

CDC's Role in the Amazon Malaria Initiative

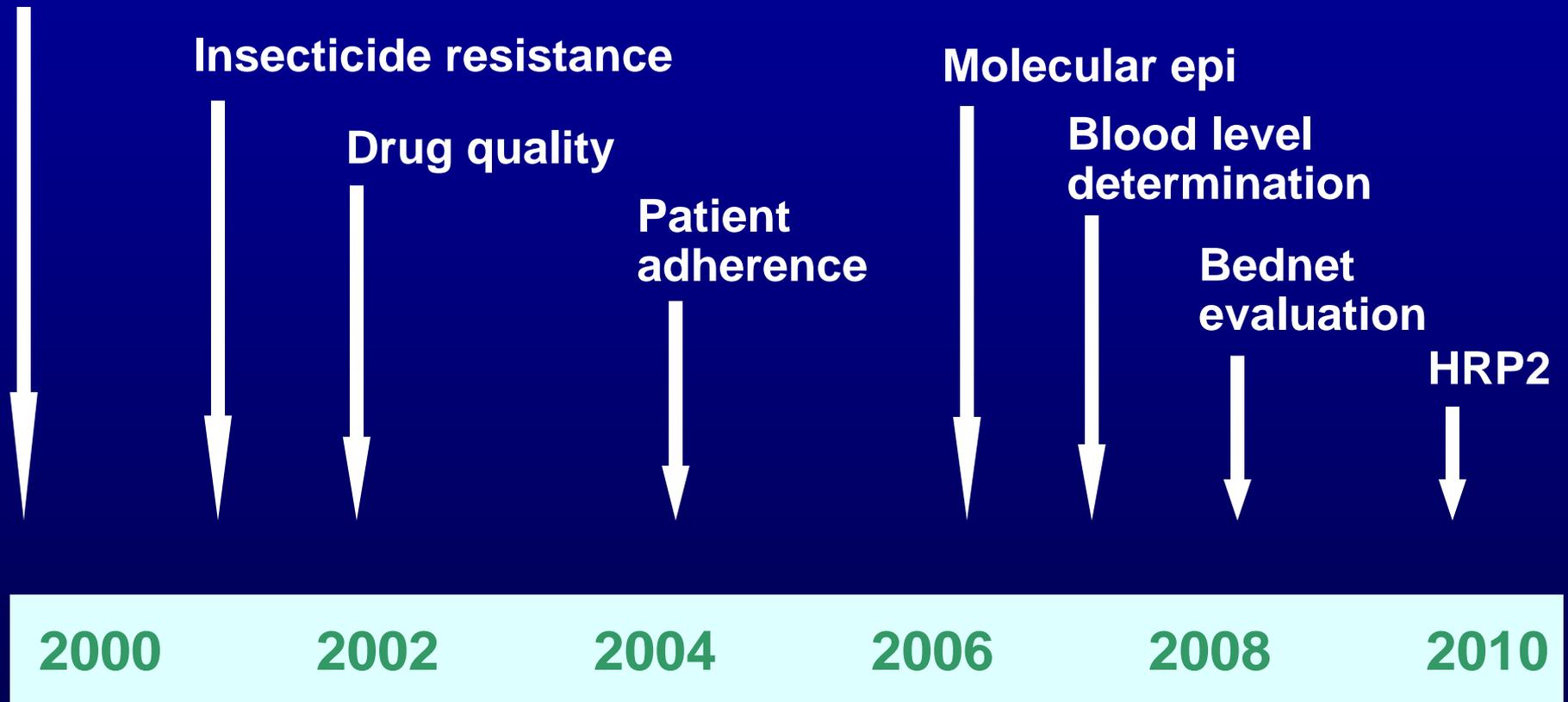
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CDC's Areas of Work

- **General epidemiology**
 - *In vivo* studies
- **Molecular epidemiology**
 - Antimalarial resistance
 - Phylogenetics and population dynamics
 - HRP2 deletion evaluation
- **Vector control**
 - Insecticide resistance
 - Mosquito behavior
 - Monitoring and evaluation of strategies for vector control
- **Blood level determination**

CDC's Role Within AMI

In vivos in Peru



↑
1st country to
change policy

↑
Last country to
change policy

General Epidemiology

- ***In vivo***
 - ***In vivo* studies to allow for change in policy**
- **Antimalarial resistance monitoring**
 - **Overlap with molecular**
 - **Development of guidelines and strategy for using molecular epi with *in vivos* info**
 - **Specially in Central America (CHL)**

Molecular Epidemiology

- Evaluation of prevalence and population dynamics of CHL- and SP- resistant genes and MDR1
- Work with Peru, Brazil, Venezuela
- Details to be published
- Good info on this
- Working to develop more capacity in countries

Molecular Epidemiology

HRP2 deletion

- Evidence of deletion of HRP2 gene in samples from Colombia and Peru as part of FIND (~30% deletion)
- Collaborative effort to collect blood and serum
- Collection finished in Bolivia, Guyana, Colombia, Peru, and Colombia
- Excellent example of collaboration of CDC and partners

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Background

- **Unique set of expertise at CDC**
- **Relative lack of information on efficacy of vector control strategies in region**
- **Increased interest in vector control (eg, ITNs)**
- **Need to better use epidemiology-sound approaches**

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Insecticide resistance

Achievements

- Adaptation of the bottle bioassay
- Bottle bioassay guideline in final phases of production

Challenges

- Most countries still without a working surveillance system

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ITNs

Situation

- **Nets and nets coming**
- **Monitoring plans focusing in process indicators**
- **Few standard coverage or longevity evaluations**

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ITNs

Plans

- Coverage survey in Acre, Brazil not happening
- Longevity evaluation in Acre, Brazil in the making
- Responding to country invitations
- Trying to develop 'generic' guidelines

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ITN colorimetric method

Situation

- Great interest
- Workshops in some countries
- Guideline in production
- To be included in the tool kit for ITN evaluation

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Drug level determination

Situation

- Trained staff from different countries
- Technique adapted for CHL and MQ
- Not successful in establishing a network for those tests
- Protocols and SOPs pending

CDC Staff

- Venkatachalam Udhayakumar (Kumar)
- John Barnwell
- Bill Brogdon
- Norma Padilla
- Adeline Chan
- Ray Beach
- Mike Green
- Alexandre da Silva
- Gabriel Ponce de Leon
- Many others

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