



Moving beyond school-based deworming: impact and implications of expanding treatment to communities in Kenya

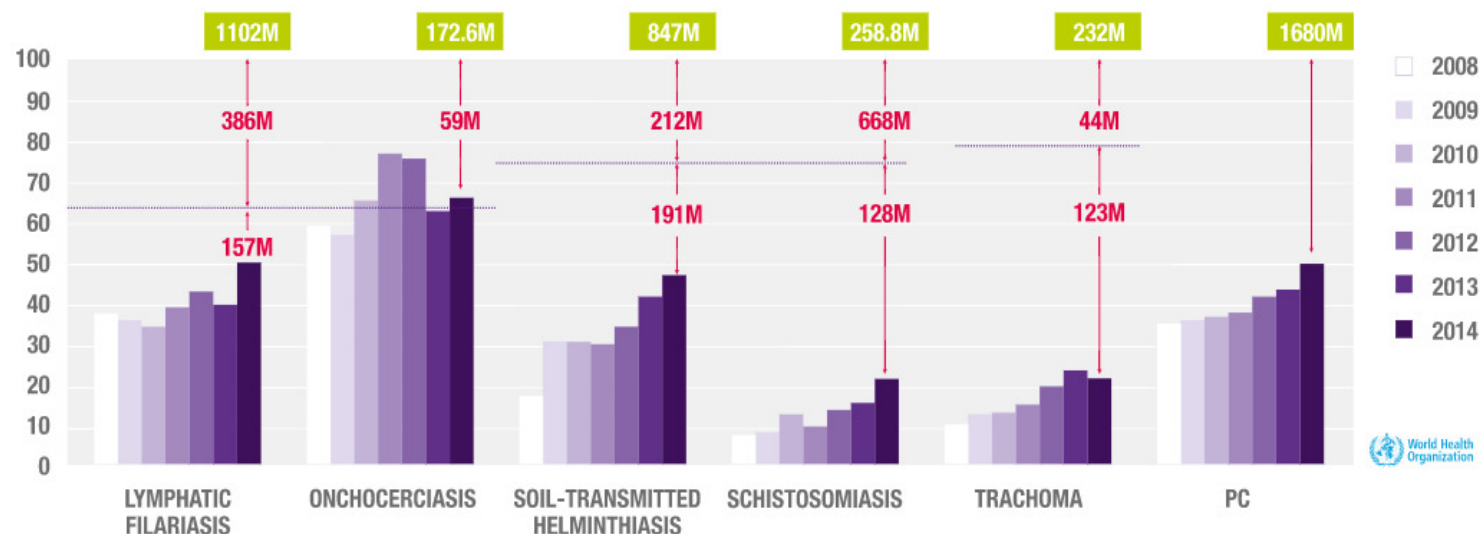
Dr Katherine Halliday, LSHTM
APPG, 6th February 2018



Global landscape of STH control

- The London Declaration on neglected tropical diseases (NTDs) was signed in Jan 2012
- Committed to achieving the targets for 10 NTDs including soil transmitted helminths
- NTDs have also now been included within the Sustainable Development Goal targets

TREATMENT GAPS AGAINST COVERAGE TARGETS (2014)



GUIDELINE:

PREVENTIVE CHEMOTHERAPY
TO CONTROL SOIL-TRANSMITTED
HELMINTH INFECTIONS IN
AT-RISK POPULATION GROUPS



2017

World Health Organization

Rethinking deworming in Kenya

AIM: to eliminate worms as a public health problem in Kenya



Six million children treated in the 21 counties with the highest need in 2015

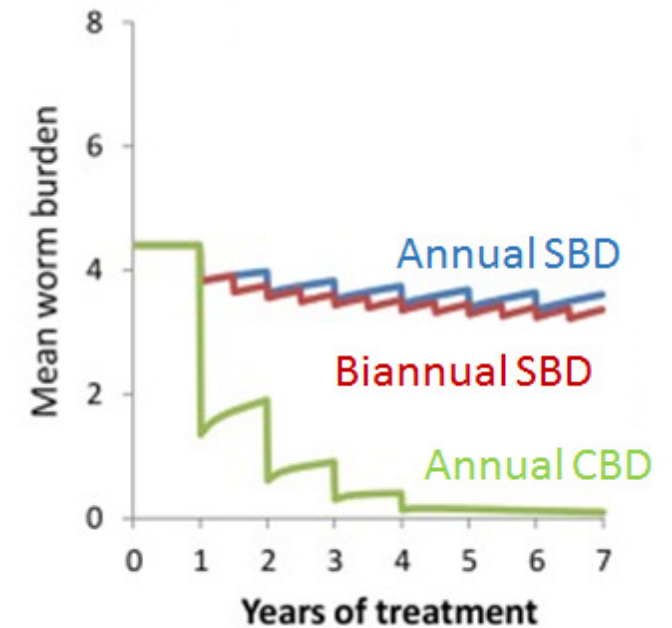
Map: CIFF

FIRST FIVE YEARS : prevalence fell substantially, but kept bouncing back



Photo: ©Katherine Halliday

WHAT NEXT: Modelled impact of treatment strategies for hookworm



Anderson et al. 2015 PLoS NTDs

AIM: To evaluate the impact and cost-effectiveness of community-based versus school-based deworming on STH transmission in Kenya.





Baseline Survey (2015): Cross-sectional survey **225** people per cluster

40 clusters
Control
(2 – 14 years)

40 clusters
Increased coverage
(2 -99 years)

40 clusters
Increased coverage & frequency
(2 – 99 years x 2)

Year 1 Intervention:  



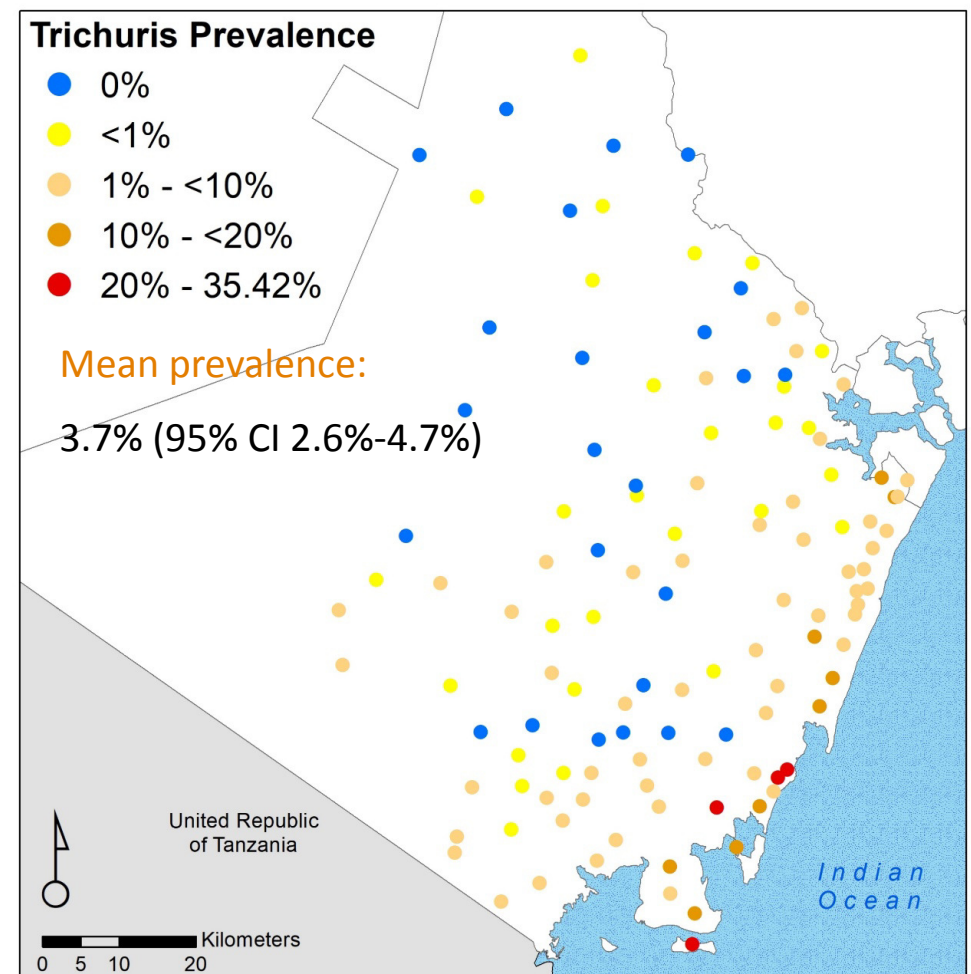
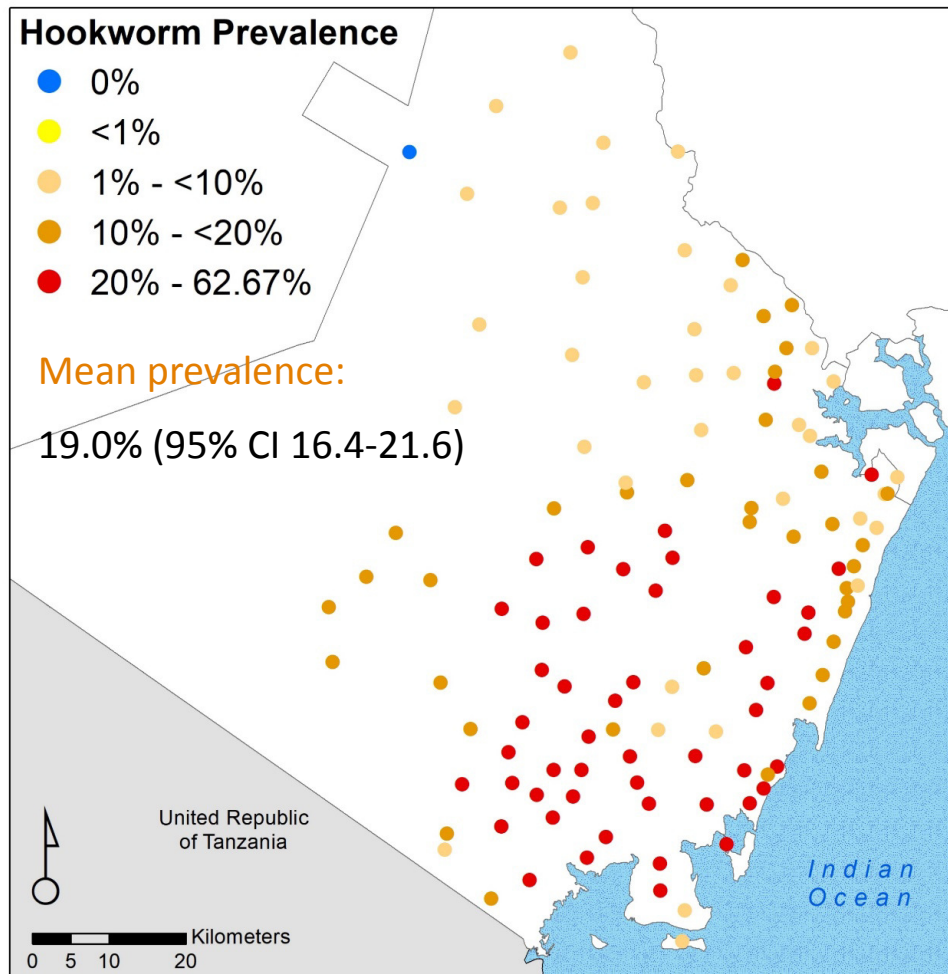
Intermediate impact survey (2016): Cross-sectional survey 225 people per cluster

Year 2 Intervention:  

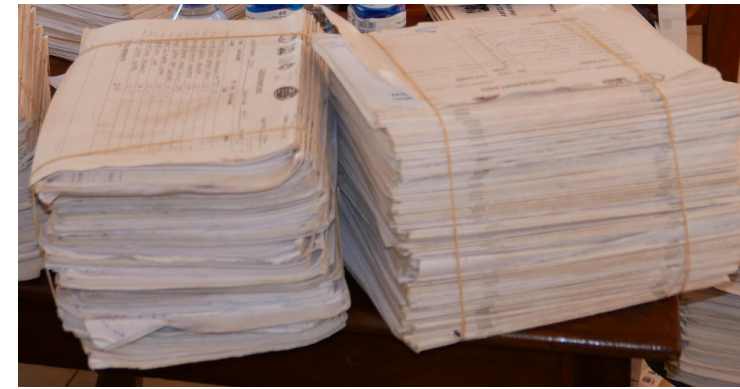
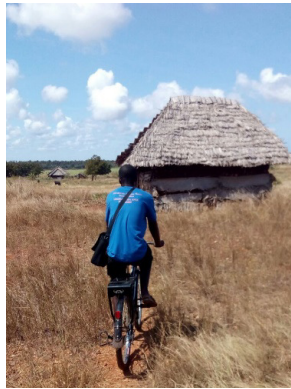


Impact Survey (2017): Cross-sectional survey of **225** people per cluster

Baseline: STH infections in Kwale



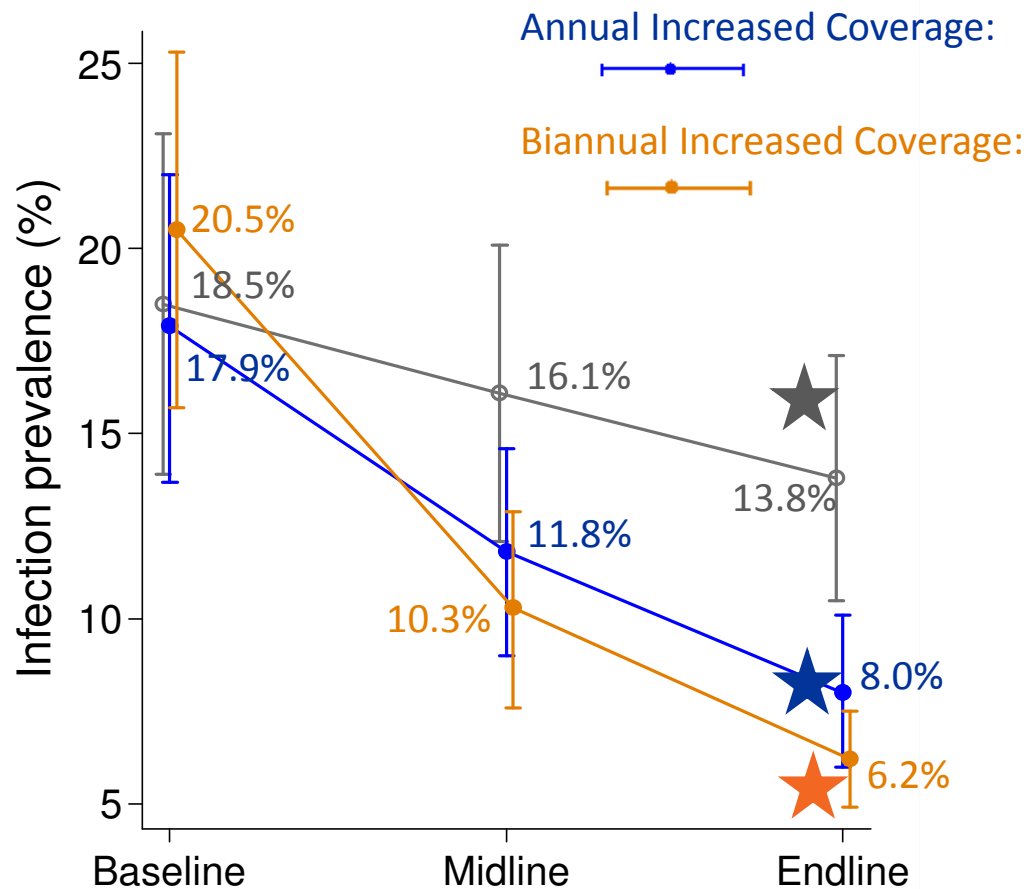
>423,000 Community members treated per MDA round



66,978 Individuals included in baseline, midline and endline surveys



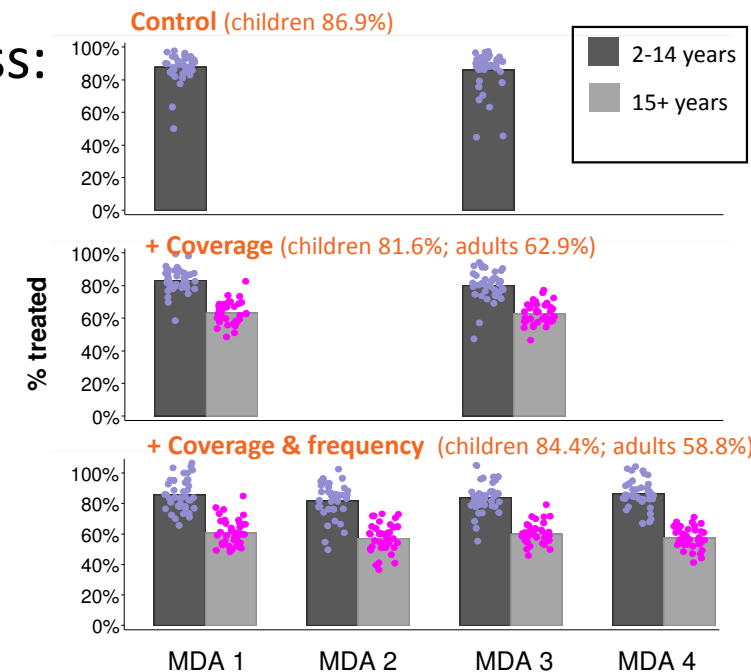
Impact results – hookworm infection



- Reductions in the numbers infected across all arms
- Largest reductions seen for annual and biannual community-wide treatment
- **~40% and ~50%** reductions in hookworm risk after two years of annual and biannual treatment respectively
- Similar results for hookworm intensity
- **Results correspond to model predictions developed when designing the trials**

Equitable delivery platform

- Coverage was high: ~80% children reached through communities or schools
- Effect of community-based intervention was equal across:
 - poorest and least poor households
 - most remote, and accessible households
 - school-going and non-school going children
 - those with and without access to adequate sanitation



In summary....

Community-wide treatment is shown to be more effective in reducing transmission than school-based treatment

- Large impact on the prevalence of hookworm
- Results matched model predictions
- Consistently good coverage was achieved
- The intervention was highly equitable
- The intervention can be delivered successfully at scale

So what now...?

- If we continue, will it continue on the same trajectory?
- How cost effective and acceptable is this strategy?
- Is this reproducible in other contexts?

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European & Developing Countries
Clinical Trials Partnership



BILL & MELINDA
GATES foundation

deworm³

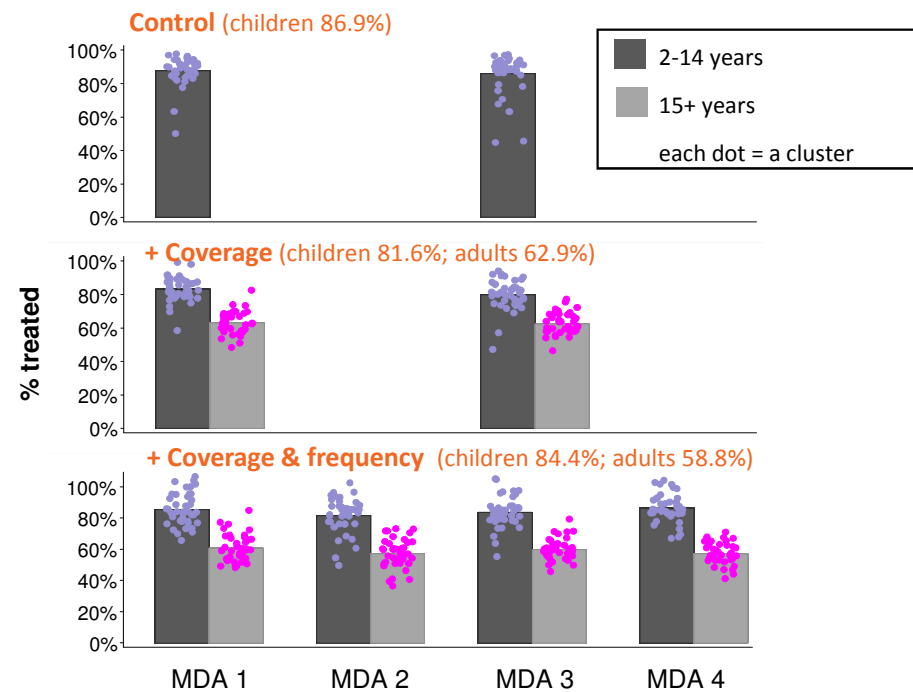


Equitable delivery platform

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Treatment Coverage



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