

Recent success and key challenges in malaria

Seattle Commemorates World Malaria Day

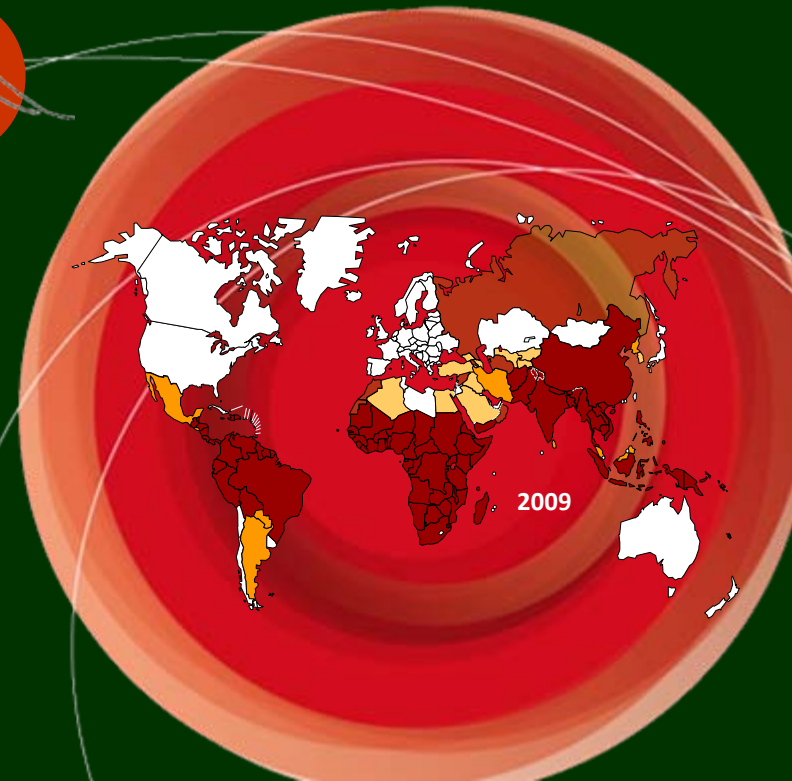
PATH: Seattle, WA, USA / Ferney-Voltaire, France

26 April 2010

Robert D. Newman, MD, MPH
Director
WHO Global Malaria Programme



**World Health
Organization**

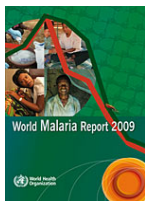


An updated malaria burden estimate: Number of malaria cases and deaths 2008

Region	Cases		% falciparum	Deaths		% <5
	Estimate	Range		Estimate	Range	
Africa	208	(155-276)	98%	767	(621-902)	88%
Americas	1	(1-1)	32%	1	(1-2)	30%
Eastern Mediterranean	9	(7-11)	75%	52	(32-73)	77%
European	0	(0-0)	4%	0	(0-0)	3%
South East Asia	24	(20-29)	56%	40	(27-55)	34%
Western Pacific	2	(1-2)	73%	3	(2-5)	41%
Total	243	(190-311)	93%	863	(708-1003)	85%

85% of 243 million cases are in Africa; 9% are in South East Asia

91% of 863 thousand deaths are in Africa, 85% in children <5 years of age



Key Malaria Targets & Goals

African Summit on Roll Back Malaria, Abuja, Nigeria

At least 60% coverage of the population with appropriate prevention and treatment

Millennium Development Goals

MDG 6: Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

MDGs 1, 3, 4 & 5 -- also malaria-related

World Health Assembly 2005

Ensure reduction in malaria burden of $\geq 50\%$ by 2010 and $\geq 75\%$ by 2015.

Roll Back Malaria Partnership Global Malaria Action Plan targets

By 2010: 80% coverage with interventions; by 2015: universal coverage, preventable mortality near zero & 8-10 countries achieve elimination of malaria



Key antimalarial interventions & strategies in 2010

Prevention

- Insecticide-treated bednets (ITNs) / Long-lasting ITNs (LLINs)
- Indoor Residual Spraying

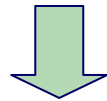
In areas of moderate to high and stable transmission

- IPT in pregnancy (IPTp)
- IPT in infancy (IPTi)



Diagnosis & Treatment

- Parasite based diagnosis
 - Microscopy
 - Rapid Diagnostic Tests
- Artemisinin-based combination therapies (ACTs)
- Case management:
 - Health facilities
 - Community Case Management (aka HMM)
 - Private sector



Surveillance, M & E

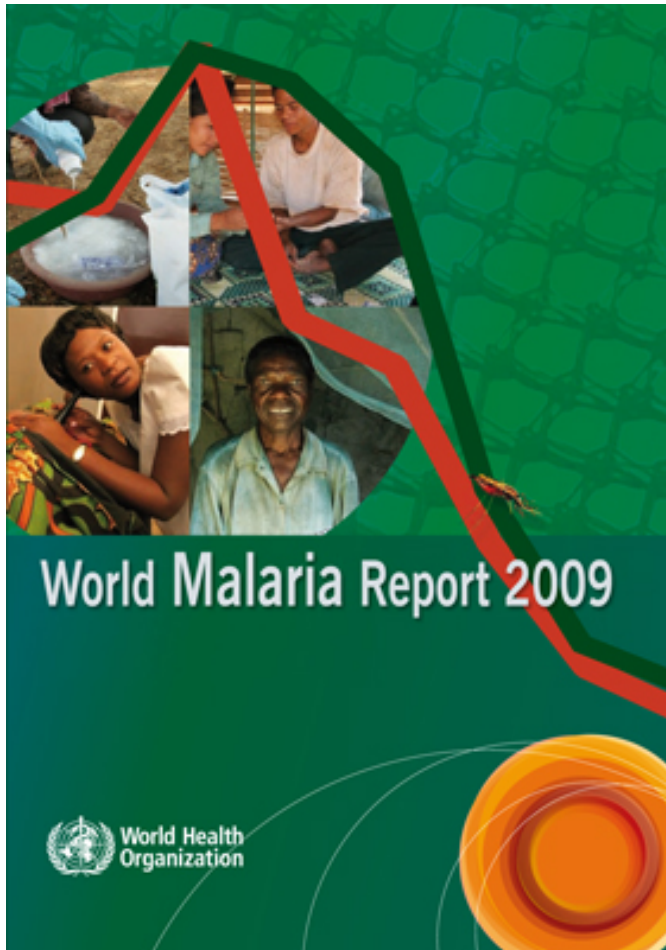
- Routine HMIS
- Malaria surveillance and response systems
- Household surveys



Strengthening health systems in endemic countries



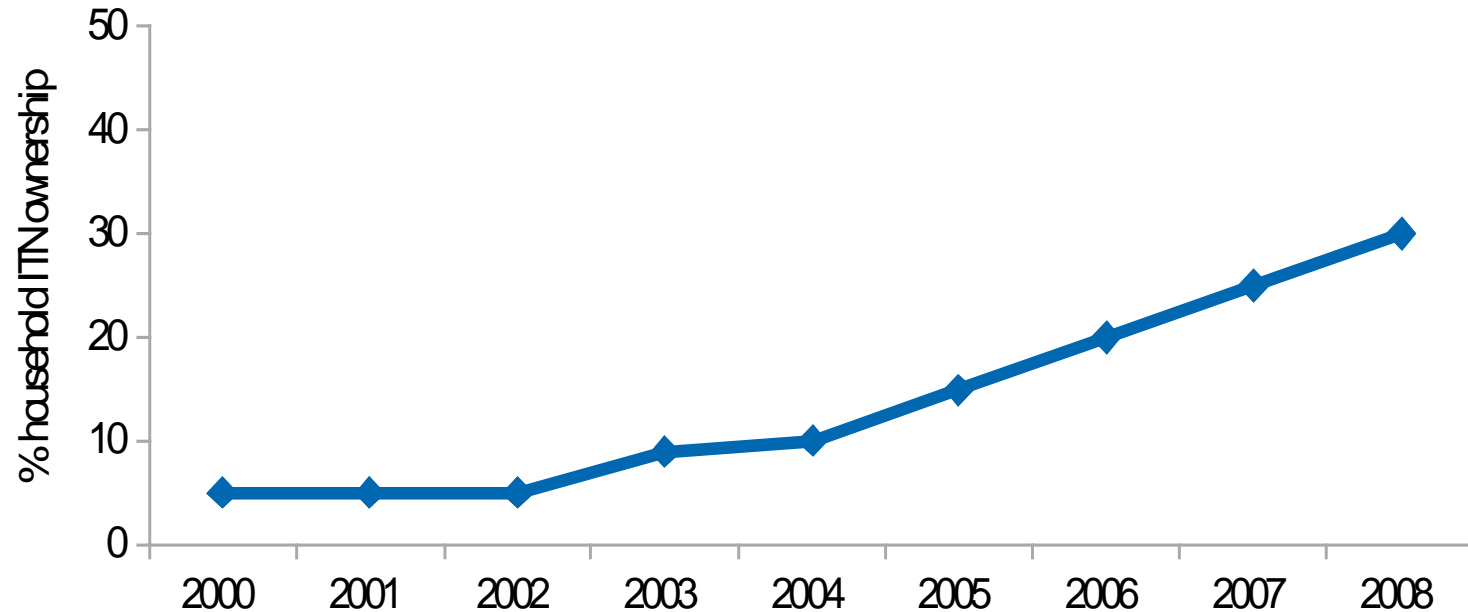
World Malaria Report 2009



- Comprehensive annual reference on the status of global malaria control & elimination
- Describes trends in funding
- Summarizes key malaria targets & goals
- Documents trends in intervention coverage and impact (malaria burden)
- Provides country-by-country summaries
- 2009 report specifically addresses elimination



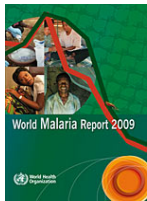
Model based estimate of ITN coverage: 35 high-burden countries in African Region



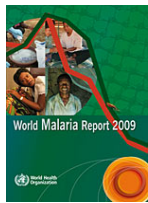
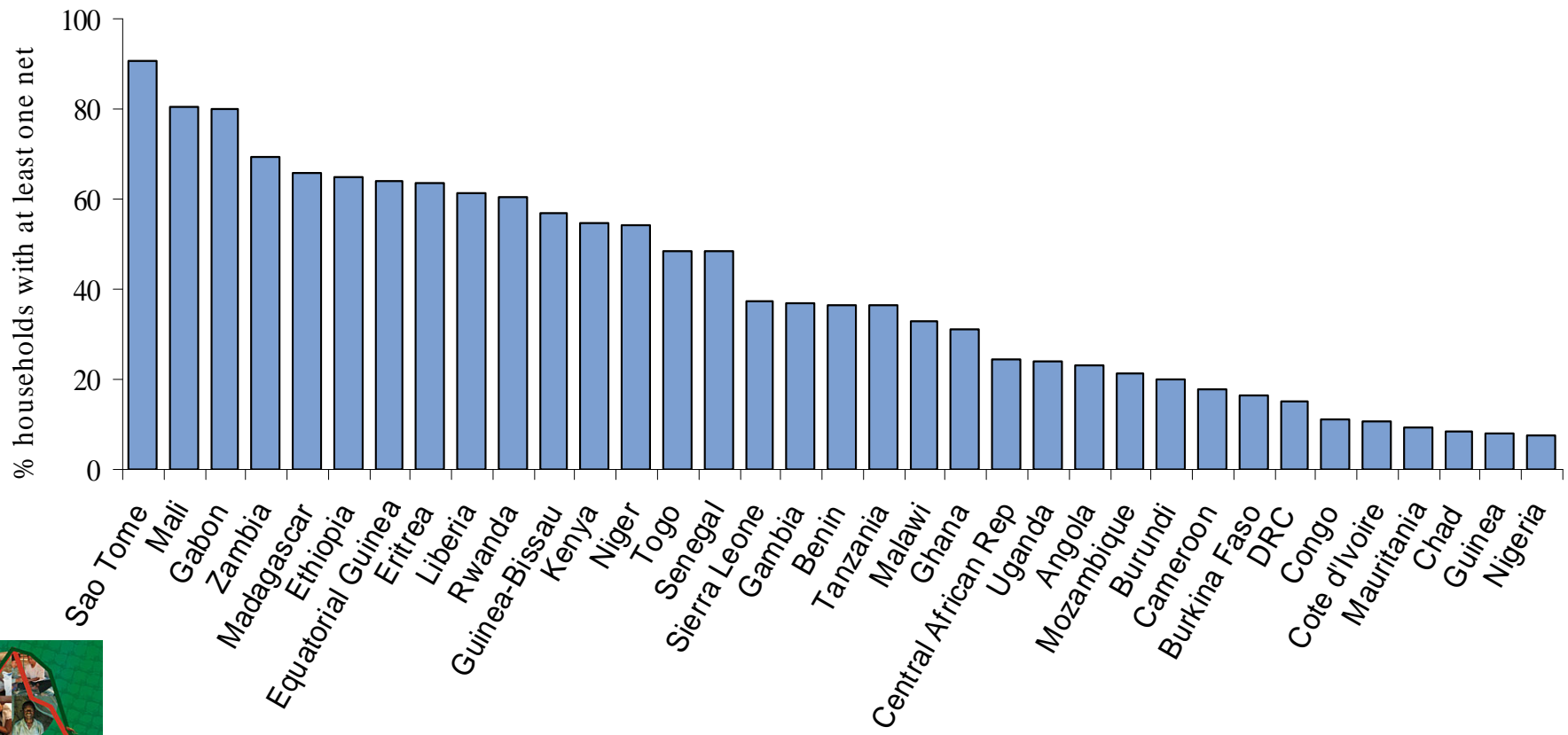
31% of households owned at least one ITN in 2008

24% of children <5 years old slept under an ITN

Source: Model developed by IHME using information from household surveys, nets procured from manufacturers and nets distributed by malaria programs.

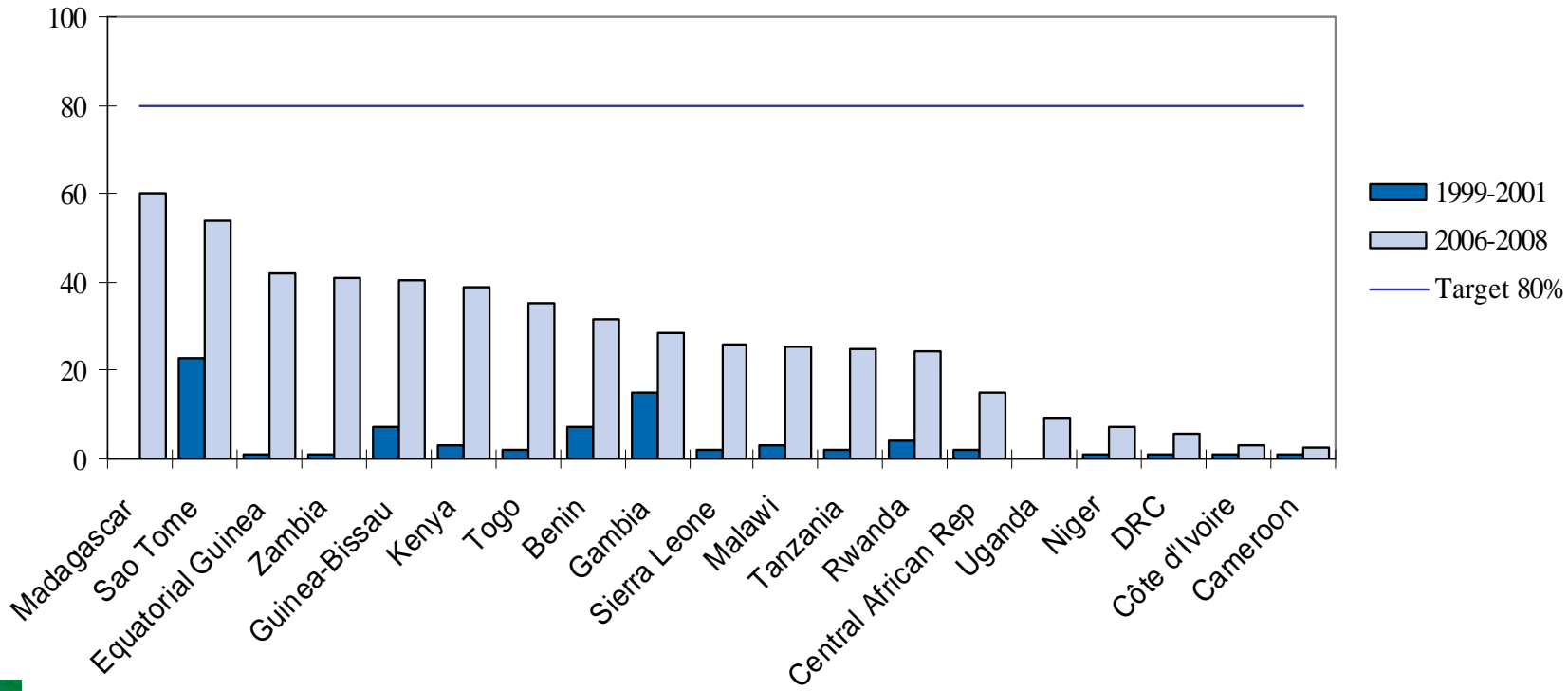


Model-based estimate: % households owning at least one net: 35 high-burden countries in African Region

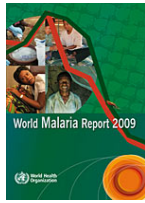


Source: Model developed by IHME using information from household surveys, nets procured from manufacturers and nets distributed by malaria programs.

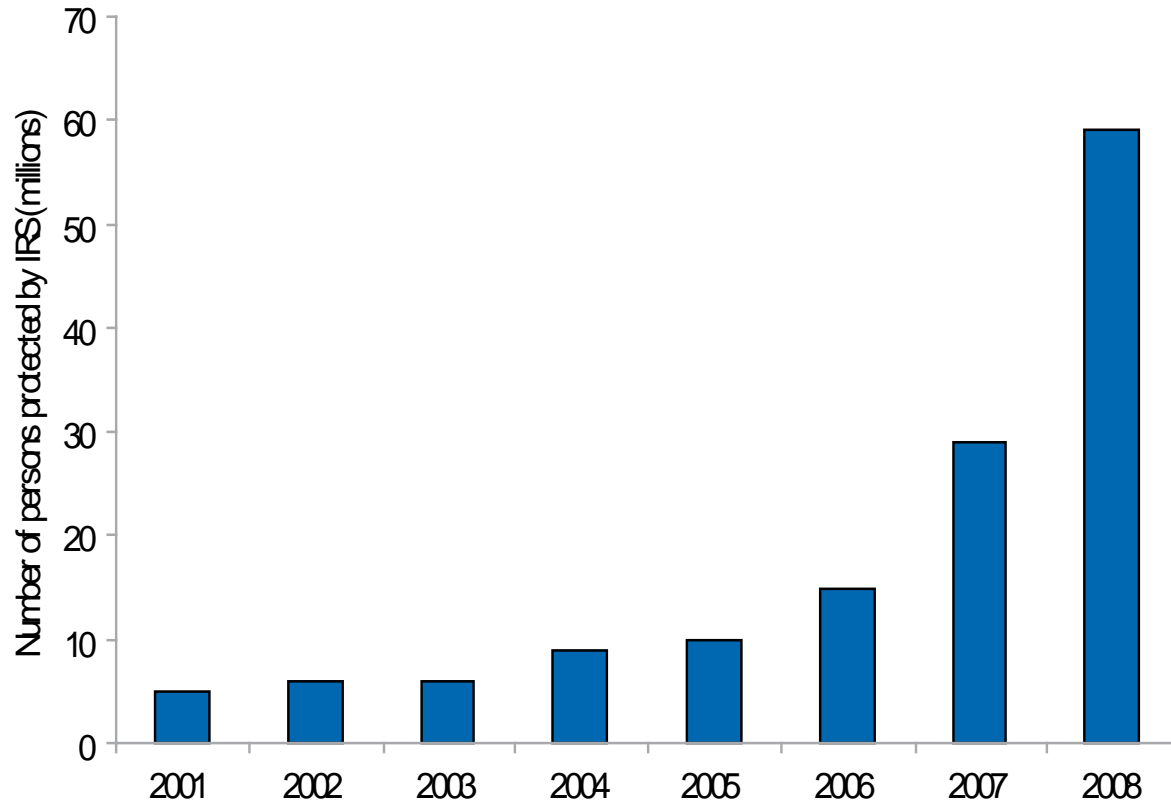
Increase in Children Sleeping under Nets by Country



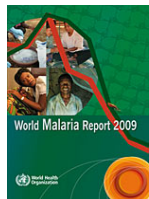
Source: DHS, MICS and MIS surveys conducted between 1999-2001 and 2006-2008



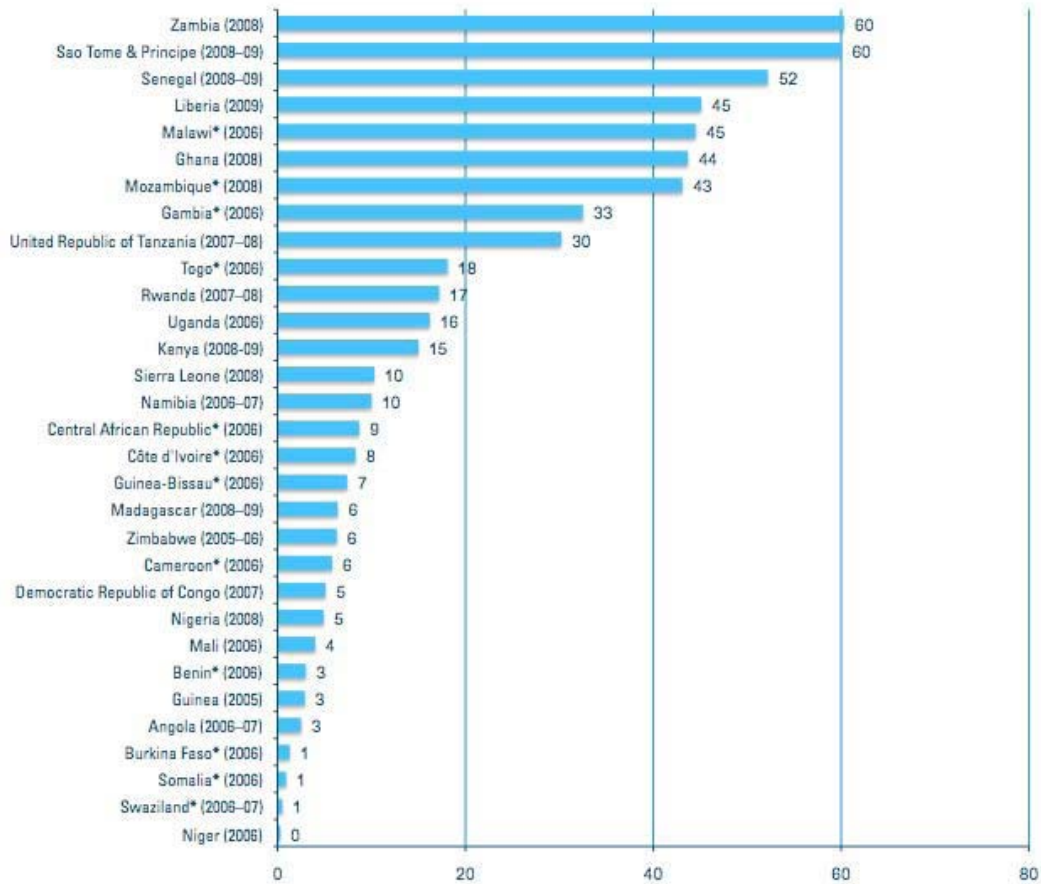
Indoor Residual Spraying, WHO African Region



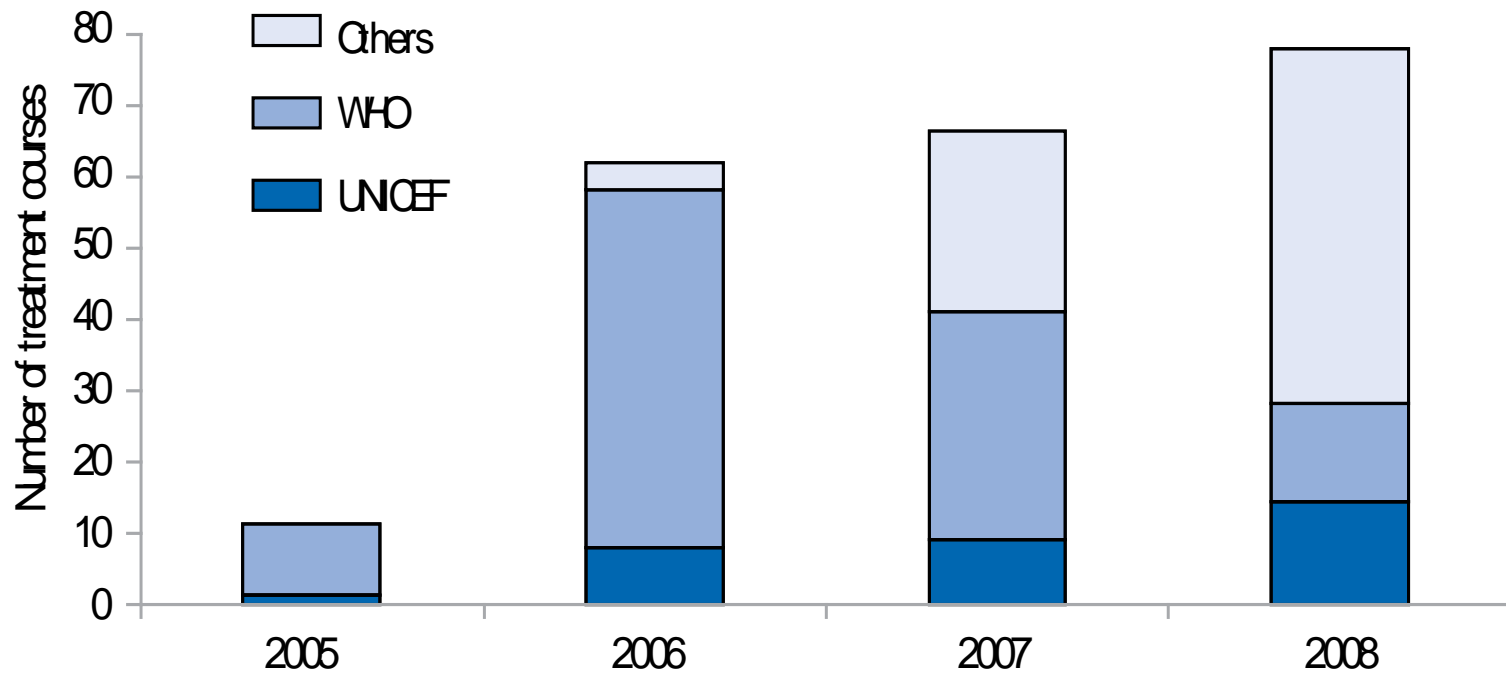
Source: malaria endemic countries



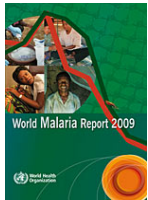
Intermittent Preventive Treatment in Pregnancy



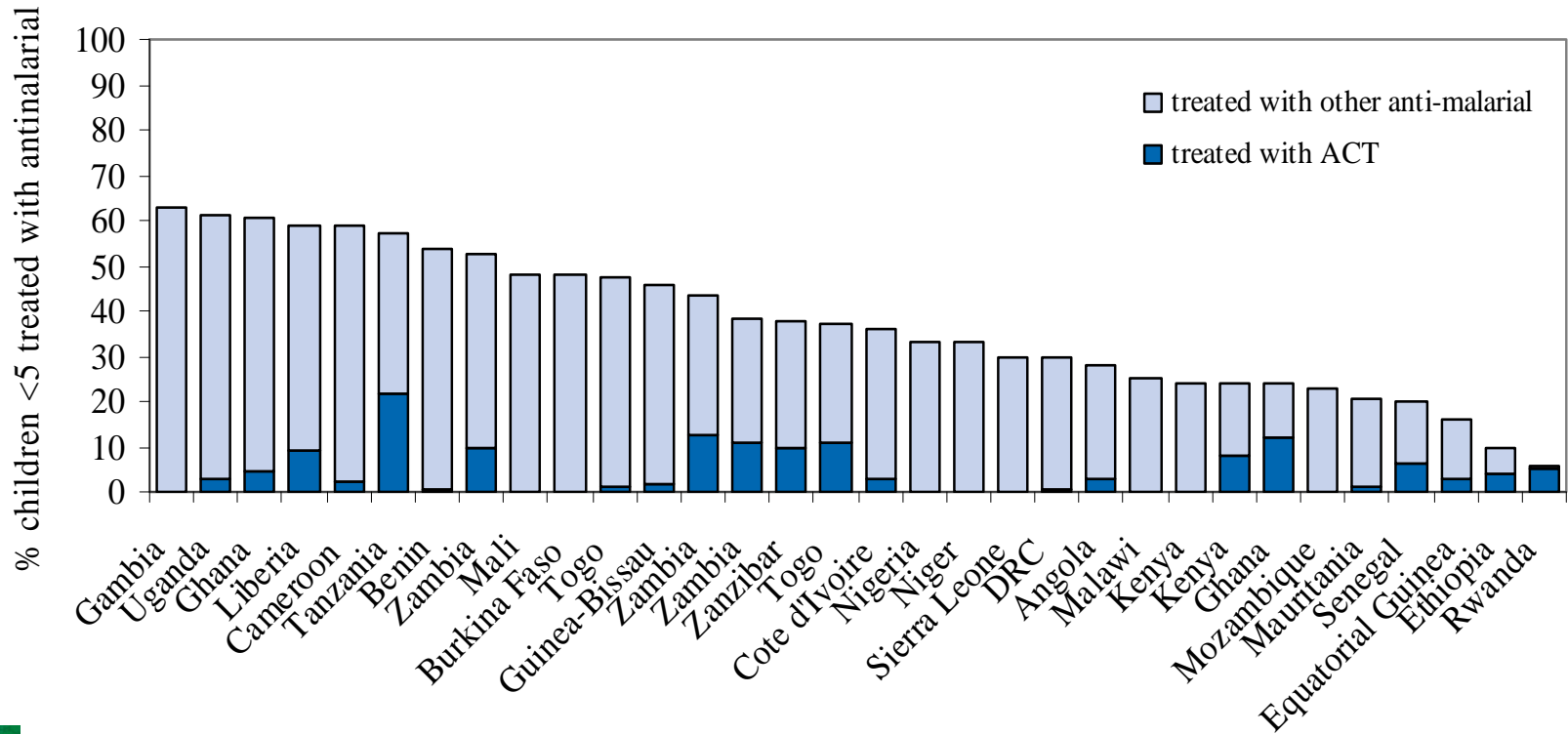
Procurement of artemether-lumefantrine



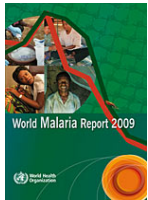
Source: Ajanta, Cipla, Guilin, Ipca, Sanofi Aventis, Strides Arcolab



Use of anti-malarial drugs in children <5

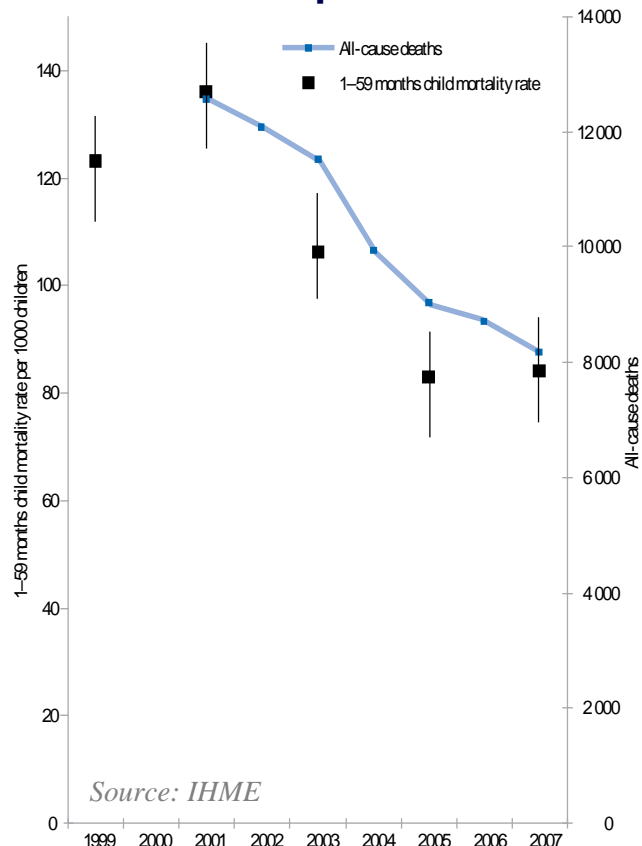


Source: DHS, MICS and MIS surveys conducted 2006-2008

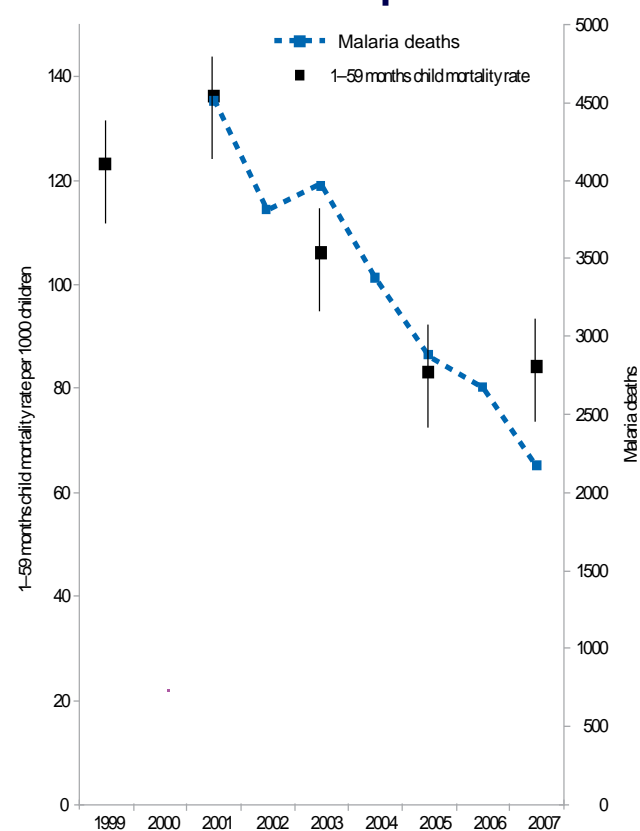


Reductions in all-cause mortality mirror reductions in malaria-specific mortality

Zambia – all cause inpatient deaths <5



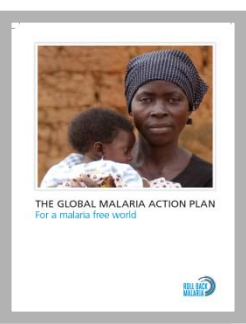
Zambia – malaria inpatient deaths <5



Reduction of >50% in cases: 9 African countries and 29 outside of Africa



Global Malaria Action Plan



Multilaterals



Foundations



Donor Countries



NGOs



Endemic countries

108 malaria endemic-countries



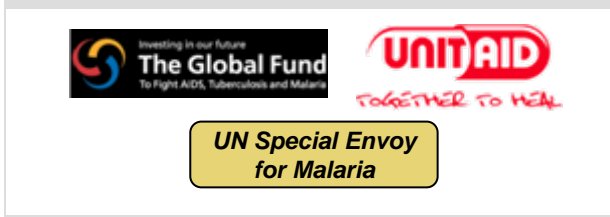
Research & Academia



Private Sector



Ex officio members



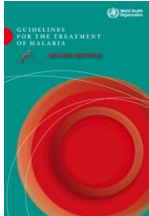
Malaria control and elimination beyond 2010: Areas requiring major focus

- **The unfinished agenda - filling the gaps**
 - Achieving universal diagnostic testing for malaria
 - Increasing access to effective treatment for those with confirmed malaria
 - Ensuring timely and complete malaria surveillance
 - Ensuring universal coverage with vector control interventions
- **Mitigating threats to success**
 - Drug resistance
 - Insecticide resistance
 - Poor quality medicines, diagnostics, insecticides, health services
 - Inadequate & unstable financing
- **Developing capacity**
 - Capacity at district level is critical for malaria programme management
 - Community ownership over malaria control

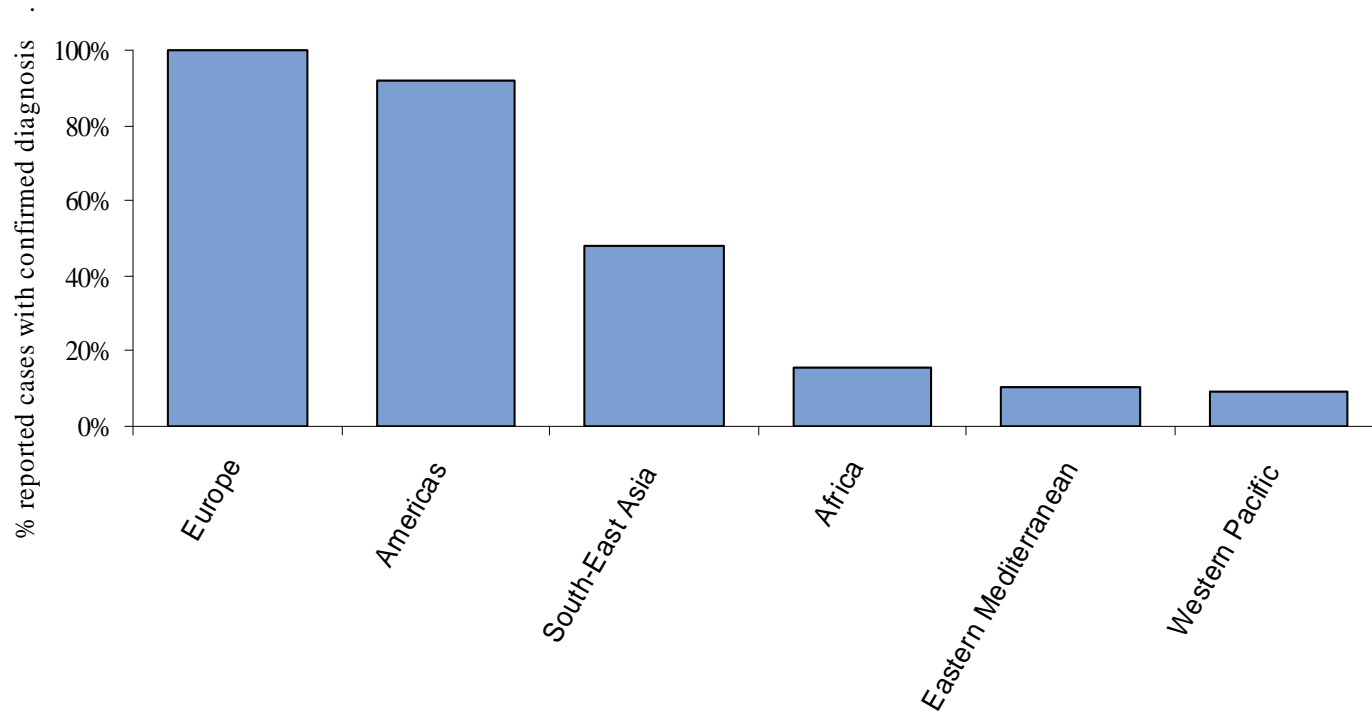


Universal diagnostic testing

- WHO recommends confirmation of malaria through parasite-based diagnosis in all patients prior to instituting treatment (Malaria Treatment Guidelines 2010)
- Rationale:
 - Malaria prevalence amongst fever cases decreasing in many areas
 - Quality-assured RDTs are now available
 - Parasitologic confirmation in persons with suspected malaria will:
 - Improve differential diagnosis and fever management
 - Diminish unnecessary use of ACTs
 - Provide accurate surveillance data to manage programmes
- Major resources needed to ensure access to malaria diagnosis & treatment



Diagnosis of malaria: % reported cases in public sector with parasitological diagnosis



Based on cases reported to WHO: African % biased upwards since countries reporting tend to undertake more case confirmation.



Strengthening malaria surveillance

- Surveillance data should be principal source of information in endemic countries at all levels to:
 - monitor burden and trends of malaria
 - evaluate impact of intervention
 - respond to increases in transmission
- We cannot control and ultimately eliminate malaria without timely and complete malaria surveillance at all levels of the health care system
- We cannot have a robust surveillance system without universal diagnostic testing



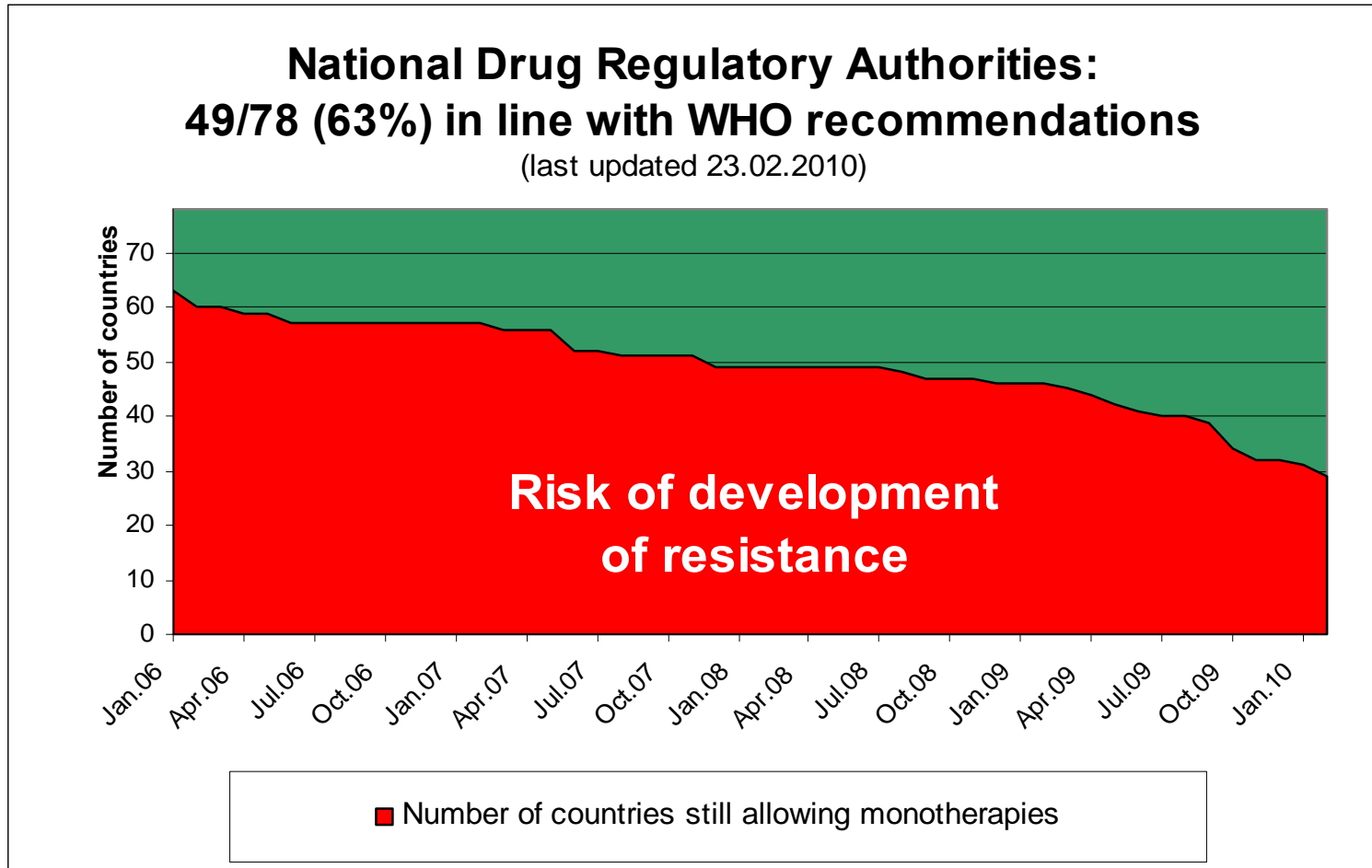
Strategies to address the threat of antimalarial drug resistance

1. Avoid emergence of drug resistance
 - Halt the marketing and use of oral artemisinin monotherapies
 - Improve access to quality-assured diagnosis and treatment
 - Reduce transmission rates
2. Monitor drug efficacy
 - Routine surveillance of therapeutic efficacy
 - Develop new tools for early detection of drug resistance
3. Contain the spread of drug resistance
 - Remove drug pressure
 - Eliminate malaria from areas with resistant parasites
4. Develop new medicines
 - A robust pipeline of new alternative medicines to artemisinins

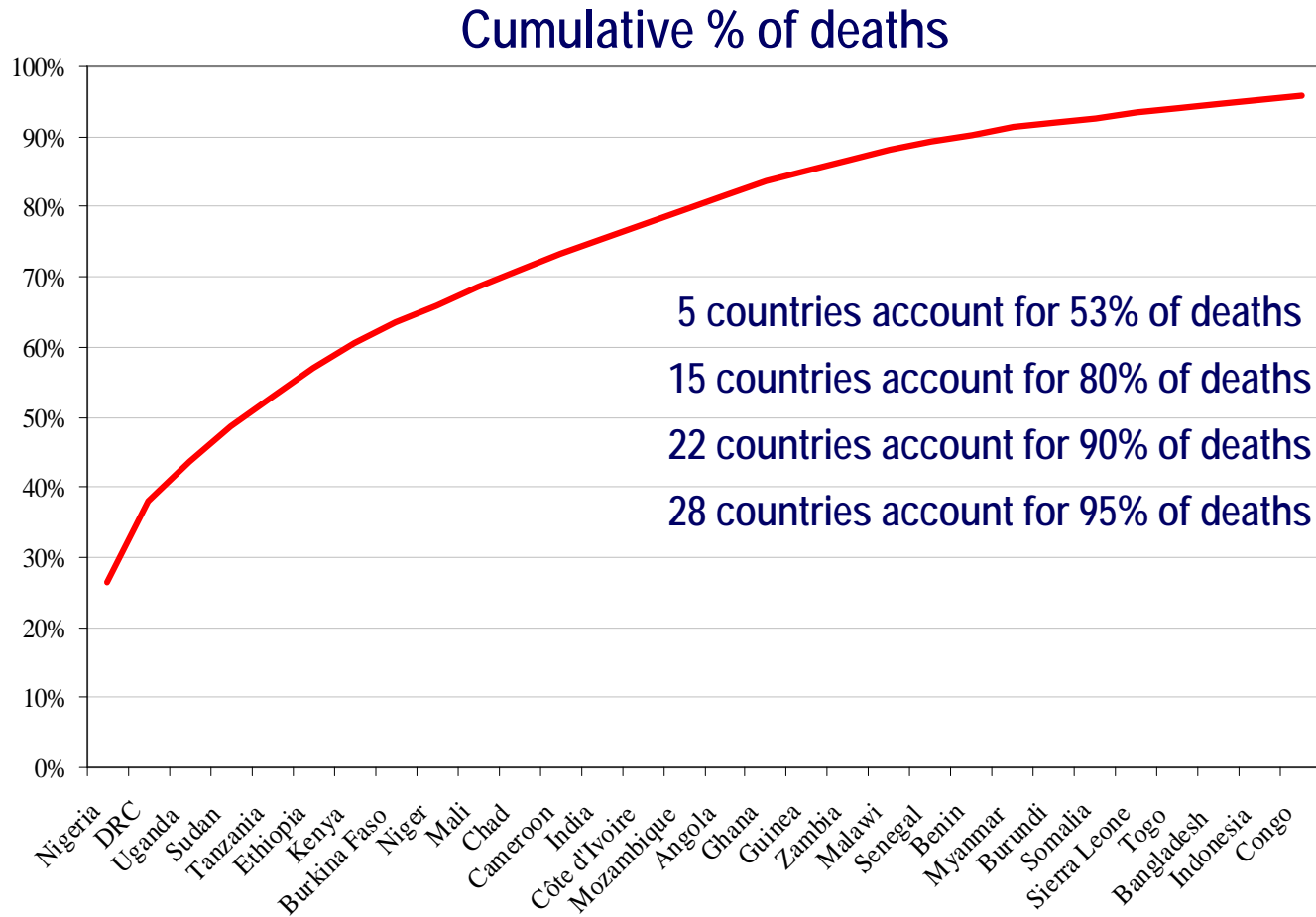


Withdrawal of marketing authorizations of oral artemisinin-based monotherapies

Countries providing marketing authorization of oral artemisinin-based monotherapies



Increasing our efforts in countries with the greatest malaria burden



Malaria vaccine summary

- One vaccine, RTS,S/AS01, in Phase 3. To date 7,000 of planned 12,000-16,000 enrolled.
- 11 sites in 7 sub-Saharan African countries. Trial due to finish in Q4 2014.
- Target population: EPI co-administration in African infants
- 55% efficacy against clinical malaria in recent Phase 2 trial (Bejon et al. NEJM 2008)
- Joint Vaccines/Malaria Expert Group to draft candidate policy recommendations for SAGE and GMP: expected in 2015



Some closing thoughts (1)

- The business case for investing in malaria control is clear and compelling; we cannot let the world's attention wander
 - Rapid increase in funding has resulted in rapid scale-up of today's tools
 - Scale-up is contributing to health systems strengthening
 - Where scale-up has occurred, malaria cases and deaths drop, as does all-cause child mortality
 - Quickest path to achieving MDG 4 in many countries, especially in Africa
- The greatest risk to continued success is unstable financing
 - We need to fully fund the RBM Global Malaria Action Plan
 - R&D for development of new tools and strategies is a critical piece of the puzzle
- The challenges ahead are a mix of programmatic and political: we must be prepared for both



Some closing thoughts (2)

- **Need to find a balance**
 - Primary near-term focus should remain reduction in malaria-related morbidity and mortality in countries with greatest burden
 - Cannot penalize success: must continue to finance eliminating countries
- **National Malaria Control Programs must be at the center of gravity**
- **No one sector alone can win the fight against malaria**
 - Partnerships will be critical in sustaining momentum
 - Need to seek integration with other programs (especially MCH, RH, and EPI)
 - Must remain creative, innovative, and collaborative
 - Malaria community can be its own worst enemy; must avoid becoming fractured
- **If we stay together and remain focused, the result will be a phenomenal public health achievement**



Keep our eye on the prize: a world free of malaria

Thank you

