UGANDA MALARIA RESEARCH CENTRE (UMRC)

Research Priorities

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FIGHT MALARIA

Presentation Outline

- Malaria Situation

- Policy Priorities

- Uganda Malaria Research Centre

- Research Priorities

Malaria Situation

UGANDA: Location
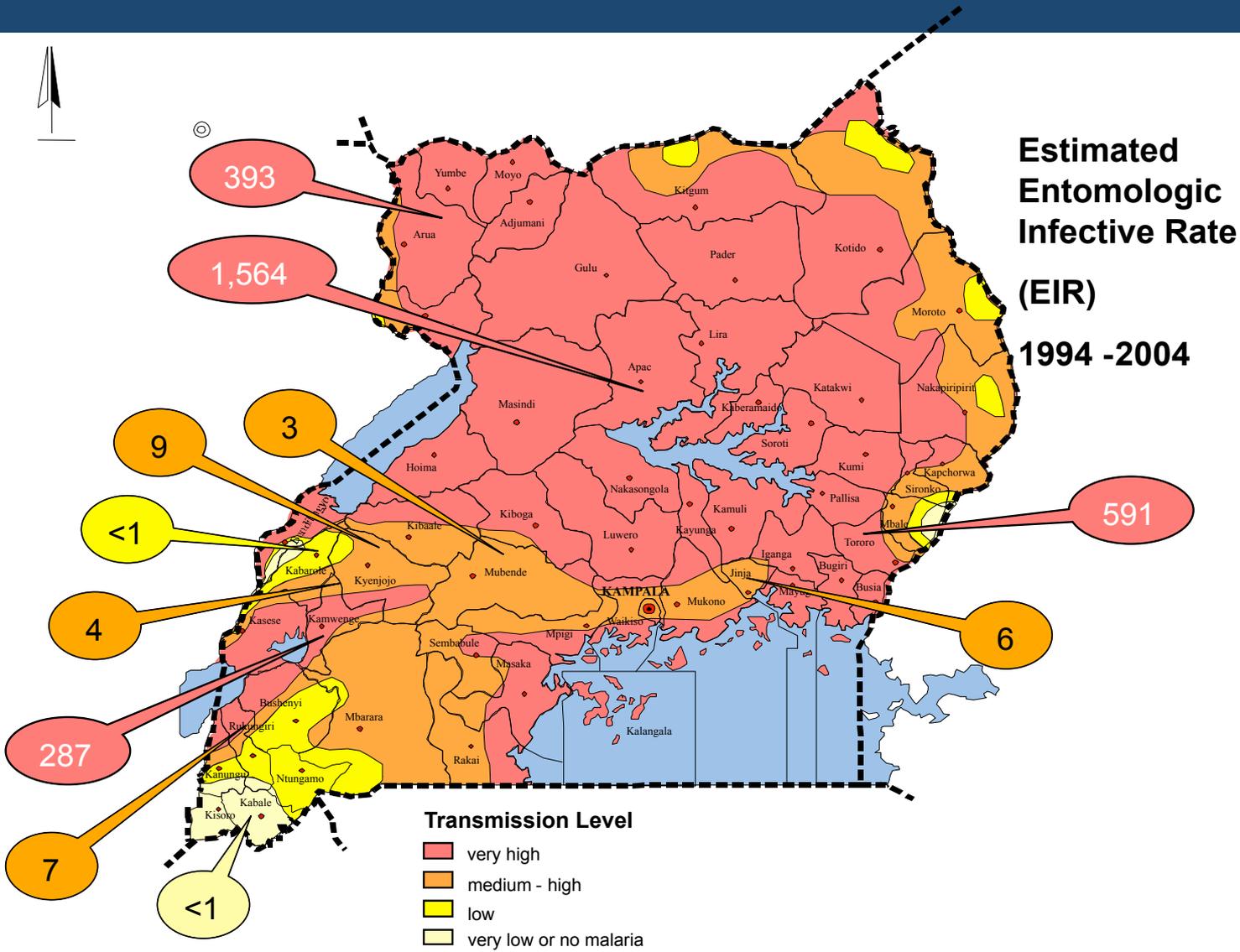
UGANDA: Water bodies

Malaria burden

- Uganda's entire population of 34,131,100 (2012 projection) is at risk of malaria
- The country has 112 Districts (up from 80 three years ago), 218 Counties (HSDs) and 1,147 Sub-counties
- Malaria is the leading cause of morbidity and mortality and the cause of huge economic losses in Uganda
- Accounts for 30-50% outpatient visits, 20% admissions and up to 21% inpatient deaths (AHSPR 2011)
- Responsible for 20-23% of all deaths among under fives
- Total malaria deaths number about 192 per day or 70,000 per year with 60,000 (85%) being of under fives
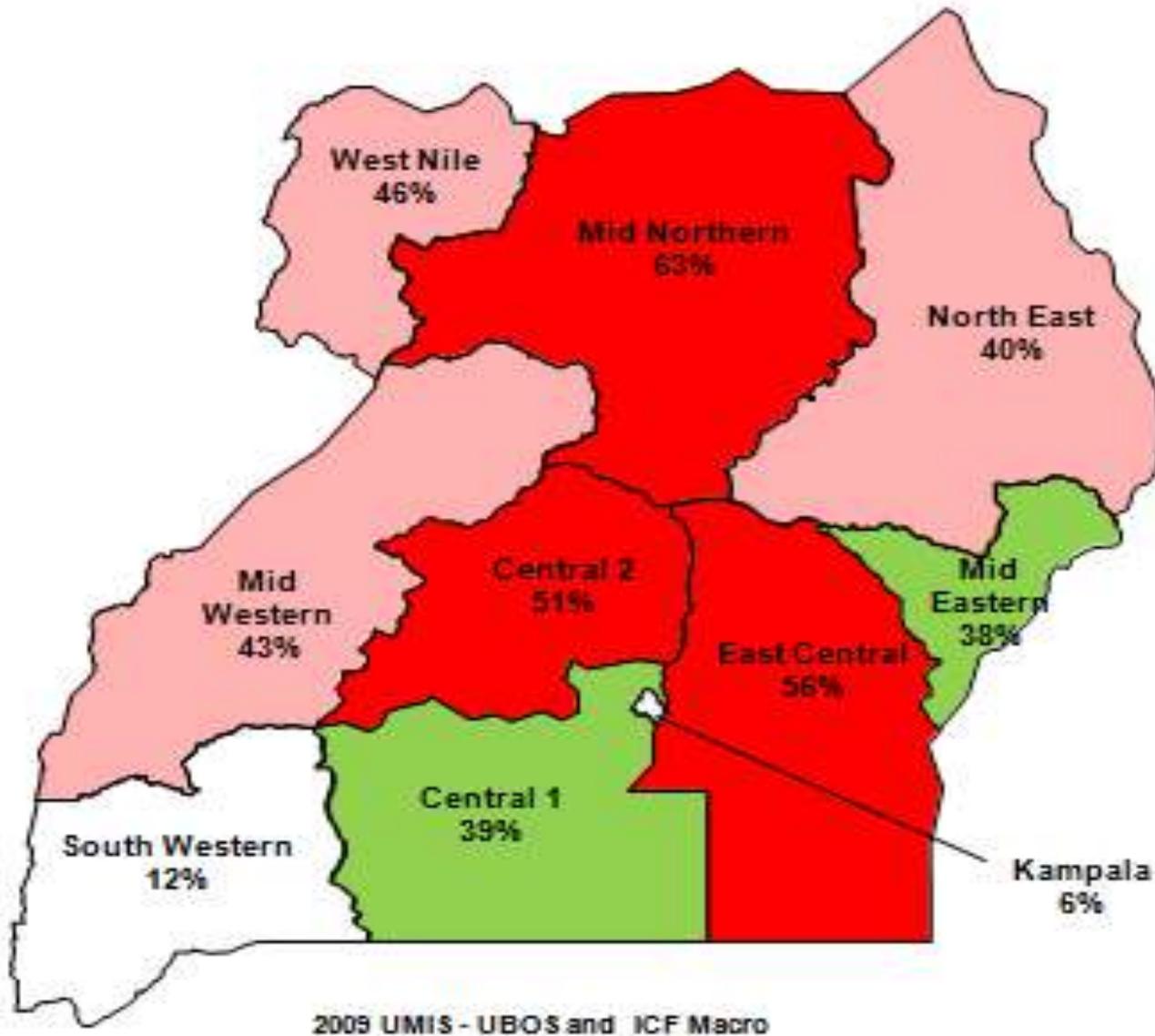
Malaria transmission

- High, stable perennial transmission in 95% of the country
- Low unstable transmission in 5% of the country (highlands), also epidemic prone
- Stable transmission areas divided in 3 epidemiological zones
  - Very high (eir >100) in 70% of areas
  - Medium to high (eir 10-100) in 20% of areas
  - Low (eir <10) in 10% of areas
- All 4 species of the Plasmodium parasite exist in Uganda
- P.Falciparum accounts for 95% of cases and P.Malarie 1-3% while P.Vivax and Ovale together for 1-1.5%
- The common vectors are *Anopheles Gambiae s.l.* and *funestus.*

Malaria Endemicity as shown by EIR 2004

Estimated Entomologic Infective Rate
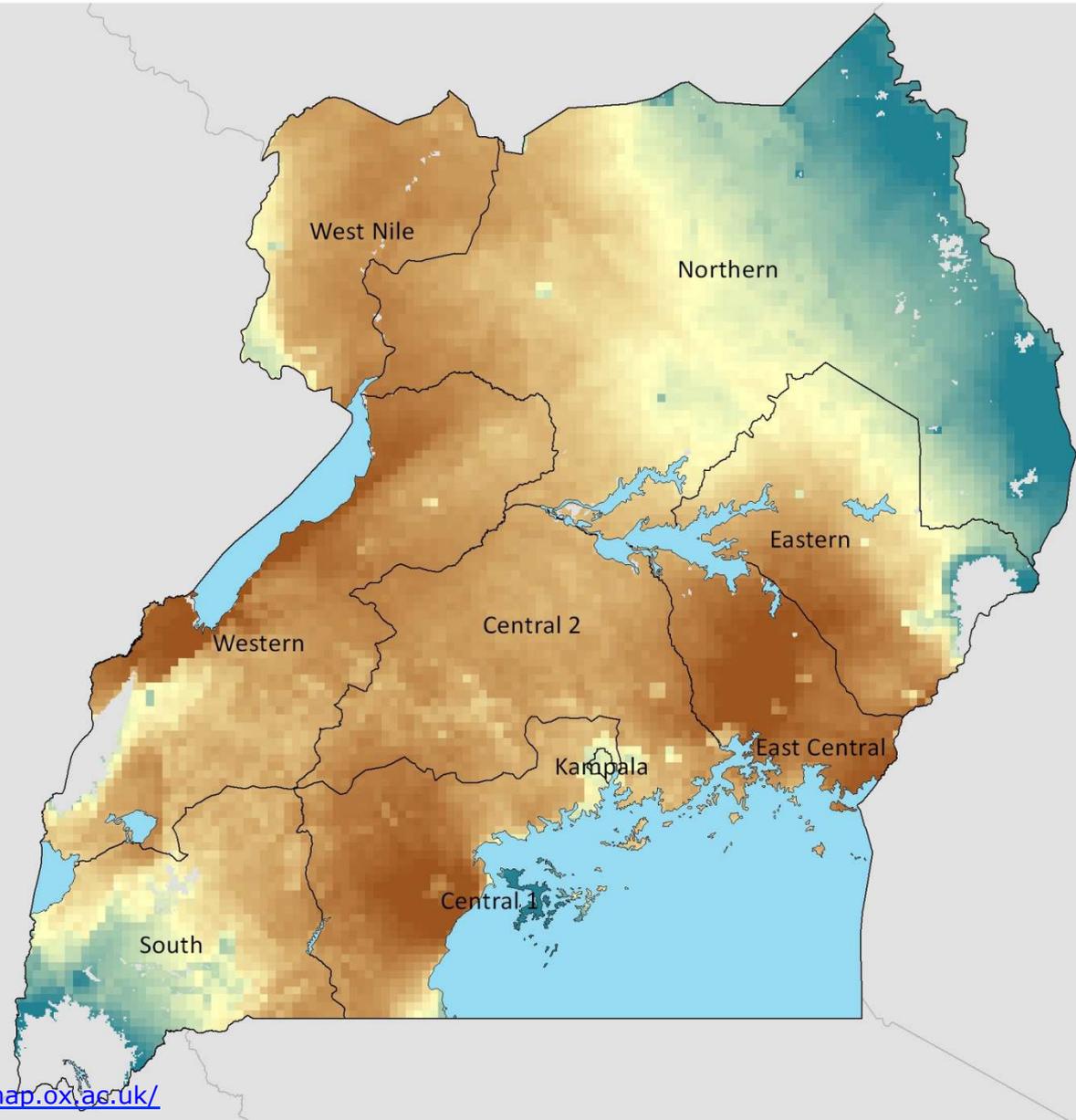
(EIR)

1994 -2004

393

1,564

9

3

<1

4

287

7

591

6

Transmission Level

- very high
- medium - high
- low
- very low or no malaria

Malaria endemicity in Uganda: TPR 2009

2009 UMIS - UBOS and ICF Macro

Pf prevalence in 2-10 year olds: MAP 2012

PfPR(2-10)
High : 0.67
Low : <0.01

West Nile

Northern

Western

Central 2

Eastern

Kampala

East Central

Central 1

South

Source: Malaria Atlas Project, 2012. http://www.map.ox.ac.uk/

Policy Priorities

Policy priorities

The 2010-2015 NMCSP defines the following priorities:

1. Prompt and effective case management using ACTs at facility and community levels, supported by parasite based diagnosis
2. Use of Long Lasting Insecticidal Nets (LLINs)
3. Indoor Residual Spraying (IRS) prioritizing regions of highest endemicity
4. Larviciding and Environmental Control where appropriate
5. Intermittent Preventive Treatment in pregnant women (IPTp)
6. Epidemic Preparedness and Response (EPR), and
7. IEC/BCC, Monitoring & Evaluation, Operational Research, and Health Systems Strengthening which cut across all the interventions.

Uganda Malaria Research Centre (UMRC)

Introduction

- In 2004, the President of Uganda mooted the idea of a malaria research centre as one of the methods to strengthen malaria control activities in the country.

- The Ministry of Health was directed to develop **a centre of excellence** which could engage the research community to find answers to the challenges of reducing the burden of malaria in the country.

- The Uganda Malaria Research Centre (UMRC) was accordingly established and became functional in 2006 with initial funding from DFID.

- Activities of UMRC ceased due to lack of sustainable funding.

- Renewed efforts are now being made to reactivate the Centre

Vision, Mission and Mandate

Vision:

- To be a Centre of excellence for malaria research in Uganda.

Mission:

- To work collaboratively with other stakeholders to provide the evidence base for malaria control policy, strategy and programme development, and implementation and evaluation.

Mandate:

- To develop, promote, facilitate, coordinate and conduct malaria research, disseminate findings and contribute towards research capacity building initiatives in the health sector in Uganda.

Strategic objectives

1. To set a national research agenda in a participatory manner

2. To promote and carry out relevant research

3. To facilitate research training and capacity development

4. To build strong and viable internal and external systems

5. To disseminate and promote utilization of research findings

Urgent activities for UMRC

1. Set up a functional platform that allows interaction between researchers, implementers, planners and policy makers.

2. Packaging and dissemination of relevant research evidence to planners and policy makers in simplified technical language, highlighting policy implications and any implications for future research.

Research Priorities

Research Priorities in the short and medium term by Thematic Areas

Case Management: Treatment

1. Drug Resistance Studies
   - Use existing Sentinel Sites *(UMSP)*
   - New Sentinel Sites to achieve more representative national coverage
2. Identification of molecular markers of drug resistance *(UMSP/PRISM)*
3. Monitoring drug quality in the open market
4. Evaluation of drug safety and tolerability *(UMSP)*
5. Monitoring price and availability of ACTs (evaluate success of AMFm)
6. Patients compliance with treatment regimens
7. Barriers to IPTp uptake *(NMCP/RHD/SMP)*

IPTp/ Impact of IPTp with SP on maternal and foetal outcomes

9. Alternatives to SP in IPTp

10. Alternatives to CQ for prophylaxis in Sicklers

11. Presumptive treatment with monthly SP   weekly CQ for malaria prophylaxis in children with sickle cell anaemia

12. Evaluating potency of local herbs in malaria treatment/ vector control *(UVRI)*

13. Patient adherence to ACT age band pre-packs vs. single blister packs *(MC)*

Case Management: Diagnostics

1. Estimation of the true burden of (symptomatic) malaria

   (PILGRIM/NMCP)

4. Field testing of RDTs   *(FIND)*

5. RDT use at community level by VHTs *(JHSPH/NMCP)*

6. Feasibility and impact of RDT subsidy for private drug shops *(IDRC)*

   (CHAI)

and impact on foetal and maternal outcomes.

10. Persistent HRP-II antigenemia: Impact on ACT use

11. Rapid Diagnostic technologies to detect resistant parasites

Vector Control

3.   *(NMCP)*

4.   Insecticide/Durability studies in rural Uganda *(A. Killian/*

(NMCP)

5.   Molecular markers for insecticide resistance in malaria
vectors

6.   Vector bionomics studies

       7.   Monitoring quality of public health insecticides in the open market

8.   Efficacy & Safety of

                                                larvicides

                                                (NMCP)

Vector Control/2

10. Care and Repair of ITNs *(A. Killian/NMP)*

11. How big is the ITN abuse problem? What are the predictors of ITN abuse?

12. Options for Continuous ITN distribution channel for Uganda

13. Impact of the IRS program in Northern Uganda *(NMCP)*

14. Added value of Concurrent deployment of IRS and LLINs

   Impact of environmental manipulation on mosquito breeding and malaria transmission

1. HMIS data reliability
2. New Endemicity Mapping *(PMI/Abt Ass)* *(??)*
3.

Asymptomatic surveys

Parasitaemia

symptomatic malaria

progression to parasitaemia

and malaria incidence

5. Asymptomatic

6. Additional tools and support to stimulate

Change Communication

methods in use in Uganda

1.   Economic impact of malaria at the

    1.   Economic impact of malaria at the household level

    2.   Cost-effectiveness of the various malaria control interventions including combinations

Fever on child survival (anaemia

5.   Impact of Home Based Management of

, growth, fever episodes, parasite rates, all cause mortality, school attendance and household

The End

THANK YOU ALL FOR YOUR ATTENTION