

Malaria Epidemiology in Tanzania

National Malaria Control Forum

Whitesands Hotel 20th April 2011

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Outline

- Headline messages
- Background
- Trends in malaria prevalence
- Changing patterns in prevalence
- Change patterns of anaemia and its association with malaria control
- Severe disease trends
- Malaria indicators trends in IHI HDSS platform

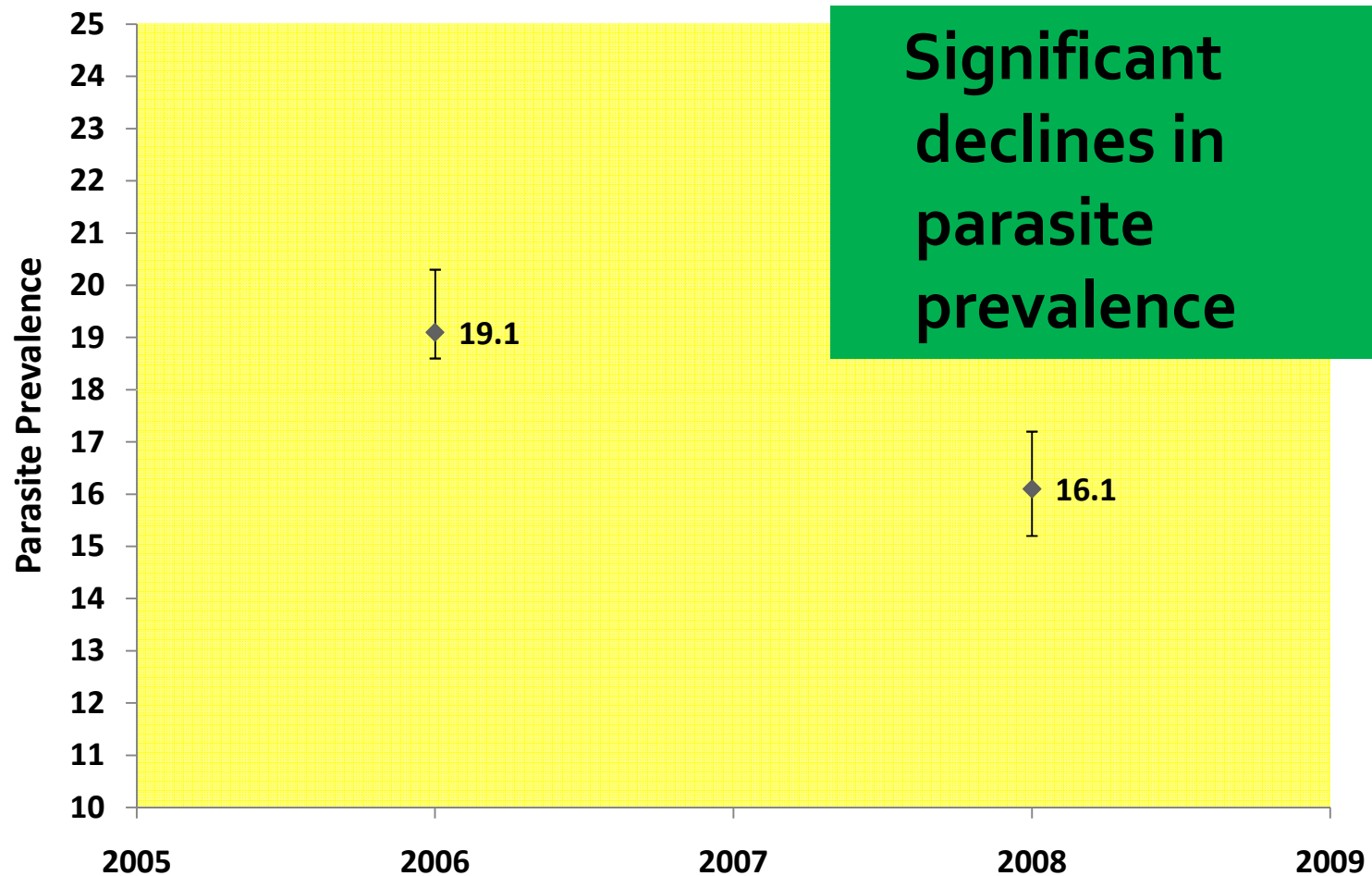
Headline messages

- Dramatic decline in malaria over 10 years
- Even bigger impact than expected
 - Malaria prevalence halved
 - Anaemia down
 - Malaria admissions down
 - Fever (and ARI) down
 - Mortality down (much more than expected)
 - Considerable scope for further progress

Background

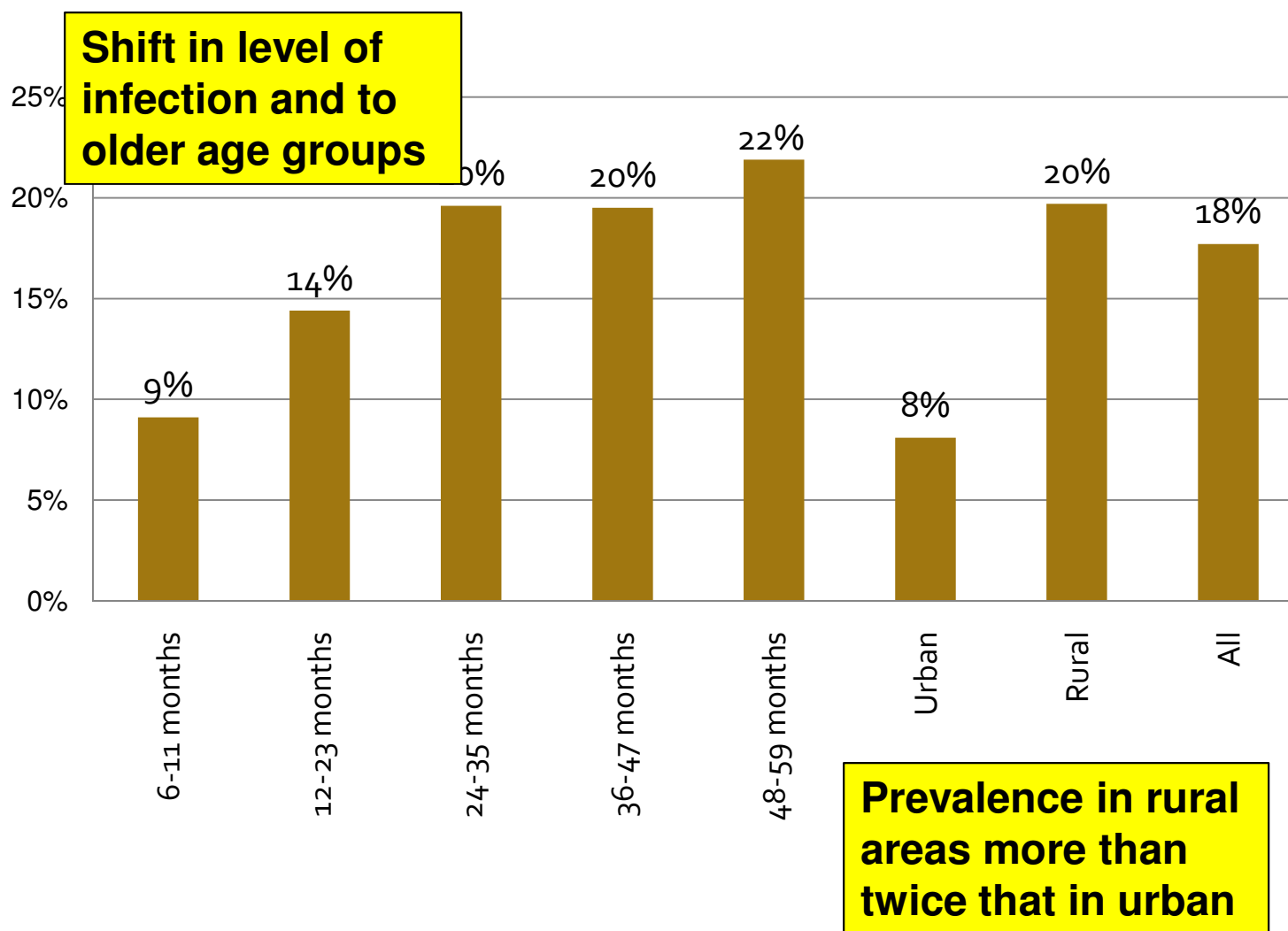
- Malaria accounts for over 30% of the national disease burden
- Malaria transmission and the estimated levels of exposure to malaria infected mosquitoes (EIR) **varies with season, altitude**, proximity to breeding sites, **socio-economic status, agro-ecological system**
- Multi-faceted malaria control strategies are **yielding significant** results in malaria indicators

National trends in malaria prevalence



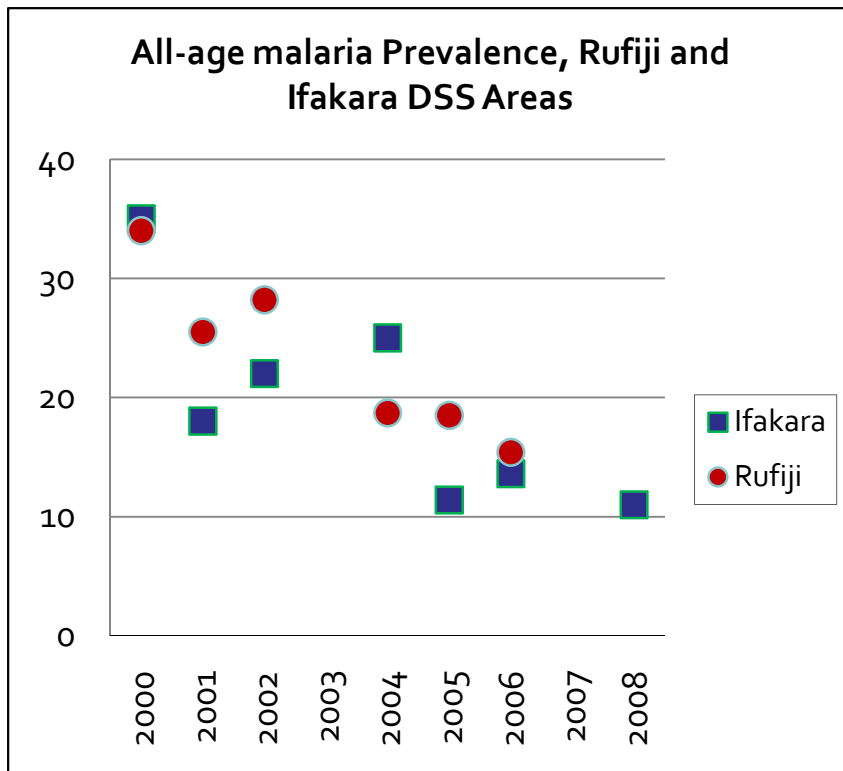
Source: NMCP 2006, 2008

Malaria prevalence by age and residence

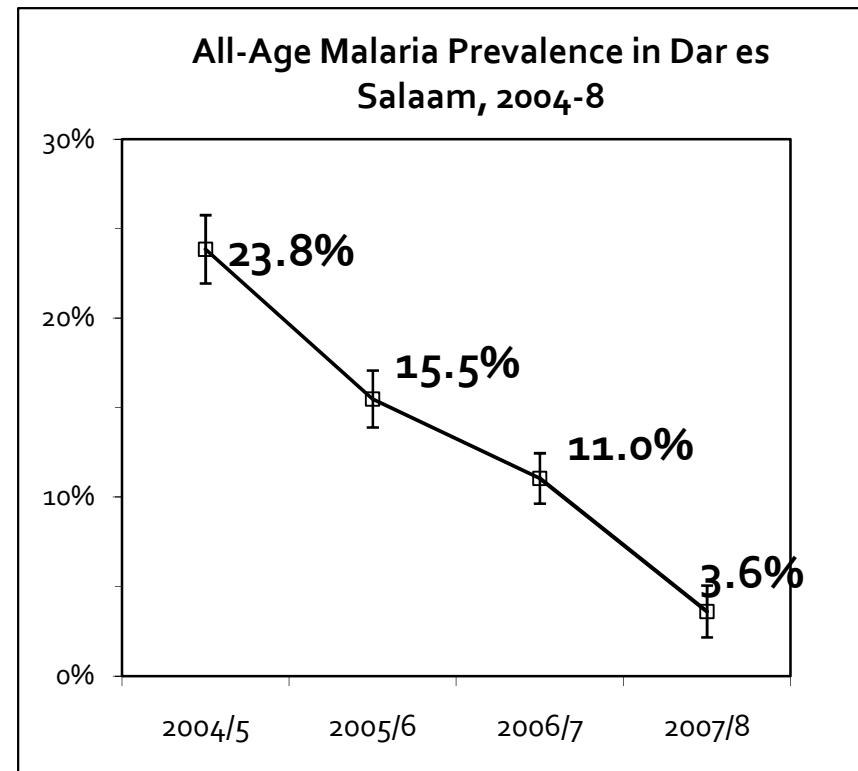


Source: THMIS 2007/08

Malaria decline in Dar, Rufiji and Ifakara



Source: IHI HDSS 2000-2008



Source: THMIS, NMCP

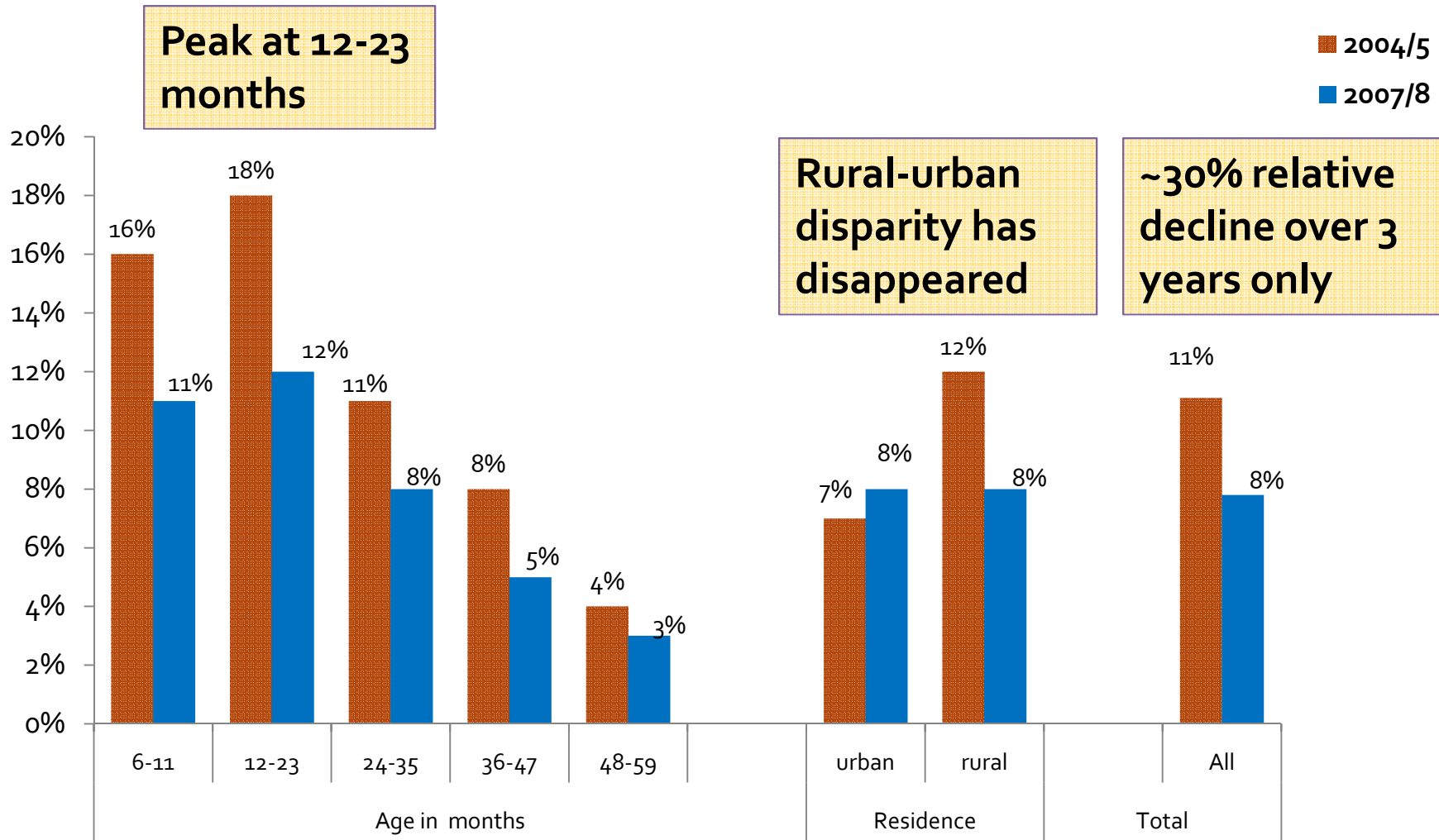
68% decline in rural

85% decline in urban

Has malaria transmission declined?

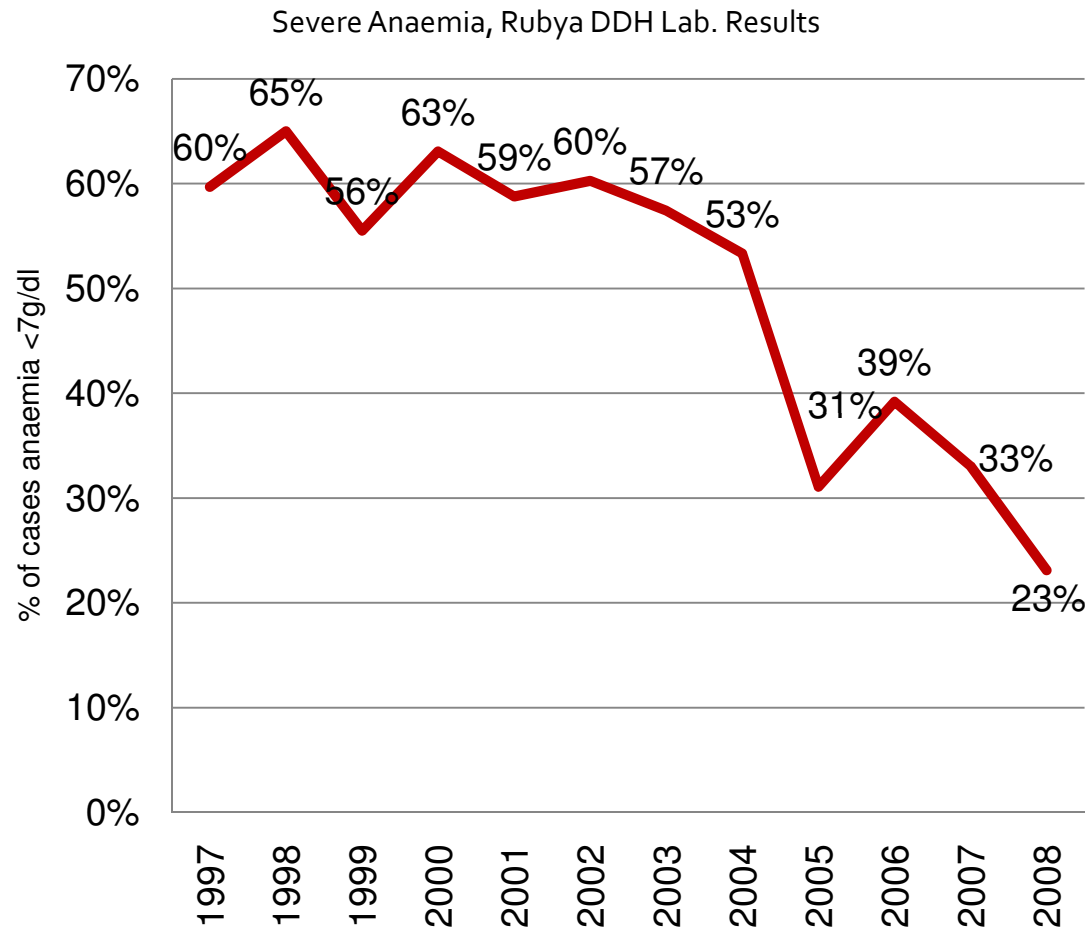
- There are much fewer mosquito bites than before
- Decline in the mosquito infectiousness (EIR)
- Bednet coverage has gone up

Under 5 anaemia reduced



Source: TDHS 2004/05 and THMIS 2007/08

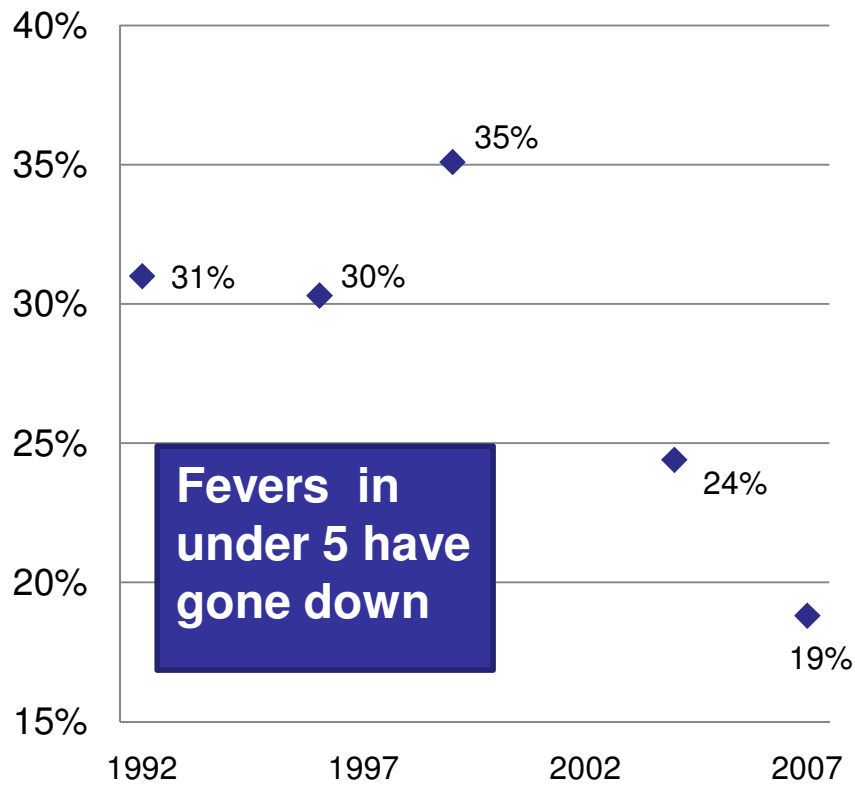
Anaemia trends in Rubya DDH 1997-2008



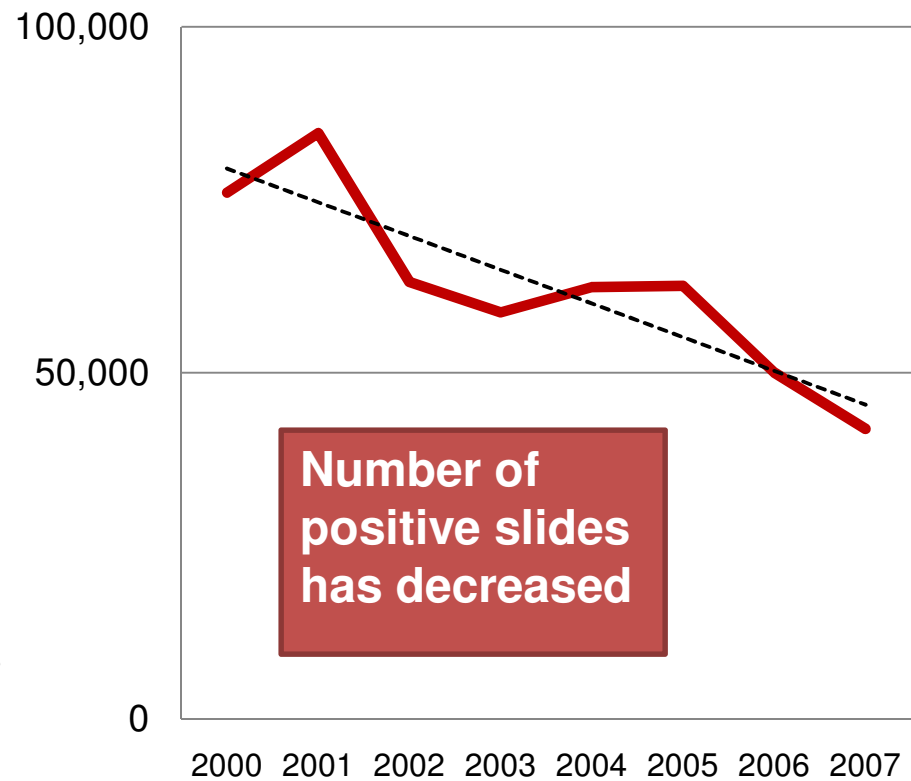
**61% decline in
severe anaemia**

Less morbidity in under-5s

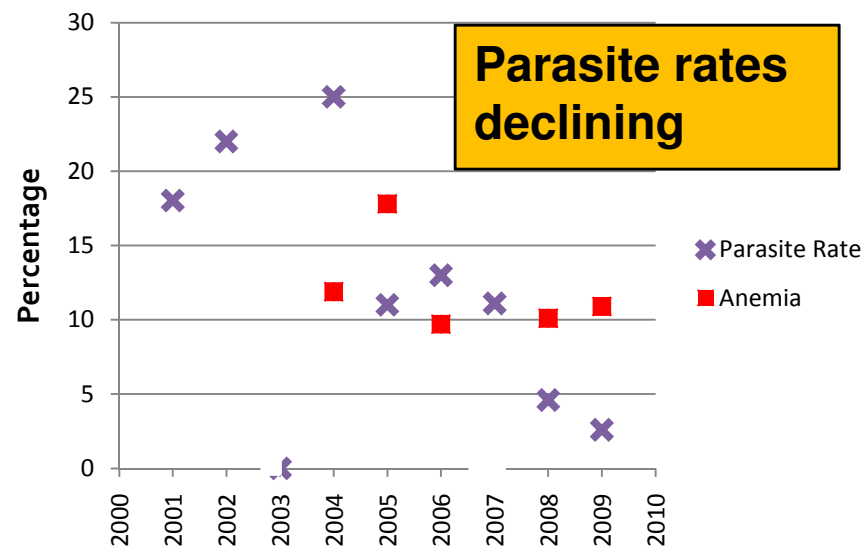
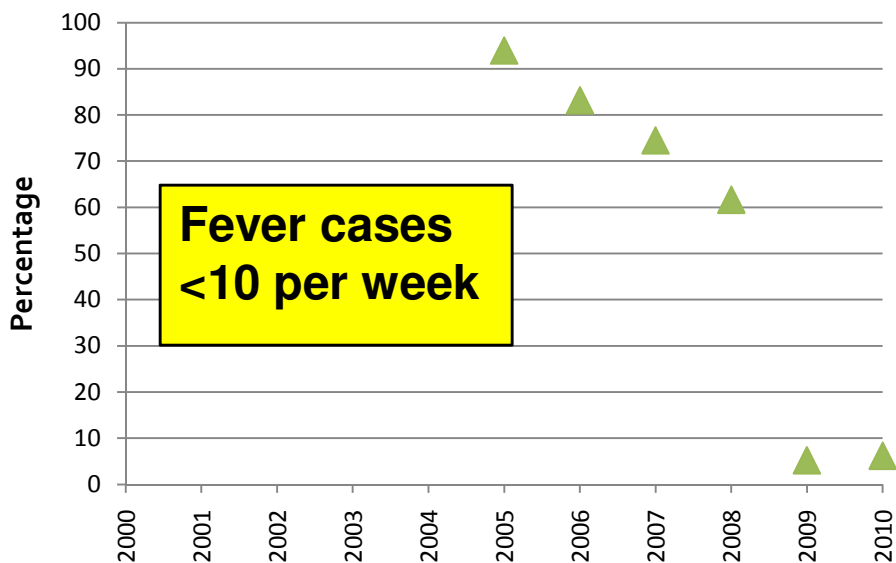
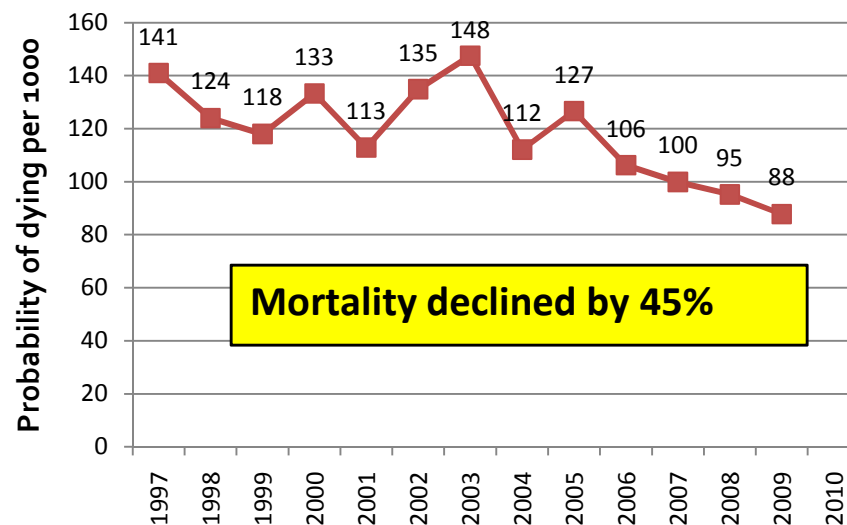
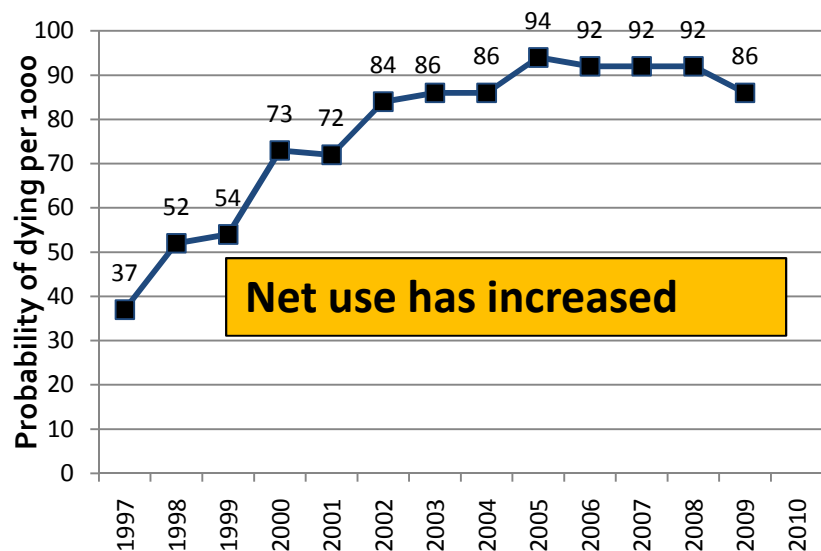
% Under-fives with fever in previous two weeks; Tanzania 1991-2007/8



Annual No. Slides Malaria Positive, 13 sentinel hospitals

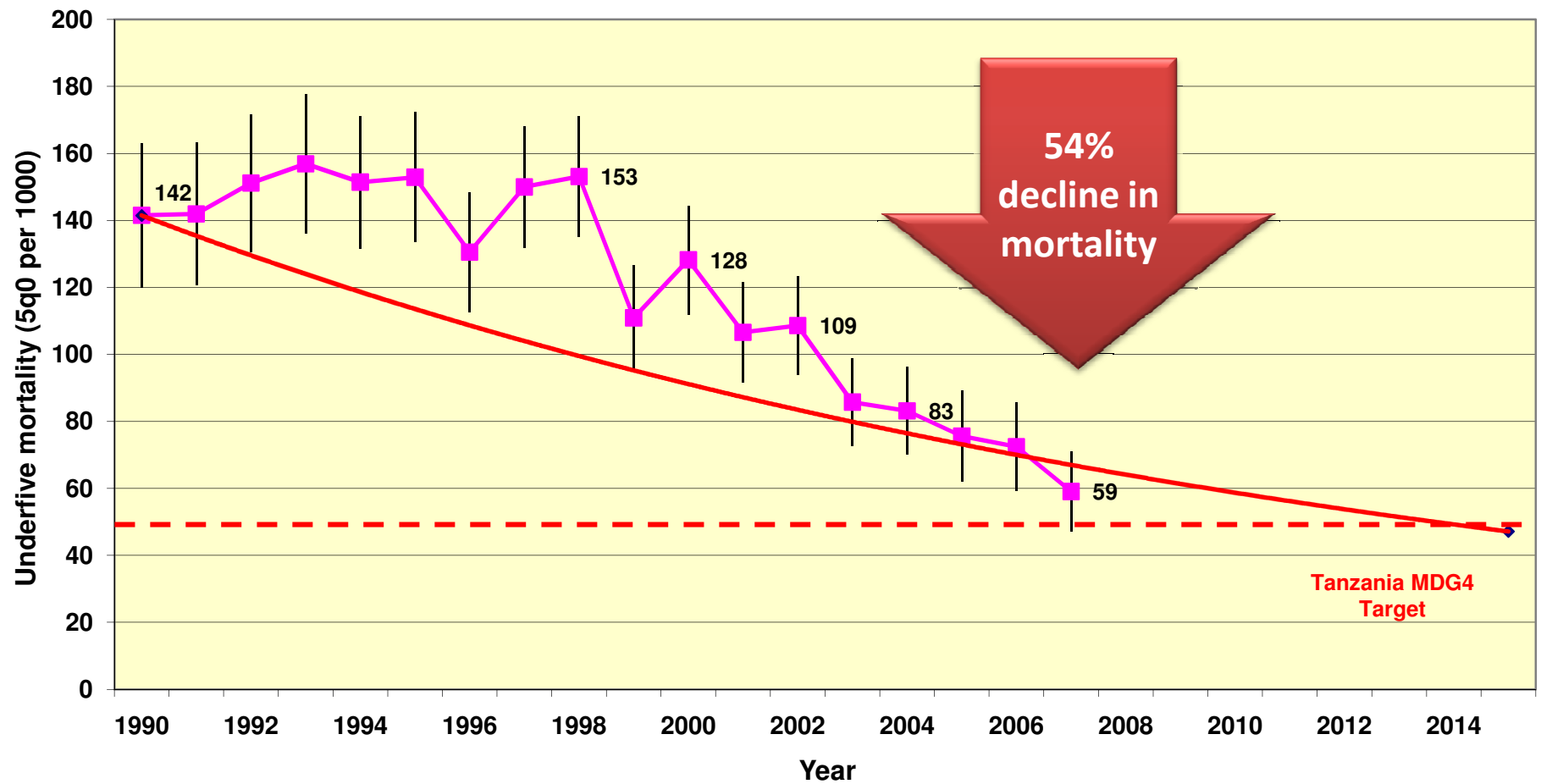


Net use, mortality, fever, PR and anaemia



Source: IMPACT study, HDSS, ALIVE study and ACCESS study

Child mortality trends in Tanzania 1990-2007



Source: THMIS 2007

Progress over the last decade:2000-2010

- Significant declines in parasite prevalence
- 18% of children aged 6-59 months tested positive for malaria in mainland Tanzania; expected to be even lower
- Significant urban/rural difference in prevalence
- Relative decline in anaemia ~30% over 3 years only!
- Significant declines in under five mortality : 45%