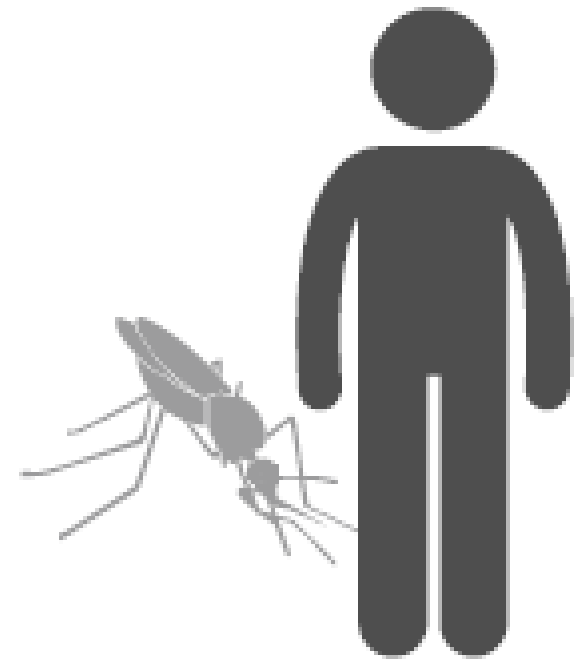
- Paramedic visits the patient in his room
- Headaches, stomach aches and vomiting
- Very pale, weak and dehydrated
- Confusion
- Medical Director not answering the phone

Paramedic calls Assistance Centre Paris

- Consider malaria despite negative tests
- IV rehydration and IM Malaria treatment
- Activate medical evacuation by air shuttle

Arrival in Conakry, taken to private clinic

- Probably had seizure on the way



MALARIA Case Study

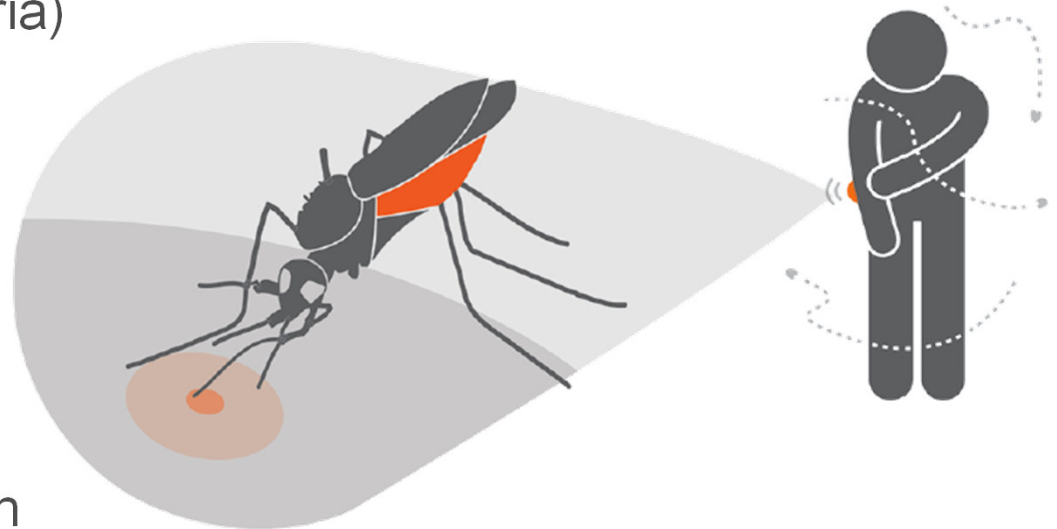
IN GUINEA

Diagnosis: Severe/ Complicated malaria

- Blood smear test positive
- Confused (cerebral malaria)
- Respiratory involvement
- Kidney failure

Plan of action

- IV treatment
- Put on ventilator /sedation
- Air ambulance to Paris
- 15 days in ICU / Blood filtration... etc.
- 5 weeks convalescence in Brazil, never returned to Guinea



HUMAN KNOWLEDGE, BEHAVIOUR AND ATTITUDE

PREVENT MALARIA, REMEMBER THE **ABDC** (WHO)

A

Be **Aware** of the risk, the incubation period & symptoms

B

Avoid being **Bitten** by mosquitoes, specially between dusk and dawn

C

Take antimalarial drugs -
Chemoprophylaxis

D

Immediately seek **Diagnosis** and treatment after being in a malaria area