Lot Quality Assurance Sampling (LQAS) as an option for localized evidence-based planning

Benefits and Policy Issues from the Ugandan Experience

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The Republic of Uganda

Purpose of the Presentation

- To share with the audience our experience with the Lot Quality Assurance Sampling (LQAS) survey methodology
- To present a practical example of LQAS application to guide program implementation
- To share lessons learned and how LQAS has shaped some policy issues in Uganda

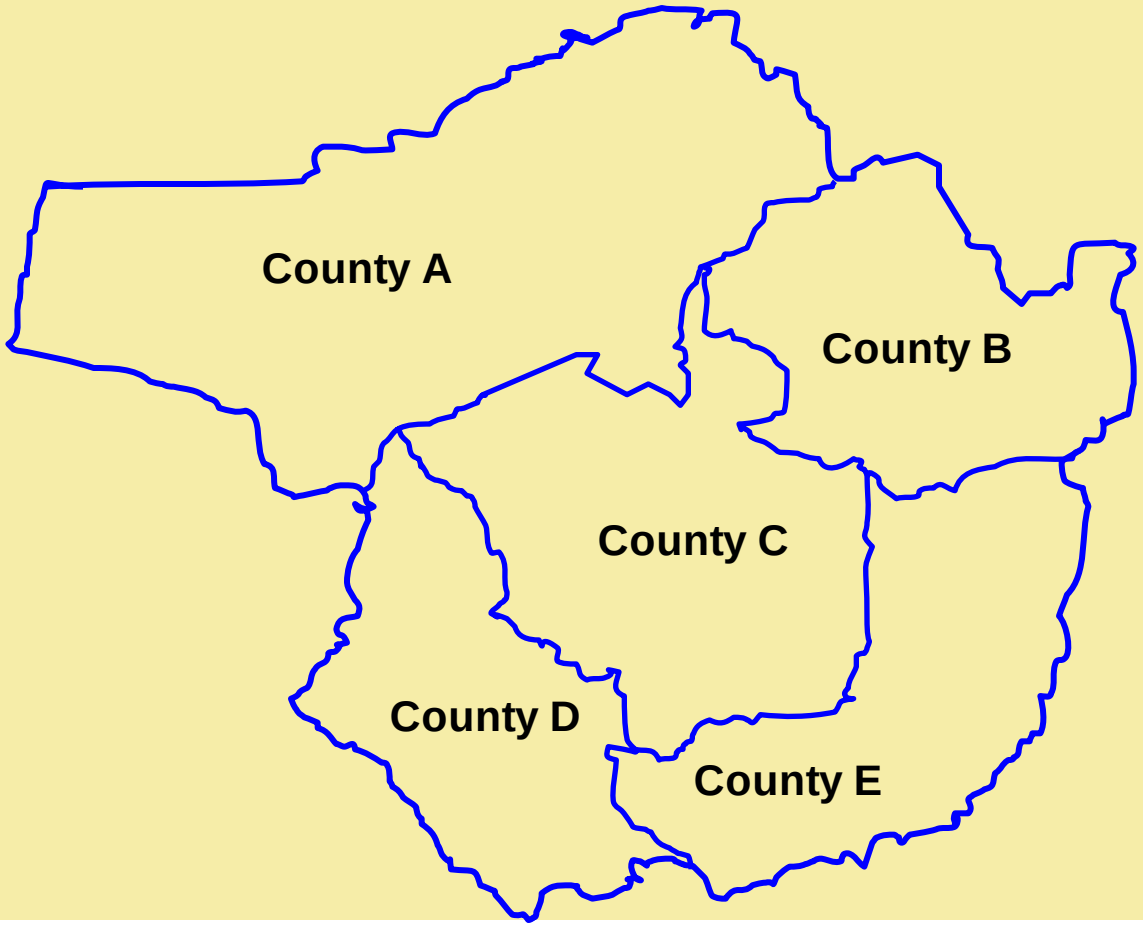
What is LQAS?

LQAS refers to Lot Quality Assurance Sampling

LQAS is a sampling method that:

- Can be used locally, at the level of a "supervision area," to identify priority areas (e.g., county, sub-county) or indicators that are not reaching average coverage or an established benchmark
- Can provide an accurate measure of coverage or health system quality at a more aggregate level (e.g., program catchment area, district or refugee camp)
- Can enable targeting of interventions within a district

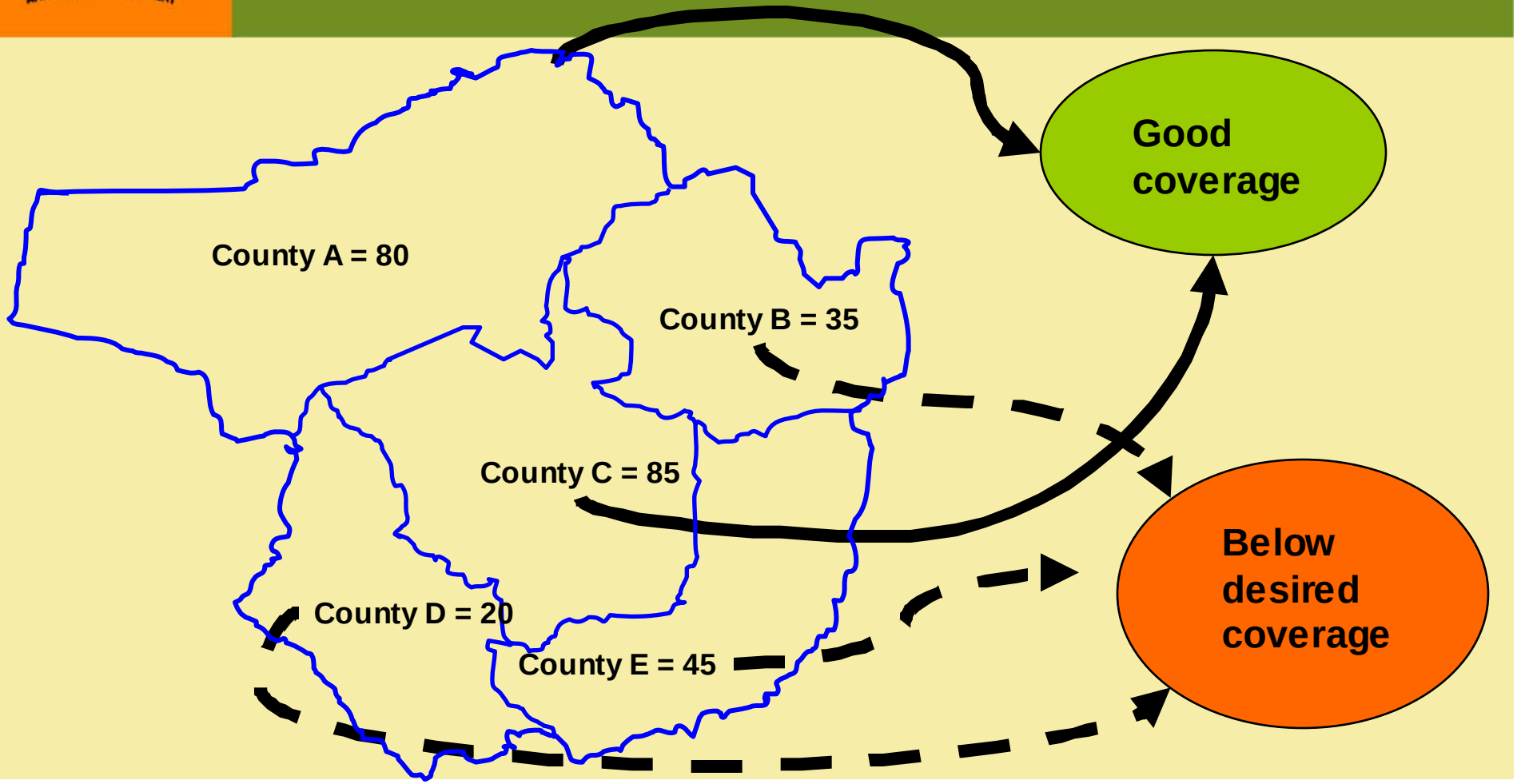
What are the LQAS Principles?



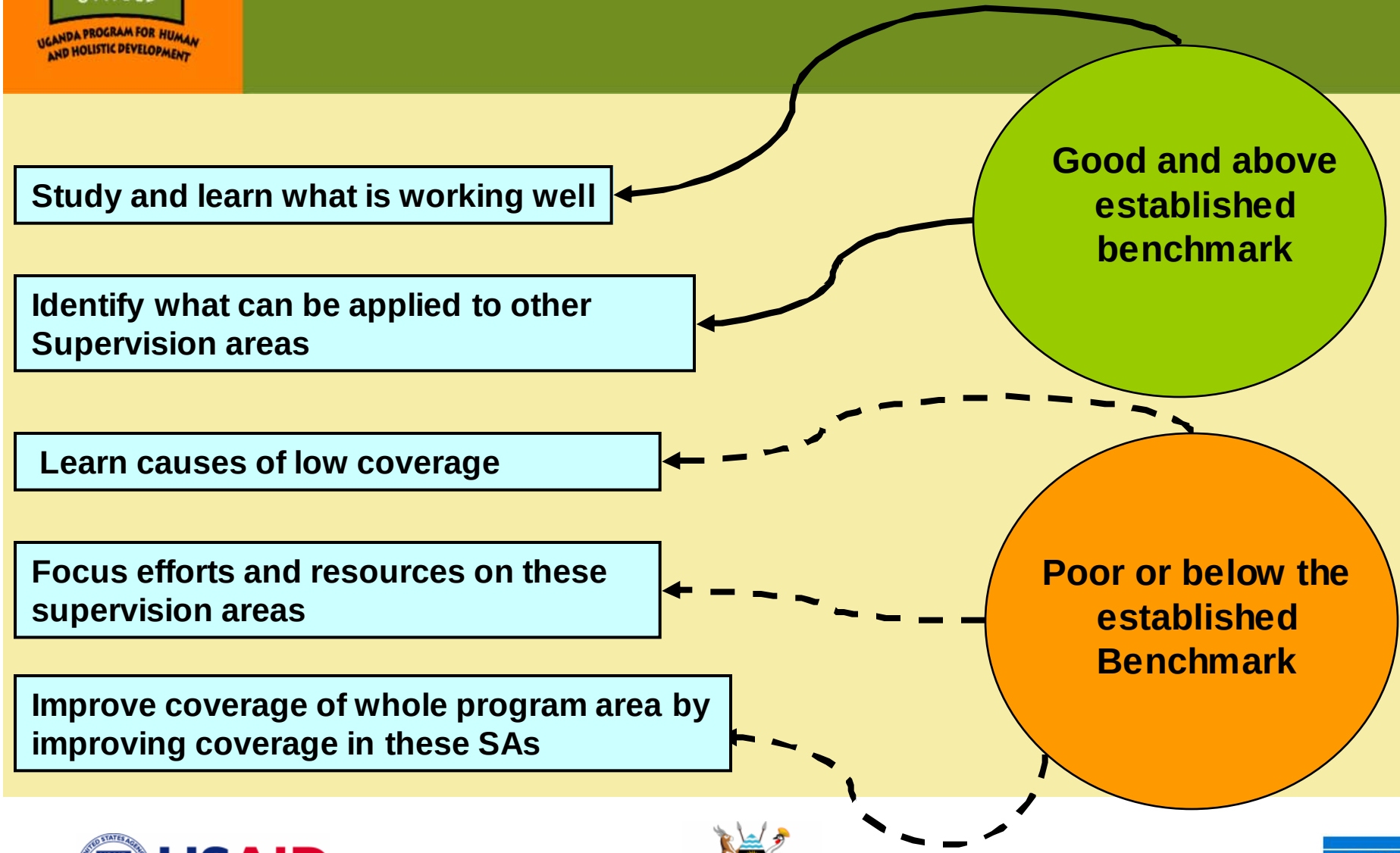
- Assume a program covers a whole district
- Each county is then called a 'Supervision Area' and district a 'Supervision Unit'
- LQAS utilizes a minimum of 19 items (e.g. households, schools, health units) from each 'supervision area' in order to assess an indicator

What can LQAS give us?

Indicator: Percent of children under age five who slept under a mosquito net the night before the survey



What can be learned from the findings?



About UPHOLD

- $105m USAID funded six-year bilateral project (Oct. 2002- Sept 2008) with the Government of Uganda
- Project is being implemented by JSI Research & Training Institution Inc. (JSI)
- Currently operating in 28 districts covering 36% Uganda's population (~ 10m people) down from 34 districts in 2006
- Supports interventions in three areas namely: **Education**, **Health** and **HIV/AIDS** through an integrated approach

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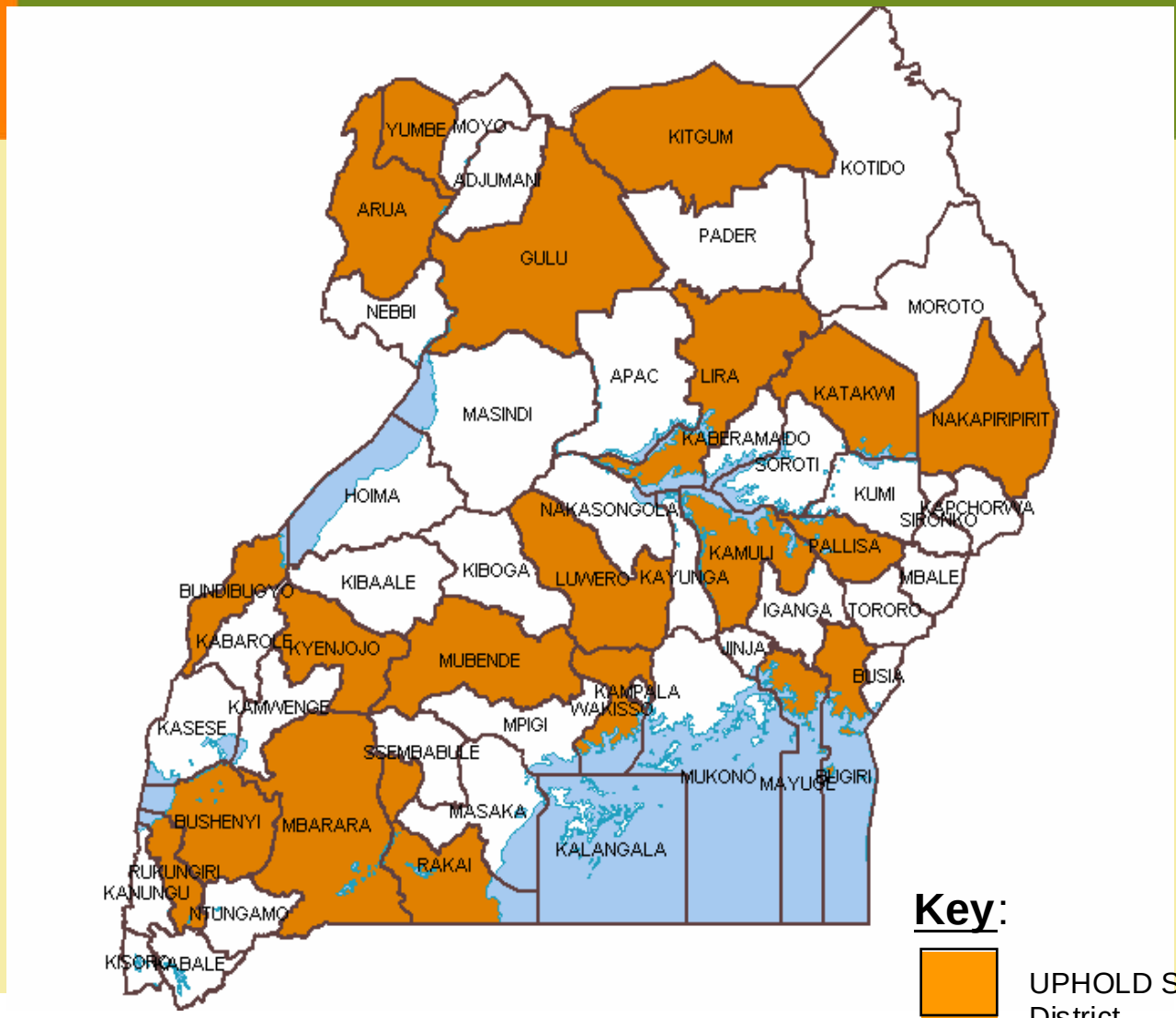
UPHOLD's Geographical Coverage (2006)



Key:

UPHOLD Supported District

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LQAS Surveys have been institutionalized at district level for Evidence-based Planning and Decision-making

UPHOLD has built district capacity to annually collect data for planning, monitoring and evaluation using a simple and cost effective survey methodology

- 303 district staff in 37 districts have been trained to use the LQAS methodology
- Four LQAS surveys have been carried out (2004, 2005, 2006 and 2007) hence making trend analysis possible for each district
- Annual presentation and discussion of district-specific LQAS results is conducted in each UPHOLD supported district
- User friendly district and county/sub-county specific data is now available for evidence based planning and tracking of progress across a wide range of parameters
- Over time UPHOLD has leveraged District, UACP, UNICEF and NUMAT resources to conduct LQAS surveys – something which shows increased buy-in for the methodology

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Case Study on practical utilization of LQAS surveys

Distribution of Insecticide Treated Bed Nets (ITNs) in four Districts in Uganda using guidance from information obtained through LQAS Surveys

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UPHOLD's work in Malaria Prevention and Control

UPHOLD has supported several interventions in Malaria management including:

- The Home Based Management of Fever (HBMF) Strategy
- **Procurement and distribution of Insecticide Treated Bed Nets (ITNs)**
- Re-treatment of Bed Nets
- Intermittent Preventive Treatment of Malaria in Pregnancy (IPTp)
- Malaria management using the new Artemesinin Combination Therapy drug Policy
- Support to Technical Working Group Meetings

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Distribution of Insecticide Treated Nets (ITNs) - I

- In December 2005, UPHOLD initiated the distribution of 260,000 ITNs in 9 districts with low bed net coverage
- Main objective was to distribute enough ITNs in each of the target districts so as to increase the overall ITN coverage for children under five in each district by an average of 14%
- This presentation focuses on the distribution process in 4 UPHOLD supported districts that did not undergo redistricting in 2006

Distribution of Insecticide Treated Nets (ITNs) - II

- All four districts in this presentation had a 2004 ITN coverage among under fives of less than 10%
- In each district, sub-counties with the least ITN coverage and poorest socio-economic indicators were specifically targeted
- 55,731 bed nets were distributed in the 4 districts over a three month period
- The distribution exercise was collaborative and involved the National Malaria Control Programme, District Personnel at various levels as well as Community Medicine Distributors who were the field level ITN distributors

Field Procedures

The Home Based Management of Fever (HBMF) Strategy that utilizes Community Medicine Distributors (CMDs) was the vehicle of Bed Net distribution because:

- CMDs were already 'embedded' within the community and could easily identify those households with the target group (children under five)
- Method results in more rapid distribution compared to health facility based alternatives e.g., through the MCH clinics
- Method emphasizes 'community ownership' of process and empowerment and recognition of the lay volunteer CMDs – a good thing for fostering greater community involvement

The supply chain was closely monitored

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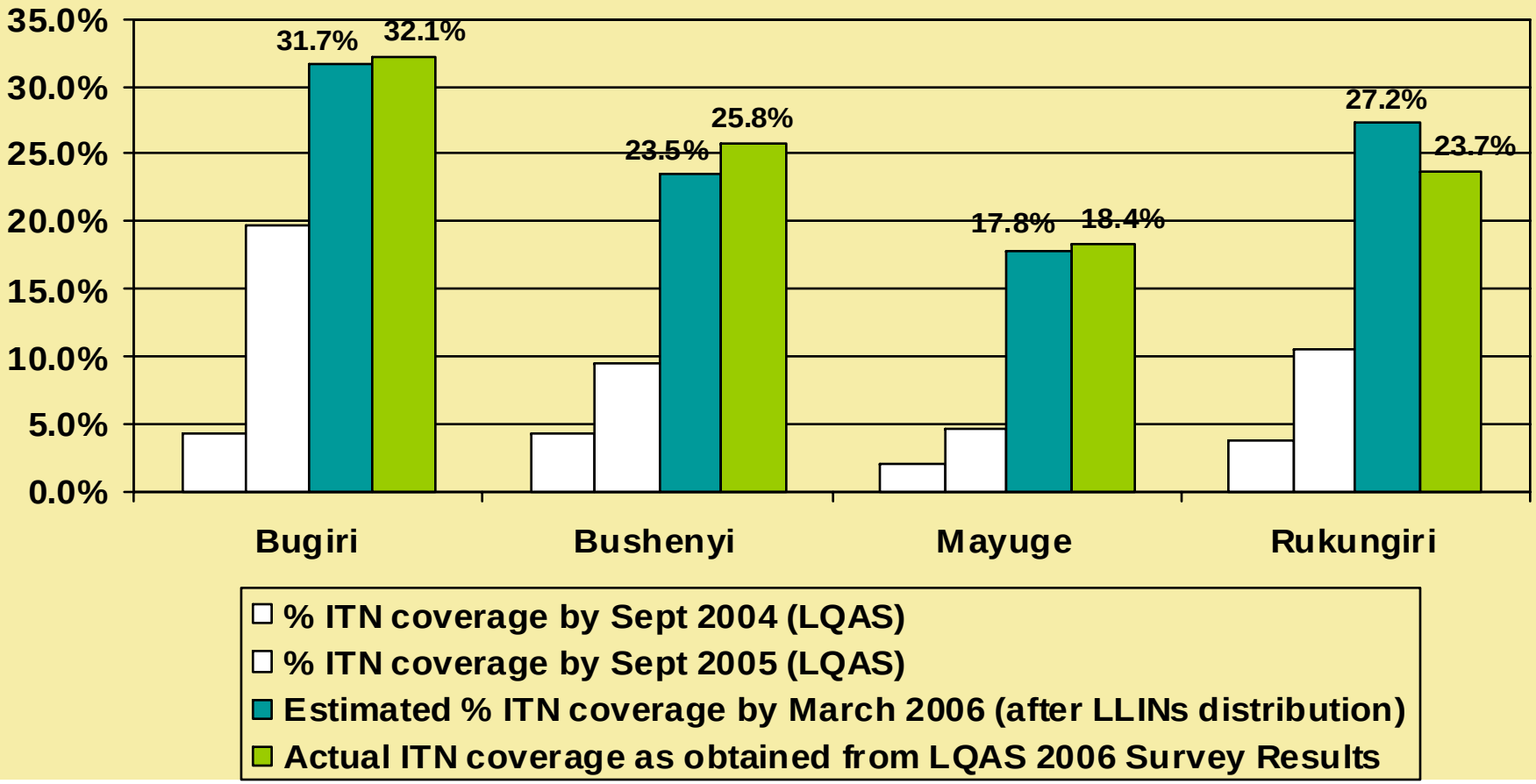
Methodology used to estimate individual district needs

- Estimates of the number of ITNs to distribute in each district was based on projected 2006 district populations of children under five years
- 2002 Census Figures for each district were extrapolated by the estimated population growth to obtain 2006 population estimates
- ITN coverage for 2005 was obtained from the UPHOLD supported 2005 LQAS survey
- Estimated % increment was calculated for each district since the number of nets required to cause a unit percent increment was known for each district

Post- Distribution Survey Findings were remarkably similar to those estimated before the ITN Distribution

District	Estimated Population of <5s (2006)	% ITN Coverage by Sept. 2004 (LQAS)	% ITN Coverage by Sept. 2005 (LQAS)	# of ITNs distributed by UPHOLD Dec 2005 – Mar 2006	Estimated % increase in bed net coverage in <5s	Estimated % new ITN coverage after distribution	Actual ITN coverage as per 2006 LQAS Survey	p Value
Bugiri	100,104	4.2%	19.6%	13,000	12.1%	**31.7%**	**32.1%**	0.980 (ns)
Bushenyi	159,920	4.2%	9.4%	22,800	14.1%	**23.5%**	**25.8%**	0.518 (ns)
Mayuge	75,259	2.1%	4.7%	10,000	13.1%	**17.8%**	**18.4%**	0.981 (ns)
Rukungiri	58,993	3.7%	10.5%	9,931	16.7%	**27.2%**	**23.7%**	0.513 (ns)

The 2006 LQAS Survey validated the accuracy of the intended coverage estimates



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Summary of Results

- UPHOLD was known to be the only major distributor of ITNs in the four districts during the period 2005-2006
- A post distribution LQAS survey conducted in November 2006 showed an average ITN coverage increment of 15.7% compared to the estimated 14% (p=0.692)
- While the difference was not significant, it could be attributed to additional bed nets that were purchased or obtained from other sources

Lessons learned

- LQAS information helped convince district health teams and leadership on the choice of sub-counties in which to provide nets – this helped minimize 'political' influence
- LQAS is good for monitoring short term projects that need to allocate resources appropriately and demonstrate effectiveness/impact
- LQAS empowers community ownership and builds consensus during data collection and analysis of results
- Community based distribution at US$ 50 cents was affordable and this approach has been replicated elsewhere

Lessons learned

- Utilizing research is a good way of targeting interventions in resource limited settings
- It is possible to build simple community based surveys into routine programmatic implementation
- At the district level, such surveys have proven to be an invaluable tool in work planning
- Being a proven methodology, the Government of Uganda has used CMDs to distribute ~ 1.8 m additional ITNs in other districts of Uganda

LQAS results compare well with other standard Survey Methodologies

Comparison of UPHOLD LQAS Household survey with National UDHS Survey, 2006 on selected Malaria Indicators	2006 Survey Results	
	LQAS	UDHS
% Children under five with fever in two weeks preceding the survey	43	41
% Children with fever who received timely treatment	77	75
% Households with a bed net of any kind	39	34
% Households with an Insecticide Treated bet net (ITN)*	34	16
% Children under five who slept under an ITN the night before the survey*	27	10

* Confirms the fact that there was more ITN distribution in the 34 UPHOLD supported districts by 2006

Conclusion

Program planners and Policy makers should consider utilizing the LQAS surveys more to guide routine implementation of community-based programs

Acknowledgements

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- USAID for provision of funding
- District Local Governments for participation in the surveys
- Other partners (e.g., UNICEF, NUMAT for participation in these community based surveys)
- All survey respondents at household and facility level