Ministry of Education

Ministry of Health

National School Based Deworming Programme

Y8 (2019 -2020) Treatment Results

Overview of the Programme

The National School-Based Deworming programme (NSBD) is a government initiative implemented by the Ministry of Education and Ministry of Health with technical support from Evidence Action.
Over six million school-age children in Kenya are at risk of intestinal parasitic worm infection, including soil transmitted helminths and schistosomes, which have a negative impact on their health and education. Treatment areas are selected according to globally recognized World Health Organization criteria.

This programme is a national priority which aims at eliminating these worms as a public health problem in children aged 2-14 years (both enrolled and non-enrolled) in areas endemic with parasitic worms. If practiced regularly, it is proven to be cost effective and safe as trained teachers administer deworming tablets in our schools in 48 sub counties in 27 counties. Moreover, it forms a key part in the performance contracts for the Cabinet and Principal Secretaries of Education and Health.

Cascade Overview

The NSBD programme uses a cascade implementation model that efficiently and cost-effectively delivers training, deworming medicines, monitoring forms, funds and other programme materials and resources from the national level to schools. The cascade brings together personnel from the Ministry of Education and Ministry of Health for collaborative leadership in planning, implementation, and monitoring of programme activities at all levels.

County Sensitisation and Planning meetings:
County Directors of Education and Health convene sensitisation meetings on the programme. This allows the programme to gain buy-in and build partnerships with county level leaders.

Sub county Trainings:
Master trainers, nominated from the (MOE) and (MOH) personnel in implementing counties, are responsible for training of Sub county and ward / division level personnel on managing and implementing the programme. Community Health Extension Workers (CHEWs) / Community Health Assistants (CHAs) also attend this training to support in community mobilization and management of any potential serious adverse events (SAEs).

Teacher Trainings:
Teachers are critical to the programme's success. They help in the administration of deworming medicines in schools. Head teachers and health teachers are trained to sensitize children and the community, administer deworming medicine and properly fill and submit reporting forms after deworming day.

Community Sensitisation and Mobilisation:
Before Deworming Day, health workers and teachers share key messages with children, parents, and local leaders, encouraging community members to bring their children for deworming. Posters are put up in schools and strategic community locations to emphasize the importance of deworming and how to prevent infections. Information is also disseminated through local FM radio stations.

Deworming Day:
On designated county Deworming Days, teachers administer deworming medicines to children aged 2-14 years in public and private primary schools, in Early Childhood Development (ECD) Centres, and to children from the community who are non-enrolled. Teachers fill out monitoring forms to record the number of children treated. MOH personnel visit schools to monitor drug administration and manage any serious adverse events that might occur.

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Lessons learned, Successes, Challenges and Opportunities

Lessons learned

- Need for each partner in the tripartite programme MOU to effectively play their individual role. A lapse on the part of any one of them negatively affects the programme
- The remote-based approach to coverage validation led to a reduction of approximately 25% to the expected budget for in-person coverage validation
- Overall compliance was high with 99% of those offered both drug types reportedly swallowing
- Post-training knowledge of key messages under all the topics covered were high (at least 80%), indicating effective delivery of core content by trainers, hence the need for continued refresher training prior to programme activities implementation

Successes

- Implemented NSBD activities in 14 out of the 17 planned counties
- High attendance (97%), in both teacher and sub-county trainings with the majority of participants arriving on time, implying that the program was able to effectively mobilize attendees
- Effective delivery of core content by trainers; at least 80% of key messages under all the topics covered as indicated by the post-training knowledge test
- Key steps of drug administration and treatment recording were well performed on Deworming Day
- The Programme supply chain was largely effective. Required materials (reporting forms, tablet poles, and drugs) were available in 99% of observed schools on Deworming Day
- The results from the coverage validation survey for STH were positive:
  - Both Narok (83%) and Siaya (83%) counties surpassed the WHO recommended therapeutic coverage rate of 75% for STH
  - Compliance rates (those who received the drug and swallowed it) were high, at 99% across counties and treatment types
  - Overall compliance was high with 99% of those offered both drug types reportedly swallowing
- The remote coverage validation (CV) pilot was also a success and provided key learnings for remote surveys in the future:
  - While treatment coverage rates were not validated, they were within a reasonable range of those from coverage validation, and the difference is in a similar range to previous years
  - The remote-based approach to coverage validation led to a reduction of approximately 25% to the expected budget for in-person CV
  - Sources of bias to the data collection were sufficiently addressed in design and analysis, and did not lead to major differences from the treatment data
  - The logistics and implementation of the novel coverage validation design were successfully completed, with no major challenges to completion of the surveys

Challenges

- Late requisition of deworming medicines leading to planning challenges
- Inadequate deworming medicines necessitating implementation in only 14 counties out of a total of 27 programme implementation counties
- There was a general disparity in topic coverage between the sub-county and teacher training, with coverage higher at the sub-county training sessions
- A quarter (25%) of all interviewed parents were not aware of Deworming Day, and 63% of parents of non-enrolled children were unaware
- The advent of the novel COVID 19 pandemic leading to suspension of all programme activities for the year/period
- Delays in receiving back both financial and data returns from the counties and sub counties due to COVID 19 pandemic prevention measures and protocols

Opportunities

- Build upon the more widespread use of radio. (66%) of parents chose this as a preferred source of information to increase awareness and understanding of the Deworming Day and key messages especially among parents of non-enrolled children
- Ensure that the timing of community sensitization takes place early enough to encourage attendance on deworming day
- Ramp up some key Deworming Day practices in future training such as:
  - Use and submission of reporting forms. Six percent of schools did not use the reporting forms to record treatment on Deworming Day, while 2% of head teachers did not know where to send reporting forms post-deworming. These could affect coverage reports
  - Contact details of key personnel in the deworming exercise need to be widely shared. 15% of teachers did not have CHEW contact details, which could be problematic in the event of any Severe Adverse Events (SAEs)
  - Proper storage and disposal of spoilt tablets. Monitors observed spoilt tablets left on the ground in 17% of schools
  - Steps to take as a result of drug deficiency during Mass Drug Administration (MDA) and management of post-deworming drug surplus need to be clarified as head teachers gave varied responses about how these should be handledx
- The successful remote coverage validation pilot should be maintained in future survey

Y8 (2019 -2020) Treatment Results

County	Sub County	Children Targeted (STH)	Children Dewormed (STH)	% Children Treated (STH)	Children Targeted (SCH)	Children Dewormed (SCH)	% Children Treated (SCH)
Bomet 285,759 (85%)	Bomet Central	44,347	38,749	87%			
	Bomet East	58,549	51,360	88%			
	Chepalungu	82,324	69,400	84%			
	Konoin	55,618	49,931	90%			
	Sotik	93,404	76,319	82%			
Busia 317,757 (84%)	Bunyala	32,699	26,838	82%			
	Busia	56,165	45,407	81%			
	Butula	62,081	55,156	89%			
	Nambale	44,450	40,238	91%			
	Samia	43,020	38,152	89%			
	Teso North	61,090	49,862	82%			
	Teso South	80,201	62,104	77%			
Kericho 278,814 (86%)	Belgut	47,093	39,981	85%			
	Buret	70,598	62,632	89%			
	Kericho	56,831	48,534	85%			
	Kipkelion East	51,457	46,689	91%			
	Kipkelion West	47,551	42,949	90%			
	Soin / Sigowet	50,278	38,029	76%			
Kisii 459,443 (89%)	Etago	37,527	28,031	75%			
	Gucha	33,246	31,366	94%			
	Gucha South	35,113	30,274	86%			
	Kenyenya	55,183	50,017	91%			
	Kisii Central	87,517	74,449	85%			
	Kisii South	65,566	52,567	80%			
	Kitutu Central	40,995	39,203	96%			
	Marani	46,790	43,540	93%			
	Masaba South	41,458	40,285	97%			
	Nyamache	48,074	44,033	92%			
	Sameta	26,047	25,678	99%			
Kisumu 343,946 (70%)	Kisumu Central	75,728	55,481	73%	11,245	-	0%
	Kisumu East	63,134	40,151	64%	29,040	-	0%
	Kisumu West	83,420	49,490	59%			
	Muhoroni	84,348	51,374	61%	10,967	5,420	49%
	Nyakach	66,706	53,308	80%	9,892	-	0%
	Nyando	70,840	53,503	76%	14,777	-	0%
	Seme	49,627	40,639	82%	23,539	-	0%
Kitui 385 (21%)	Kitui Central	1,064	-	0%	1,064	-	0%
	Matinyani	739	385	52%	490	122	25%
Machakos 2,834 (33%)	Kangundo	3,011	1,088	36%	1,348	1,041	77%
	Kathiani	588	191	32%	185	154	83%
	Machakos	738	-	0%	44	-	0%
	Matungulu	2,462	1,075	44%	871	705	81%
	Mwala	484	68	14%	29	61	211%
	Yatta	1,390	412	30%	126	302	240%
Makueni 2,533 (29%)	Kibwezi	1,392	425	31%	770	351	46%
	Kilungu	839	283	34%	336	241	72%
	Makindu	479	254	53%	40	217	538%
	Makueni	788	491	62%	88	394	449%
	Mbooni East	1,758	358	20%	422	644	153%
	Mbooni West	1,598	-	0%	153	-	0%
	Mukaa	611	-	0%	61	-	0%
	Nzaui	1,208	722	60%	100	559	560%
Nandi 128,827 (91%)	Nandi East	40,680	39,968	98%			
	Nandi South	57,118	54,285	95%			
	Tinderet	43,052	34,574	80%			
Narok 123,962 (78%)	Trans Mara East	63,521	49,793	78%			
	Trans Mara West	95,392	74,169	78%			
Nyamira 198,001 (83%)	Borabu	26,769	22,910	86%			
	Manga	38,509	32,216	84%			
	Masaba North	37,530	32,567	87%			
	Nyamira North	71,589	57,024	80%			
	Nyamira South	65,405	53,284	81%			
Siaya 315,462 (78%)	Bondo	78,844	54,470	69%	26,088	-	0%
	Gem	76,321	58,721	77%			
	Rarieda	61,860	47,790	77%			
	Siaya	85,632	71,722	84%	10,490	670	6%
	Ugenya	61,685	45,940	74%			
	Ugunja	42,351	36,819	87%			
Trans Nzoia 351,179 (75%)	Endebess	50,386	40,994	81%			
	Kiminini	122,675	79,358	65%			
	Kwanza	92,323	71,480	77%			
	Trans Nzoia East / Cherengany	96,584	80,284	83%			
	Trans Nzoia West / Saboti	103,491	79,063	76%			
Vihiga 209,992 (78%)	Emuhaya	38,582	33,173	86%			
	Hamisi	96,517	61,123	63%			
	Luanda	44,270	36,708	83%			
	Sabatia	52,322	46,797	89%			
	Vihiga	39,116	32,191	82%			
	Total	**3,750,751**	**3,018,894**	**80%**	**142,166**	**10,881**	**8%**

NOTE:

For SCH, only the counties of Kitui, Machakos and Makueni received drugs in Year 8. There were not enough praziquantel tablets to cover the targetd areas i.e including Siaya and Kisumu where Y7 drug balances were used. These were not sufficuent to cover all tageted schools resulting in low overall treatment coverage of only 8%."

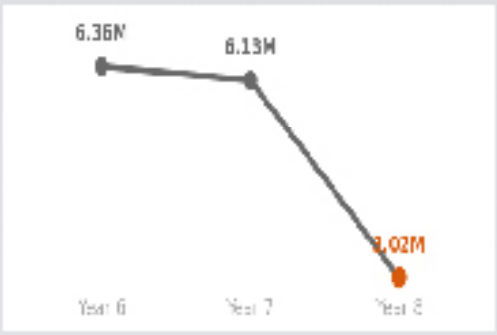
Year 8(2019 - 2020) Treatment Results

SOIL-TRANSMITTED HELMINTHS (STH) Treatment Summary

3,018,894 Children dewormed

8,819 Schools Reached

78 Sub Counties Reached

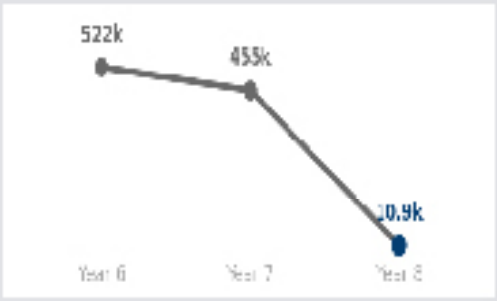


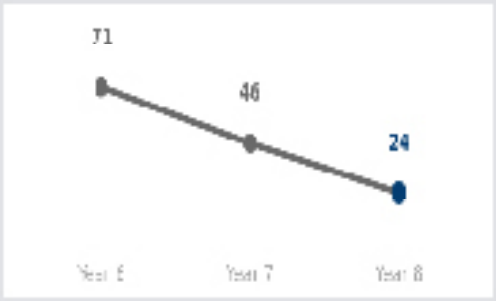
SCHISTOSOMIASIS (SCH) Treatment Summary

10,881 Children dewormed

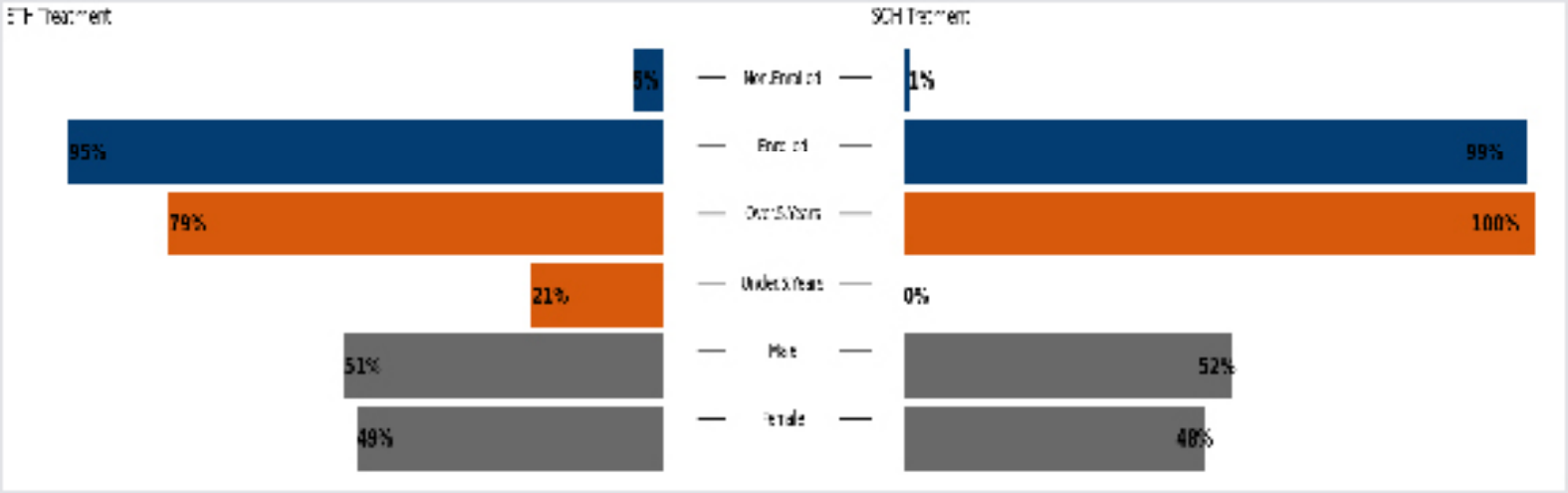
408 Schools Reached

24 Sub Counties Reached





Comparison of Treatments By Enrollment Status



Impact assessment: KEMRI

During Y8 of the programme, the Kenya Medical Research Institute (KEMRI) conducted a detailed secondary analysis of existing data collected as part of the M&E component of the Kenyan NSBD program, to; (1) differentiate infection prevalence between preschool aged children (PSAC) and school aged children (SAC) for the six years of the programme, and (2) identify any correlations between changes in treatment coverage at the county level and risk of infection. Details of these analyses are provided elsewhere (Okoyo et al. 2021a,b).

Table 1 summarizes the number of schools and children included in the analyses, STH pre-treatment prevalence and relative reductions in prevalence. For PSAC group, during Y1, Y3, Y5 and Y6 pre-treatment survey points, children aged 2 to 4 years were included in the analysis in 166 schools (1,949 children), 159 schools (1,366 children), 164 schools (1,992 children), and 94 schools (781 children), respectively. The mean age of PSAC children was 3.7 years (standard deviation 0.5 years) with 51.0% being females. For SAC group, during Y1, Y3, Y5 and Y6 pre-treatment survey points, children aged 5 to 14 years were included in the analysis in 173 schools (16,134 children), 173 schools (16,528 children), 172 schools (15,973 children), and 100 schools (8,936 children), respectively. The mean age of SAC children was 10.1 years (standard deviation 2.1 years) with 50.2% being females.

For PSAC, in overall, 33.7% (95% CI: 30.4-37.4%), 20.2% (95% CI: 17.1-23.9%), 19.0% (95% CI: 15.9-22.6%) and 17.9% (95%CI: 13.4-23.9%) children were infected with at least one STH species during Y1, Y3, Y5 and Y6 surveys respectively, with an overall relative reduction of 46.9% ($p=0.001$) from Y1 to Y6 . The prevalence differed within counties with highest prevalence, during Y6, observed in Homabay (57.1%) followed by Nyamira (45.2%), Narok (37.7%) and Kisii (36.2%) and zero prevalence observed in Garissa, Kitui, Makueni, Taita Taveta and Wajir counties. County level relative reduction indicated that only two counties; Kilifi and Taita Taveta, reduced the PSAC prevalence by over 90%.

Similarly for SAC, in overall, 33.6% (95% CI: 31.2-36.1%), 18.4% (95% CI: 16.2-20.9%), 14.7% (95% CI: 12.6-17.1%) and 12.5% (95%CI: 10.0-15.6%) children were infected with at least one STH species during Y1, Y3, Y5 and Y6 surveys respectively, with an overall significant relative reduction of 62.6% ($p<0.001$). Similarly prevalence differed within counties with highest prevalence, during Y6, observed in Vihiga (30.8%) followed by Bomet (24.2%), Kakamega (23.8%), Busia (23.4%) and Narok (23.1%) and no infections detected in Garissa and Wajir counties. However, Kitui, Makueni and Taita had their prevalence below 1%. County level relative reduction indicated that only two counties; Bungoma and Migori, reduced the SAC prevalence by over 90%.

Even though it was observed that the PSAC prevalence appeared to have reduced over the years, it was still high especially in many areas in Western parts of Kenya. Further, we noted that the treatment coverage during all the survey years was high (>75%). However, this high coverage did not clearly translate to low prevalence in the respective areas.

Finally, the analysis of the minimum treatment coverage required to ensure a reduction of the infection prevalence over time for both age groups was done. It was observed that for program-wide reduction of undifferentiated STH in both PSAC and SAC, a likely minimum treatment coverage of 82% is required. Additionally, for each differentiated STH species, likely minimum treatment coverage of 85% for hookworm, 84% for A. lumbricoides, and 74% for T. trichiura is required to be maintained.

In conclusion, the findings showed an initially higher burden of STH infections among both groups of children which declined steadily over the survey years. However, the programme should consider increasing the deworming coverage for PSAC, and also maintain a minimum treatment coverage threshold to ensure that prevalence will decline as coverage increases. This implies that administration of MDA may be most impactful if applied at county level and maintained above these key thresholds.

Table 1: Number of schools (children) examined, undifferentiated STH pre-treatment prevalence % (95%CI), and relative reductions % (Wald test: Z-statistic, p-value) by county for preschool (PSAC) and school (SAC) aged group of children in 20 counties in Kenya

County	Number of schools (children) examined				Undifferentiated STH pre-treatment prevalence %(95%CI)				Relative Reduction (Year 1 – Year 6)
	Year 1	Year 3	Year 5	Year 6	Year 1	Year 3	Year 5	Year 6	RR% (Wald test, p-value)
PSAC Group									
Bomet	11 (88)	9 (99)	11 (139)	5 (39)	46.6 (30.9-70.1)	31.3 (18.1-54.1)	20.9 (14.6-29.8)	20.5 (13.8-30.4)	56.0 (Z=-3.11, p=0.002)*
Bungoma	9 (93)	10 (102)	10 (138)	5 (60)	54.8 (43.5-69.2)	20.6 (12.8-33.1)	15.9 (10.0-25.3)	8.5 (1.9-37.4)	84.5 (Z=-2.56, p=0.011)*
Busia	17 (118)	17 (111)	18 (268)	5 (28)	33.1 (22.2-49.2)	26.1 (19.4-35.3)	17.7 (11.4-27.4)	28.6 (10.8-75.5)	13.6 (Z=-0.33, p=0.738)
Garissa	-ns	-ns	-ns	5 (20)	-ns	-ns	-ns	0	-ns
Homa Bay	24 (422)	23 (211)	21 (121)	3 (7)	23.9 (18.2-31.5)	17.5 (11.5-26.7)	8.3 (4.0-16.9)	57.1 (24.7-73.2)	*Increase*(38.8%, p=0.031)**
Kakamega	19 (177)	18 (175)	19 (254)	5 (42)	44.1 (34.1-56.9)	17.7 (9.2-34.2)	14.9 (9.7-22.7)	26.8 (12.4-58.0)	39.1 (Z=-1.32, p=0.187)
Kericho	12 (161)	10 (96)	12 (166)	5 (37)	38.5 (29.3-50.6)	24.0 (15.6-36.8)	28.5 (19.7-41.3)	21.6 (18.4-25.4)	43.9 (Z=-3.95, p<0.001)*
Kilifi	3 (25)	2 (5)	2 (13)	5 (57)	28.0 (18.6-42.1)	20.0 (2.8-32.6)	0	1.8 (0.3-10.7)	93.7 (Z=-2.58, p=0.010)*
Kisii	11 (101)	12 (85)	12 (117)	5 (70)	46.5 (36.9-58.6)	34.1 (28.5-40.8)	26.5 (18.8-37.4)	36.2 (24.2-54.3)	22.1 (Z=-1.32, p=0.186)
Kisumu	10 (181)	10 (89)	9 (76)	5 (14)	21.5 (14.9-31.1)	2.2 (0.7-7.3)	2.6 (0.6-12.2)	7.1 (1.2-41.4)	66.8 (Z=-1.34, p=0.181)
Kitui	-ns	-ns	-ns	5 (29)	-ns	-ns	-ns	0	-ns
Kwale	9 (98)	10 (52)	10 (191)	5 (33)	25.5 (15.7-41.4)	7.7 (3.4-17.3)	6.4 (3.9-10.3)	12.1 (7.0-21.1)	52.5 (Z=-2.60, p=0.009)*
Makueni	-ns	-ns	-ns	4 (12)	-ns	-ns	-ns	0	-ns
Migori	8 (127)	8 (83)	8 (78)	5 (66)	18.9 (12.8-27.8)	1.2 (0.2-8.1)	3.9 (0.7-21.9)	4.5 (2.5-8.2)	75.9 (Z=-3.64, p<0.001)*
Mombasa	3 (41)	2 (19)	3 (42)	5 (33)	14.6 (3.7-58.6)	10.5 (7.7-14.3)	0	3.0 (0.5-17.6)	79.3 (Z=-1.53, p=0.127)
Narok	10 (99)	7 (75)	9 (83)	5 (61)	55.6 (43.5-70.9)	36.0 (21.1-61.3)	45.8 (31.2-67.2)	37.7 (19.2-74.1)	32.1 (Z=-1.19, p=0.235)
Nyamira	9 (101)	9 (67)	9 (99)	4 (63)	38.6 (27.9-53.4)	29.9 (19.8-45.0)	30.3 (23.1-39.8)	45.2 (35.4-57.6)	*Increase*(17.0%, p=0.338)
Taita Taveta	3 (32)	3 (32)	3 (34)	5 (72)	9.4 (2.0-43.3)	0	2.9 (0.3-33.4)	0	100 (Z=-3.03, p=0.002)*
Vihiga	8 (85)	8 (65)	8 (151)	5 (31)	47.1 (39.8-55.6)	27.7 (20.3-37.7)	41.5 (26.3-65.4)	29.0 (16.9-49.8)	38.3 (Z=-1.73, p=0.084)
Wajir	-ns	-ns	-ns	3 (7)	-ns	-ns	-ns	0	-ns
Overall	**166 (1949)**	**159 (1366)**	**164 (1992)**	**94 (781)**	**33.7 (30.4-37.4)**	**20.2 (17.1-23.9)**	**19.0 (15.9-22.6)**	**17.9 (13.4-23.9)**	**46.9 (Z=-4.44, p=0.001)***
SAC Group									
Bomet	12 (1177)	12 (1185)	12 (1132)	5 (499)	29.1 (19.7-42.9)	22.8 (15.0-34.6)	17.7 (11.0-28.5)	24.2 (16.6-35.2)	16.7 (Z=-0.71, p=0.476)
Bungoma	10 (921)	10 (920)	10 (895)	5 (456)	48.6 (41.4-57.2)	9.1 (7.2-11.5)	6.1 (3.9-9.6)	4.7 (2.5-8.8)	90.3 (Z=-8.16, p<0.001)*
Busia	18 (1757)	18 (1780)	18 (1641)	5 (497)	36.3 (31.6-41.6)	26.0 (19.3-35.0)	16.8 (12.1-23.4)	23.4 (9.0-61.0)	35.5 (Z=-1.04, p=0.297)
Garissa	-ns	-ns	-ns	5 (177)	-ns	-ns	-ns	0	-ns
Homa Bay	24 (2100)	24 (2238)	23 (2300)	5 (527)	31.2 (25.6-38.2)	16.3 (11.4-23.4)	11.7 (7.6-18.0)	22.6 (17.7-28.9)	27.6 (Z=-2.27, p=0.023)*
Kakamega	20 (1885)	20 (1869)	20 (1801)	5 (490)	29.7 (24.3-36.4)	15.6 (10.9-22.5)	9.1 (5.9-14.0)	23.8 (17.3-32.8)	19.8 (Z=-1.26, p=0.206)
Kericho	12 (1107)	12 (1189)	12 (1094)	5 (498)	28.1 (20.1-39.3)	16.1 (10.9-22.5)	20.0 (13.3-30.1)	16.8 (13.2-21.4)	40.3 (Z=-2.87, p=0.004)*
Kilifi	3 (279)	3 (282)	3 (280)	5 (444)	33.3 (31.1-35.7)	5.0 (3.3-7.4)	2.2 (1.4-3.4)	5.3 (1.4-19.6)	84.2 (Z=-2.78, p=0.005)*
Kisii	12 (1178)	12 (1171)	12 (1141)	5 (456)	46.9 (40.6-54.1)	25.6 (19.5-33.6)	23.6 (17.7-31.4)	19.6 (12.4-31.1)	58.1 (Z=-4.86, p<0.001)*
Kisumu	10 (887)	10 (927)	10 (984)	5 (524)	16.6 (11.9-23.2)	5.0 (3.3-7.4)	4.1 (2.8-6.1)	3.1 (1.2-7.8)	81.5 (Z=-3.68, p<0.001)*
Kitui	-ns	-ns	-ns	5 (509)	-ns	-ns	-ns	0.4 (0.1-1.3)	-ns
Kwale	10 (912)	10 (917)	10 (813)	5 (485)	29.5 (22.3-39.1)	16.0 (10.1-25.3)	4.4 (2.7-7.1)	5.9 (3.4-10.3)	79.9 (Z=-5.80, p<0.001)*
Makueni	-ns	-ns	-ns	5 (510)	-ns	-ns	-ns	0.6 (0.2-2.1)	-ns
Migori	8 (718)	8 (773)	8 (736)	5 (467)	23.0 (18.3-28.9)	2.2 (1.5-3.3)	1.9 (1.0-3.7)	2.2 (1.1-4.3)	90.6 (Z=-6.38, p<0.001)*
Mombasa	3 (279)	3 (281)	3 (265)	5 (485)	20.8 (10.4-41.5)	2.5 (0.9-7.1)	1.8 (0.2-17.7)	2.2 (0.7-6.4)	89.4 (Z=-3.57, p<0.001)*
Narok	10 (932)	10 (966)	10 (951)	5 (442)	53.0 (47.4-59.2)	40.2 (33.1-48.8)	43.3 (36.2-51.7)	23.1 (16.9-31.6)	56.4 (Z=-6.31, p<0.001)*
Nyamira	10 (965)	10 (1000)	10 (956)	5 (448)	30.8 (23.1-41.0)	18.5 (13.6-25.1)	16.4 (12.1-22.2)	19.7 (10.6-36.7)	35.9 (Z=-2.22, p=0.027)*
Taita Taveta	3 (285)	3 (281)	3 (281)	5 (417)	2.1 (0.7-5.9)	0	0	0.2 (0-1.7)	88.6 (Z=-1.87, p=0.061)
Vihiga	8 (752)	8 (749)	8 (703)	5 (500)	50.5 (43.4-58.8)	36.7 (27.0-50.0)	31.0 (19.3-49.7)	30.8 (19.1-49.7)	39.0 (Z=-2.36, p=0.018)*
Wajir	-ns	-ns	-ns	5 (105)	-ns	-ns	-ns	0	-ns
Overall	**173 (16134)**	**173 (16528)**	**172 (15973)**	**100 (8936)**	**33.6 (31.2-36.1)**	**18.4 (16.2-20.9)**	**14.7 (12.6-17.1)**	**12.5 (10.0-15.6)**	**62.6 (Z=-9.52, p<0.001)***

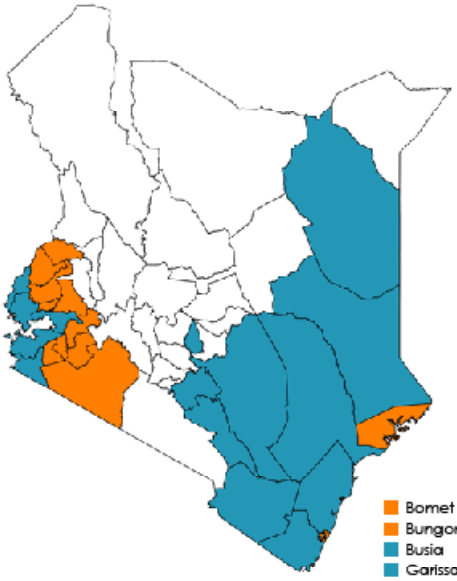
-ns Indicates counties which had not had routine parasitological monitoring, hence, surveys were not conducted in these counties during Year 1, Year 3 and Year 5 assessments.

* Indicates statistically significant relative reductions since Year 1 (noting that this could be a reflection of sampling technique, and noting also that oftentimes reductions have not been sustained).

** Indicates statistically significant increase in prevalence since Year 1.

Data Source: Infection prevalence data are collected and compiled by the Kenya Medical Research Institute (KEMRI), who conducts the monitoring and evaluation of the national school based deworming program.

Coverage Map



Treated for STH and Schistosomiasis

Treated for STH Only

Bomet	Kisii	Nandi
Bungoma	Kisumu	Narok
Busia	Kitui	Nyamira
Garissa	Kwale	Siaya
Homa bay	Lamu	Taita Taveta
Kakamega	Machakos	Tana River
Kericho	Makueni	Trans Nzoia
Kilifi	Migori	Vihiga
Kirinyaga	Mombasa	Wajir

Evidence Action

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