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# Health worker factors associated with correct prescription of ACTs for uncomplicated malaria in rural Tanzania

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Presented at INDEPTH SCIENTIFIC CONFERENCE IN MAPUTO  
MOZAMBIQUE, 24-27 OCTOBER, 2011



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# Outline:

- Background
- Objectives
- Methods
- Results
- Interpretations
- Limitations
- Conclusion/ Recommendation



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# Background

- Prompt and effective management of malaria remains a cornerstone for malaria control efforts
- Effective malaria case management depends on presentation and correct interpretation of clinical signs and symptoms
- Improving health worker's compliance to treatment guidelines remains critical to the success of any new drug policy.
- Improving malaria case management is therefore mainly depend on health workers compliance to clinical guidelines



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## Aim:

- To assess health workers characteristics associated with correct use of Artemisinin based Combination Therapy (ACT) for management of uncomplicated malaria
- To assess influence of in-service and pre-service training, availability of job aids, working experience and supervision visits on correct prescription of ACTs.



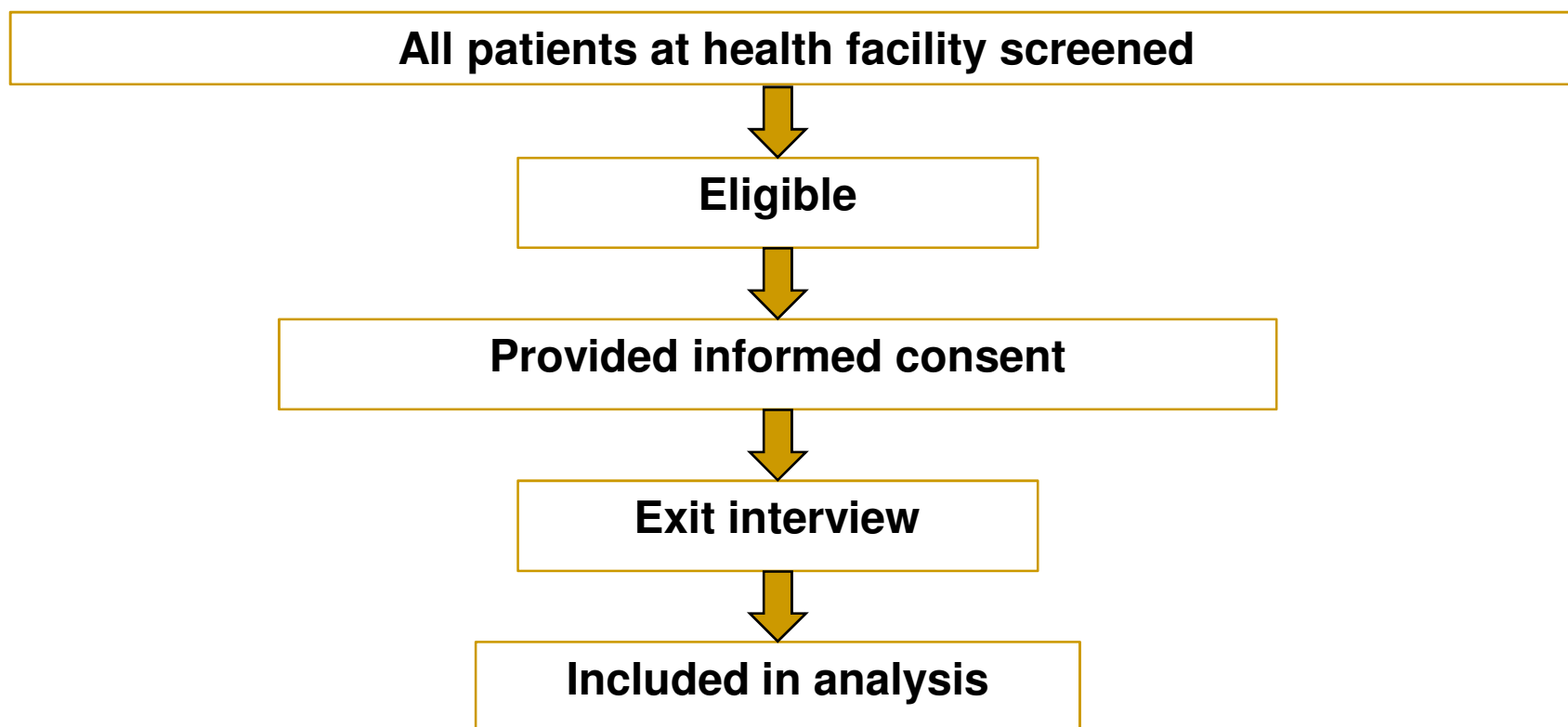
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# Methods:

- Repeated cross section health facility surveys conducted to collect information on:
  - Health workers' characteristics
  - Patients consultations
- Study conducted in 2 HDSS (Ifakara & Rufiji, TZ)
  - Survey conducted in high& low transmission seasons, 2010
- Data were double entered in EPI software, analyzed in STATA 11 accounting for clustering nature of data
- Used logistic regression to assess health workers factors associated with correct prescription of ACT



# Enrollment of patients in the health facility survey



# Training of field work



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# Methods continue

- The determinant/ explanatory variables:
  - in-service training, years of pre-service training
  - having 3 or more years of working experience,
  - supervision visit, and availability of job aids
- Outcome variable was uncomplicated malaria prescribed ACTs.





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# Results- 1

- 1417 patients from 31 health facilities interviewed
- 113 health workers who perform consultations with sick patients were interviewed
- Patients characteristics:
  - 53.6% (788) were female
  - Children <5 years were the majority of patients 47.1% (701)
  - Majority [(84.8%) 1247/1417] perceived themselves to be suffering from fever
- Most (89.1% 95%CI: 84.6- 92.6) were seen in HF with ACT in stock on day of survey.
- 59.9% (95%CI:57.3-63.4) of patients were seen in HF with a malaria confirmatory test in place
- 229(15%,95%CI:9.7-23.2) were uncomplicated malaria seen in health facilities with ACTs in stock
- 158(69%,58.3-78.0) Uncomplicated malaria seen in HF with ACTs in stock and prescribed with ACT



# Results- 2

## ■ Health workers' (HW) characteristics:

Variable	% all patients; n=1417 (95% CI)	% (95%CI) uncomplicated malaria seen with ACTs n=229
Seen by a clinician (Clinical Officer, Clinical Assistant)	70.6 (68.2 - 73)	62.0(55.4-68.3)
Seen by a nurse aide or lower	12.5 (10.9 -14.3)	9.2(5.8-13.7)
Seen with HW who received in-service training*	46.6 (38.5 - 55.2)	52.4 (37.4 - 66.9)
Seen with HW with 3 or >3 years of work experience	65.2 (57.9 - 71.8)	72.5 (58.3 – 83.2)
Seen with HW who had supervision in the last 6 months	24.3 (18.1 -31.7)	34.1 (21 – 50.2)
Seen with HW who posses a job-aide in malaria case management	40.5 (31.1 - 50.5)	42.4 (28.6 – 57.4)

\*Training in malaria case management, IMCI or use of ACT



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# Results-3

- Only 229(15%,95%CI:9.7-23.2) patients with uncomplicated malaria who were seen in a health facility with ACT in stock and qualified for the determinant analysis:

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## Patient with uncomplicated malaria prescribed ACT

	Odds Ratio	P> t	[95% Conf. Interval	
HW trained in-service training	1.82	0.288	0.59	5.55
HW having 3 or more years	6.27	0.006	1.73	22.7
HW having supervision visit	0.41	0.077	0.15	1.10
HW having pre-service training	1.36	0.576	0.46	4.06
HW with availability of job aids	0.52	0.151	0.21	1.28

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# Interpretation:

- Having 3 or more years of working experience had 6 times higher the chance of correct ACT prescription
- Experience in caring for sick patients is shown to have significant influence in correct use of ACTs
- Training (in-service and pre-service), although not significant at 5% level, seem have an effect on correct ACT prescription, in this setting:
  - 1.8 times higher (95%CI: 0.6-5.6) for in-service training
  - 1.4 times higher (95%CI: 0.5-4.1) for pre-service training
- Supervision visits and availability of job-aids were less likely to influence correct ACT use



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# Limitations:

- It is possible that our presence at the HF influenced HWs to use ACT (desirability bias):
  - This would have increased the odds of correct prescription on other variables
- We were not able to assess contents of supervision hence difficulty to conclude its influence on HW prescription patterns
- A relatively small sample size for patients who had uncomplicated malaria and seen in HF with ACTs in stock, might have influenced the observed trend



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# Conclusions and Policy implications

- Working experience is shown to have significant influence in HW performance
- A need for well-designed studies to assess influence of in-service training, supervision and job-aides availability to prescription practices is emphasized.
- We support the use of complimentary strategies (including training, supervision and job-aids)
- Targeted interventions to improve health worker performance are needed to improve overall malaria case management.



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# ACKNOWLEDGEMENT

- ❑ INESS team
- ❑ INDEPTH Network for the support.



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Thank You!



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