Unveiling the National Strategy for Malaria Control in Uganda in the Wake of the Malaria Epidemic in Northern Uganda

Paper presented at: 1st Uganda National Field Epidemiology Conference

Dr. Lugemwa Myers (International Health Specialist)

11th December, 2015
Golf Course Hotel, Kampala
Objective

- Provide an overview of malaria control and prevention in Uganda

- Share highlights of on Control & Reduction Strategy
Presentation Format

- Malaria Epidemiology in Uganda
- Burden of Disease Globally & nationally
- National strategies
- Challenges & successes
- Northern Uganda Malaria Epidemic
Global distribution of malaria

Above: World malaria situation. Malaria is endemic to tropical and subtropical regions.
Malaria Situation Worldwide

- Globally 350–500 million malaria cases reported annually
- 1-2 m people die from malaria each year
- In Africa one person dies from malaria every 30 seconds. (80% of global deaths due to malaria)
- Uganda is No. 3 contributor to the global malaria burden
 Estimated Entomologic Infective Rate (EIR)

Apac district has the highest EIR globally.
MALARIA DURING THE 20TH CENTURY

Source: Reproduced from a presentation by Dr Andrew Kitua, National Institute for Medical Research, Tanzania
Burden of Malaria in Uganda

Malaria accounts for 26% of the burden of disease (BOD Uganda 1995) and is responsible for:

- One in every 3 persons + attending OPD (33%)
- One in every 4 persons admitted in hospitals (25%)
- One in every 5 child deaths in hospital (20%)
- 40,000-50,000 child deaths in a year or 140 deaths every day**
- Severe anaemia in children/pregnancy ↑abortions, ↑low birth weight ↑MMR ↑IMR
- Low -severe economic loss& productivity, lost school days, long term disability (epilepsy, madness, poor mental uptake)
There are more deaths due to malaria than any other disease in Uganda due to Malaria (Current estimates at 140 per day)
Malaria economics

- Africa loses USD 12 billion p.a due to malaria
- In Uganda, USD 658 m is lost to malaria treatment and other opportunity costs (WHO 2004)
- Over 40% school absenteeism
- 3-8% school absenteeism is due to malaria
- Sixty million man-hours lost annually
Malaria and Poverty or Poverty and Malaria?
National Malaria Control Program:
National Malaria Control Strategic Plan 2010/11-14/15

- **Vision:** A malaria free Uganda

- **Goal:** To control and prevent malaria morbidity and mortality, minimize social effects and economic losses attributable to malaria in the country.

- **Overall objective:** Go to national scale with effective interventions to prevent and treat malaria and sustain high coverage levels
Uganda Malaria Control Strategy

The Uganda malaria prevention, control and management strategy emphasizes four interventions:

- Improving case management of malaria illnesses in health facilities and at home

- Promoting the use of LLINs, especially among vulnerable groups of pregnant women and children (22m ITNs UCC 2013-14)

- Promoting vector control through indoor residual spraying (IRS) (10 northern +14 eastern)

- Improving epidemic preparedness and response

- Operational research
Adjustments in the Strategic Priorities

- Build a strong Public Private partnership involving all sectors and stakeholders including communities

- Apply an evidenced based approach to the further development and improvement of malaria control interventions**
Malaria Eradication Business Plan

Global Malaria Business Plan covers short, medium and long-term horizon

- **2010**
  - Short-term
  - Control phase with existing tools

- **2015**
  - Medium-term
  - Control stabilization phase

- **?**
  - Long-term
  - Elimination / eradication phase

- Development of new tools
Challenges (National)

- Inadequate funding to implement and sustain great impact programs.
- IRS currently dependant on donor funds.
- Human resource issues including attrition of HWs due to lack of incentives (VHTs).
- Negative publicity perpetuated based on political inclinations rather than technical reasons.
- Economic interests by both local and foreign business community over the health of the *wananchi*.
- Unforeseen implementation obstacles e.g Court Injunction against DDT with resultant delay in program implementation.
- Aligning global funding initiatives into the national planning & programmatic systems.
Is it possible to eliminate malaria in Uganda?

- Malaria was eradicated in Europe and United States of America during WHO Malaria eradication campaign 1955-1970 using DDT.

- There is remarkable reductions in malaria in South East Asia and S. America

- Southern Africa (SADC) countries are in elimination phase

- Zanzibar in EA is in elimination phase

- Move on Malaria: Katakwi by PILGRIM Experience in 2008 reduced malaria prevalence by 96% in 2 weeks through MDA & IRS

- Malaria Indicator Survey 2014 showed 50% reduction in Prevalence
Mosquitoes and Malaria: From man to mosquito & vice versa
An enthusiastic woman taking a spray person to spray her house
Note the empty pediatric ward at Katakwi HCIV after IRS+”Chemotherapy”
The purpose of the UMRS to provide a common synchronized scale up of evidenced-led malaria reduction efforts Development Partners, Private Sector & Stakeholders:

A 6-year period (2014/15-2019/20)

Align 1st 3-years with new funding model NFM of GFATM
Goals of URMS

- By 2020, reduce annual malaria deaths from the 2013 levels to near zero (23,126 to <1:100,000)

- By 2020, reduce morbidity (Incidence) by 80% 2013 levels (460 to 92 cases per 1000 population)

- By 2020, reduce malaria infection (parasites prevalence) by over 85% of 2010 levels (63%-10%)
The Northern Uganda Malaria Epidemic

- WHY....?
- WHY.....?
- WHY.....?
Map showing the malaria epidemic districts in Northern Uganda

Legend
- Lakes
- Surrounding Districts
- Malaria Epidemic Districts

Source: Uganda Burea of Statistics Shapefiles
Map made by: Allen E. Okullo, PHFP- FET Fellow
Malaria Control Interventions and Incidence in Under 5’s, Lamwo district

Malaria Incidence per 1000 popn

Month/Year

- IRS
- IRS
- IRS
- IRS Ended
- LLINs Mass Campaign
- Start of Epidemic

Rapid Reduction
Malaria Control Interventions and Incidence in Under 5’s in Nwoya district

Case Mgt, LLINs in facilities and BCC

Malaria Incidence per 1000 popn

Month/Year

Malaria Incidence per 1000 popn

IRS

Rapid reduction

IRS

IRS Ended

LLINs Mass Campaign

Start of Epidemic

2012

2013

2014

2015
Figure 1: Pyrethroid resistance in Uganda. The shaded area denotes the current malaria outbreak (Sept. 2015). Pyrethroid resistance has been confirmed in several districts of the malaria outbreak in the Northern Region.
Median knockdown time (minutes) in cone bioassays of PermaNet® 3.0 & PermaNet® 2.0 LNs against field-derived An. gambiae populations from Busia & Soroti Districts, 1 month (Jun 2013) & 13 months (Aug 2014) post-LNs distribution.
Mosquitoes and Malaria: From man to mosquito & vice versa

[Diagram of the malaria parasite life cycle]
Achievements (MIS 2015)% age of HHs with LLIN

- Uganda 90%
- West Nile 96%
- Mid-North 94%
- East Central 82%
- North East 97%
- Mid-Western 94%
- Mid-Eastern 95%
- South Western 97%
- Kampala 86%
Conclusion

- Malaria still a disaster to Ugandans

- Arsenals to eliminate it are available (IRS, Malaria Medicines, LLINs, BCC/IEC…)

- Resources (however, meager) & political support available.
Questions for Epidemiologists

Could Scientists & the National Strategy for Malaria Control be:

- Targeting the wrong enemy?
- Targeting the right enemy with inappropriate strategy?
- Targeting the wrong enemy with the right tools?
- Who is the enemy anyway?
PH Principle of Disease Control

- Cure
- Immunise
- Quarantine
- Kill all patients?
THANK YOU
FOR YOUR ATTENTION