

Supplementary Appendix

Appendix 1. Scoping Review for the Related Literature

Important note: Given that the available literature quantifying malaria care quality from previous studies was limited and not comparable across the different settings, we only used this scoping review to inform the related literature in the study. The literature found from this scoping review were not in any form used to estimate or to quantify malaria care quality in the study countries. The study used the Malaria Indicators Survey data, which provide patient-level information on febrile children under five.

A scoping review to examine previous studies pertaining to quality of malaria care among children under five in low- and middle-income countries (LMICs) was carried out from October 1 to 15, 2018. We searched PubMed using predefined search terms in regards to quality of malaria care (appendix). Only English, peer-reviewed journal articles published in the last five years were included. Using Covidence, a second reviewer blinded to the primary reviewer's decisions checked the article selection and data extraction. A third reviewer resolved any conflicts in the review decisions. We found that while an extensive array of evidence about access to malaria care insecticide-treated bed nets, diagnostics, and treatments, as well as quality of malaria diagnostic tests and drugs are available, we know much less about the quality of malaria care provision and how quality of malaria care compares across LMICs.

In view of the broad scope of this inquiry, we followed published guidance on scoping reviews. This involved use of a broad search strategy to identify relevant studies; selection of studies according to inclusion and exclusion criteria; charting the data; collating, summarizing, and reporting the results; and placing particular emphasis on consultations with relevant experts. We searched PubMed using predefined search terms related to quality of malaria care. Only English, peer-reviewed journal articles published in the last five years were included, therefore letters, editorials, conference proceedings, and grey literature, such as reports from government agencies, were excluded in the study. Abstracts and titles of articles are reviewed first in regards to our inclusion and exclusion criteria. Then, full-text articles were reviewed. Using Covidence, a second reviewer blinded to the primary reviewer's decisions checked the article selection and data extraction. Differences of opinion were discussed, and a third reviewer resolved any conflicts.

Pre-defined Search Terms: N=321

("Quality of Health Care"[mh:noexp] OR "Quality of Care"[tiab] OR "healthcare quality"[tiab] OR "care quality"[tiab] OR "quality of healthcare"[tiab] OR "quality of health care"[tiab] OR "quality of care"[tiab] OR "Quality Indicators, Health Care"[mh] OR health quality indicators[tiab] OR (healthcare quality indicator[tiab] OR healthcare quality indicators[tiab]) OR (care quality indicator[tiab] OR care quality indicators[tiab]) OR "Global trigger tool"[tiab] OR healthcare quality metrics[tiab] OR care quality metrics[tiab] OR (health quality measurement[tiab] OR health quality measures[tiab]) OR (healthcare quality measurement[tiab] OR healthcare quality measures[tiab]) OR (care quality measure[tiab] OR care quality measurement[tiab] OR care quality measures[tiab]) OR "Process Assessment (Health Care)"[Mh] OR "Evidence-Based Practice"[Mh:noexp] OR "Evidence-Based Medicine"[Mh] OR "Evidence-Based Nursing"[Mh] OR "Clinical Competence"[Mh] OR "clinical competency"[tiab] OR "clinical competencies"[tiab] OR "clinical skill"[tiab] OR "clinical skills"[tiab] OR "patient safety"[Mh] OR "patient safety"[tiab] OR "patient harm"[Mh] OR "patient harm"[tiab] OR "Delivery of Health Care,

Integrated"[Mh] OR "Integrated Delivery of Health Care"[tiab] OR "Integrated Delivery of Healthcare"[tiab] OR "Integrated Health Care Systems"[tiab] OR "Integrated Healthcare Systems"[tiab] OR "integrated care systems"[tiab] OR "Patient Care Planning"[Mh] OR "continuum of care"[tiab] OR "care continuum"[tiab] OR "continuity of care"[tiab] OR "care continuity"[tiab] OR "care performance"[tiab] OR "Quality Assurance, Health Care"[Mh:noexp] OR "healthcare quality assurance"[tiab] OR "care quality assurance"[tiab] OR (care quality assessment[tiab] OR care quality assessments[tiab]) OR (healthcare quality assessment[tiab] OR healthcare quality assessments[tiab]) OR "Guideline Adherence"[Mh] OR "Guideline Adherence"[tiab] OR "Protocol Compliance"[tiab] OR "Standard of Care"[Mh] OR "Standards of Care"[tiab] OR "Care Standardization"[tiab] OR "Patient Satisfaction"[Mh] OR "Patient Satisfaction"[tiab] OR (patient preference[tiab] OR patient preferences[tiab]) OR (patient experience[tiab] OR patient experienced[tiab] OR patient experiences[tiab]) OR "patient-centered care"[Mh] OR "Patient centered care"[tiab] OR "Patient centred care"[All Fields] OR "patient focused care"[tiab] OR "patient centered nursing"[tiab] OR "professional-patient relations"[Mh] OR (professional patient relation[tiab] OR professional patient relations[tiab] OR professional patient relationship[tiab] OR professional patient relationships[tiab]) OR (nurse patient relation[tiab] OR nurse patient relations[tiab] OR nurse patient relationship[tiab] OR nurse patient relationships[tiab]) OR (doctor patient relation[tiab] OR doctor patient relations[tiab] OR doctor patient relationship[tiab] OR doctor patient relationships[tiab]) OR (physician patient relation[tiab] OR physician patient relations[tiab] OR physician patient relationship[tiab] OR physician patient relationships[tiab]) OR (clinician patient relationship[tiab] OR clinician patient relationships[tiab]) OR provider attitude[tiab] OR "care efficacy"[tiab] OR "effectiveness of Care"[tiab] OR "healthcare effectiveness"[tiab] OR "care effectiveness"[tiab] OR "Structure Process Outcome"[tiab] OR "Donabedian model"[tiab] OR "quality improvement"[Mh] OR "Quality Improvement*" [tiab]) AND ("malaria"[MeSH Terms] OR "malaria"[All Fields]) AND ("loattrfull text"[sb] AND "2013/10/13"[PDat] : "2018/10/11"[PDat] AND "humans"[MeSH Terms] AND English[lang])

Filters: a) article types: Clinical study, clinical trials, meta-analysis, reviews, observational studies, systematic; reviews; b) full text only; c) published within the last five years; d) humans; e) English; f) focuses on children up to five years

Inclusion and exclusion criteria

Question	Yes	No
1. Is it English-only?		
2. Is it peer reviewed?		
3. Is it published after year 2013 or in the last five years?		
4. Does it focus in a low- and middle-income country?		
5. Was the focus of the study on malaria?		
6. Does it focus on quality of malaria care service delivery (in terms of case finding, diagnosis, and treatment)?		
7. Does it focus on quality of the malaria diagnostic tools (e.g. mRDTs, microscopy) or drugs (artemisinin, etc)? If yes, please exclude these articles.		

Other areas for exclusion:

1. The paper is focusing on quality assessment of pharmaceutical products, surgical interventions, diagnostic tools or vaccines for roll-out
2. The paper is a viewpoint, protocol for a study, call for papers, editorials, opinion paper, correspondence, letter, or news article.

3. The paper focuses on prospective studies, proposals, simulations, or mathematical modeling of potential effects of a program/intervention
7. The paper focuses on improvements on information technology infrastructure (e.g. communications systems, databases, or surveillance systems)
8. The paper focuses on specialized areas: military or troops, conflict-affected states, including focusing on refugees or for humanitarian contexts
8. The paper focuses on determinants of health outcomes (e.g. quality of life) without assessment of any existing programs implemented to improve quality of health care services; thus, focuses on quality of life instead of quality of care
9. The paper focuses on developing approaches or solutions for considerations in the future'
10. The paper focuses on traveler's malaria or on pregnant women to protect their unborn from malaria
11. The paper focuses on modeling possible malaria scenarios
12. The paper focuses on costing of malaria treatment options or other interventions.

Full Text Studies Included

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Appendix 2. Country context gathered from malaria reports

Country context. There were 114 million children under-five living in the 25 study countries, of which 215 per 1000 population were at risk of malaria resulting to a mean of 8.3% (n=288,400) malaria deaths (Table 1). The highest percentage of malaria deaths among children under-five were in Burkina Faso (24.6%, n=15,556) in 2014 followed by Mali (24.4%, n=20,251) in 2015. The lowest recorded malaria deaths among children under-five were in Cambodia (0.3%, n=145) in 2005 and Ethiopia (0.8%, n=1,550) in 2016. Across all study countries, the average *P. Falciparum* endemicity is 86%. The highest recorded was in Swaziland at 99%, followed by Malawi and Mozambique both at 90%. The lowest recorded was in Ethiopia at 65%, followed by Burkina Faso (80%) and Nigeria (85%).

Country	Year ^a	Population: under five children (in thousands) ^b	Incidence of malaria per 1000 population at risk ^c	Malaria deaths among under five children ^d	
				n	%*
Burkina Faso	2014	3 161	389	15 556	24.6
Mali	2015	3 274	449	20 251	24.4
Sierra Leone	2016	1 135	303	6 459	19.6
Togo	2017	1 162	345	3 725	18.8
Nigeria	2015	31 109	381	93 446	12.5
Mozambique	2015	4 844	298	9 877	12.1
Ghana	2016	4 023	266	6 006	11.1
Cameroon	2011	3 395	322	9 094	10.1
Liberia	2016	705	246	1 023	8.6
Malawi	2017	2 888	189	2 980	7.8
Burundi	2012	1 577	198	2 548	6.7
Uganda	2015	7 512	218	6 500	6.7
Zambia	2014	2 750	174	2 638	6.6
Rwanda	2013	1 735	301	848	6.0
Angola	2011	4 512	114	6 938	5.6
Tanzania	2012	8 226	114	7 097	5.5
Senegal	2009	2 175	141	1 310	4.1
Gambia	2013	310	209	217	4.0
Kenya	2015	6 997	166	2 959	3.9
Madagascar	2016	3 700	104	2 565	3.6
Zimbabwe	2015	2 505	114	1 066	2.2
Namibia	2013	335	14	14	1.0
Ethiopia	2016	14 901	59	1 550	0.8
Cambodia	2005	1 531	49	145	0.3
Swaziland	2007	169	n/a	n/a	n/a
		114 632	215	288 400	8.3

a. All country contexts correspond to the survey year

Data sources: b. United Nations Population Division Department of Economic and Social Affairs World Population Prospects (2017), c. World Health Organization Global Health Observatory Data Repository, d. UNICEF Estimates of child cause of death (February 2018)

* Refers to percent of deaths due to malaria among children under-five

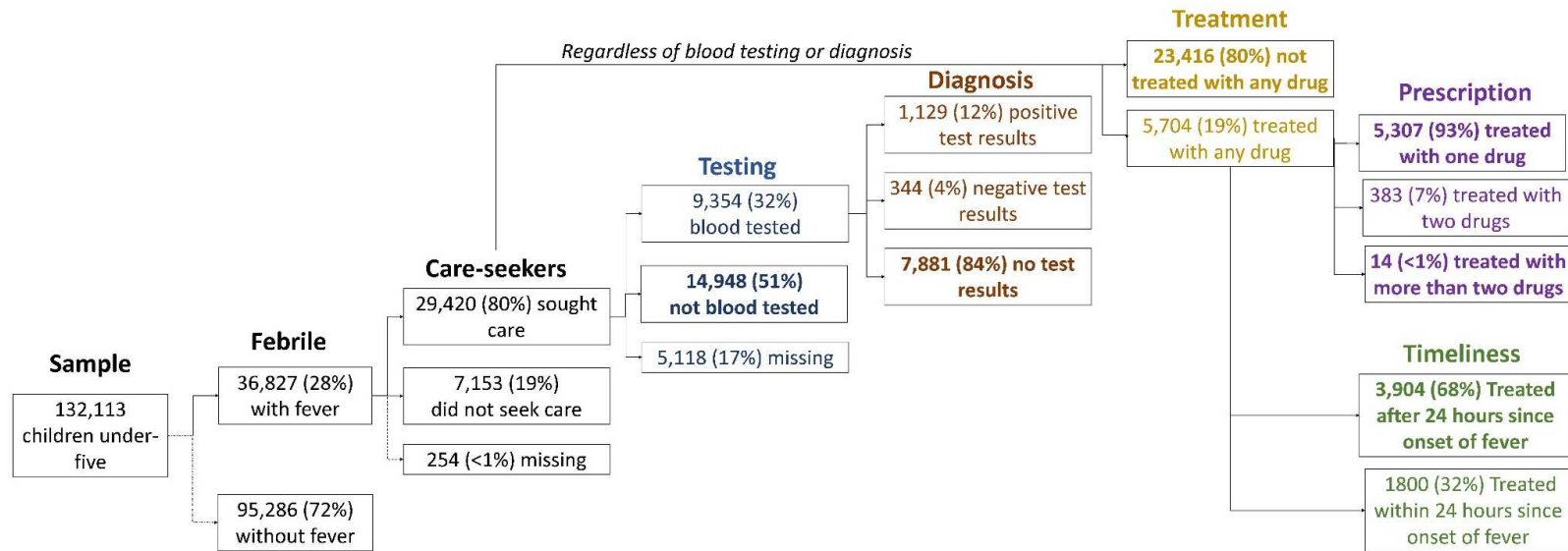
Appendix 3. Defining poor malaria care quality

WHO recommends prompt malaria diagnosis either by microscopy or mRDTs in all patients with suspected malaria before treatment is administered. [14] In all countries but Cambodia, *Plasmodium Falciparum* is the usual causative agent of malaria as it is highly endemic in these countries. WHO recommends artemisinin-based combination therapies (ACTs) for the treatment of uncomplicated malaria caused by *P. Falciparum* parasite. ACTs combine two active ingredients with different mechanisms of action and are the most effective antimalarial medicines available today. As such, monotherapies or use of only one drug were not recommended since use of single drugs may promote the development of artemisinin resistance. [14] Following these guidelines, we then selected relevant testing and treatment variables available in the MIS. Thus, we defined poor malaria care quality as those instances wherein a patient encountered the following during each treatment cascade:

1. Malaria testing – a febrile patient was not blood tested,
2. Malaria treatment provision – a febrile patient was treated with one antimalarial drug or three or more antimalarial drugs. Given that not all countries provide an account of the antimalarial drugs given to the patient and since the data on antimalarial drugs were based on the women's recall of drugs given to their child under-five, we presupposed that reporting provision of two antimalarial drugs suggest artemisinin-based combination therapies (ACTs) provision; thus, may have been appropriate care. Otherwise, if a patient was provided none, one, or three or more antimalarial drugs, the treatment was considered inappropriate and were counted towards poor quality of care. The WHO recommended care for treating uncomplicated *P. Falciparum* malaria cases with one of the following ACTs: artemether + lumefantrine, artesunate + amodiaquine, artesunate + mefloquine, dihydroartemisinin + piperaquine, or artesunate + sulfadoxine-pyrimethamine. [14]
3. Malaria treatment timeliness – a febrile patient receiving malaria care only after twenty-four hours from the onset of fever. It would have been ideal to determine timely care by examining whether or not they received malaria care within twenty-four hours from the time they sought care or when they first saw a healthcare provider. Unfortunately, existing data only provide time from the onset of fever.

We limited our analysis among febrile children who sought medical care. We then calculated the number of times the patient had inappropriate care out of the total number of possible treatment encounters per patient. See flow diagram in the next page for the number of eligible for each treatment cascade.

Flow diagram of samples for each treatment cascade:



Note: All numbers are unweighted. For each text box, those in bold were added to define poor malaria care quality. The percentages were calculated as out of the total sample for each treatment cascade and not as averages across the 25 countries reported in the manuscript.

Appendix 4. Incorrect malaria case management: Prevalence of poor quality among kids tested for Malaria in four select countries with additional laboratory test results

We are able to estimate this patient-level outcome for the four study countries with actual malaria laboratory test results, which allow us to determine which patients had malaria. Our outcome of interest was the proportion of cases that were incorrectly managed, either due to undertreatment or overtreatment. We define undertreatment as any instance when a febrile child under-five had positive malaria test results, but did not receive any antimalarial drug (not treated), or received only one antimalarial drug instead of the WHO recommended combination drugs (treated with one drug). [14] In contrast, we define overtreatment as any instance when a febrile child under-five had positive malaria test results, but was treated with three or more antimalarial drugs, or had negative malaria test results, but was treated with any number of antimalarial drugs.

Of the four countries that had additional data on malaria laboratory test results (Angola, Ghana, Nigeria, and Senegal), a mean of 35% of cases were incorrectly managed (Table 4). Undertreatment was noted in 26% (n=1,992) of cases, while overtreatment occurred at 9% (n=952). Among those who were undertreated, 81% of cases with positive malaria test results were not treated with any antimalarial drug and 13% were treated with one antimalarial drug. Among those who were overtreated, 0.41% of cases with positive malaria test results were treated with three or more antimalarial drugs, while for cases with negative malaria test results, about 13% were treated with antimalarial drugs (10% with one antimalarial drug, 2% with ACT, and 0.18% with three or more drugs). Under- and overtreatment calculations were not weighted to get the true proportions of care for each treatment cascade described above.

	Angola	Ghana	Nigeria	Senegal	Cases incorrectly managed
With malaria					
1. Undertreatment	407 (14%)	633 (63%)	330 (13%)	622 (12%)	1992 (26%)
2. Overtreatment	0 (0%)	0 (0%)	3 (1%)	5 (1%)	8 (0.4%)
Without malaria					
1. Overtreatment	221 (9%)	37 (13%)	541 (24%)	145 (4%)	944 (12%)
Total	628 (22%)	670 (67%)	874 (34%)	772 (15%)	2944 (35%)

All percentages for test results column were calculated out of the number of positive and negative test results for every country.

a.

Country	Tested	Total undertreated	%	Total overtreated	%
Angola	2901	407	14.0%	221	7.6%
Ghana	997	633	63.5%	37	3.7%
Nigeria	2548	330	13.0%	544	21.4%
Senegal	5046	622	12.3%	150	3.0%

b.

Country	Test results	Undertreatment				Overtreatment			
		Positives	Not treated	%	Treated with one drug	%	Treated with > 2 drugs	%	
Angola	410	371	90.5%	36	8.8%	0	0.0%		
Ghana	717	562	78.4%	71	9.9%	0	0.0%		
Nigeria	360	226	62.8%	104	28.9%	3	0.8%		
Senegal	634	589	92.9%	33	5.2%	5	0.8%		
		Overtreatment							
Country	Negatives	Not treated	%	Treated with one drug	%	Treated with ACT	%	Treated with > drugs	%
Angola	2491	2252	90.4%	221	8.9%	0	0.0%	0	0.0%
Ghana	280	243	86.8%	20	7.1%	17	6.1%	0	0.0%
Nigeria	2188	1583	72.3%	510	23.3%	24	1.1%	7	0.3%
Senegal	4412	4256	96.5%	115	2.6%	12	0.3%	18	0.4%

Appendix 5. Other potential primary outcome measures

Country	Patient encounters		Patient encounters with overtreatment		Cases who had at least one problem		Cases who had only one problem		Cases who had two problems		Cases who had all three problems	
	n	%	n	%	n	%	n	%	n	%	n	%
Tanzania	2925	69%	2925	69%	1405	99%	239	17%	829	59%	338	24%
Nigeria	4320	66%	4330	66%	2195	99%	377	17%	1509	68%	313	14%
Mozambique	1983	65%	1983	65%	1004	99%	215	21%	649	64%	141	14%
Mali	3207	65%	3207	65%	1621	98%	225	14%	1206	73%	183	11%
Cambodia	2066	65%	2066	65%	1061	100%	74	7%	986	93%	0	0%
Burkina Faso	4179	64%	4179	64%	2182	99%	539	25%	1348	61%	295	13%
Madagascar	1704	63%	1704	63%	899	100%	156	17%	698	78%	45	5%
Togo	1314	62%	1314	62%	704	99%	145	21%	518	73%	45	6%
Zimbabwe	889	61%	889	61%	486	100%	85	17%	400	82%	1	0%
Angola	1635	60%	1635	60%	896	98%	250	27%	566	62%	87	10%
Namibia	770	60%	770	60%	433	100%	94	22%	336	78%	3	1%
Malawi	1850	57%	1850	57%	1070	99%	384	35%	646	60%	40	4%
Cameroon	1371	57%	1371	57%	1190	99%	995	83%	197	16%	0	0%
Ethiopia	712	57%	714	57%	620	99%	537	86%	86	14%	0	0%
Uganda	2219	56%	2219	56%	1327	100%	495	37%	796	60%	42	3%
Rwanda	1080	55%	1080	55%	656	100%	235	36%	413	63%	6	1%
Gambia	592	54%	592	54%	369	99%	144	39%	222	60%	4	1%
Ghana	1317	53%	1317	53%	803	97%	358	43%	407	49%	53	6%
Kenya	1808	53%	1808	53%	1141	100%	482	42%	648	57%	6	1%
Burundi	1641	52%	1647	53%	1068	100%	514	48%	536	50%	18	2%
Swaziland	589	50%	589	50%	586	100%	582	99%	4	1%	0	0%
Senegal	3038	50%	3080	50%	2904	99%	2777	95%	121	4%	0	0%
Zambia	3581	50%	3581	50%	2411	100%	1361	56%	1022	42%	28	1%
Sierra Leone	2204	49%	2205	49%	1490	100%	833	56%	639	43%	22	1%
Liberia	1322	48%	1325	49%	932	99%	581	62%	324	34%	22	2%
Total	48315		48378		29451		12678		15105		1692	
Mean		58%		58%		99%		41%		54%		5%

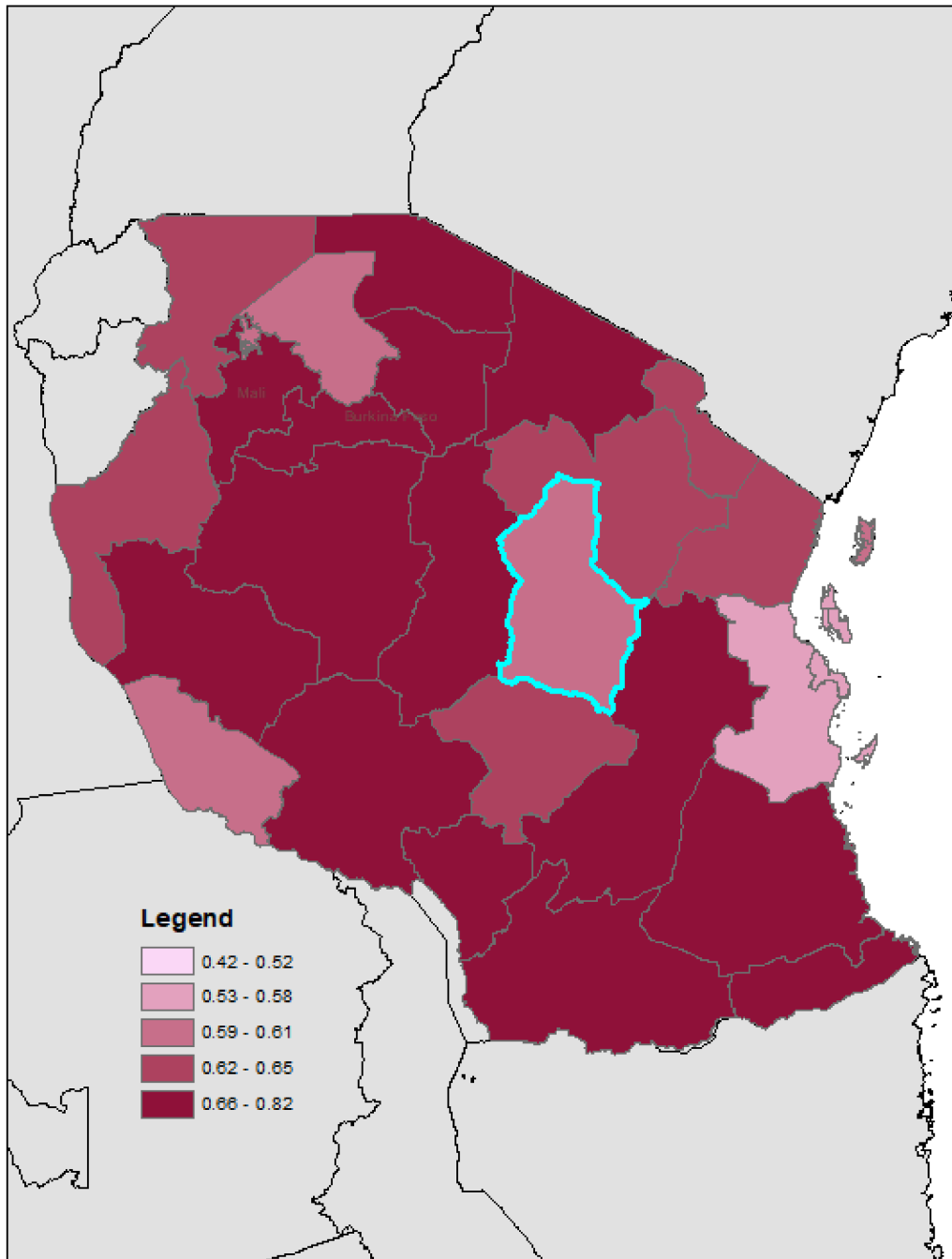
Appendix 6. Problems with quality of malaria care when including overtreatment

Country	Fever reported in the last two weeks	Not blood tested ^a		Not treated with any drug ^b		Treated with one malarial drug ^b		Treated with more than two malarial drug		Receipt of treatment after 24 hours ^c		Patient encounters with problems on quality of malaria care ^d	
	n	n	%	n	%	n	%	n	%	n	%	n	%
Sierra Leone	1569	760	48%	1528	95%	68	4%	1	0.04%	54	64%	3215	69%
Angola	1095	652	60%	821	76%	264	24%	0	0.00%	213	81%	4954	66%
Uganda	1383	885	64%	1249	90%	108	8%	0	0.00%	81	56%	3970	66%
Gambia	437	319	73%	464	97%	14	3%	0	0.00%	8	57%	2783	65%
Nigeria	2542	2169	85%	1857	73%	623	25%	9	0.37%	425	63%	2629	65%
Mali	2041	1795	88%	1636	80%	366	18%	0	0.00%	283	71%	4963	64%
Malawi	1567	794	51%	1000	76%	310	24%	0	0.00%	174	56%	2110	64%
Ghana	933	462	50%	550	62%	172	20%	0	0.00%	197	60%	1398	63%
Swaziland	661	0	0%	671	99%	4	1%	0	0.00%	4	100%	1484	62%
Cameroon	1590	0	0%	1229	81%	283	19%	0	0.00%	198	69%	985	60%
Rwanda	877	612	70%	836	96%	37	4%	0	0.00%	29	78%	2760	59%
Kenya	1241	773	62%	1234	98%	25	2%	0	0.00%	18	58%	1510	58%
Liberia	1066	298	28%	972	89%	108	10%	3	0.25%	91	72%	2315	56%
Madagascar	1105	875	79%	967	92%	79	8%	0	0.00%	64	79%	726	56%
Cambodia	1348	1242	92%	1321	100%	1	0%	0	0.00%	1	100%	1761	56%
Tanzania	1560	1163	75%	747	49%	781	51%	0	0.00%	476	61%	1940	56%
Togo	797	518	65%	543	71%	224	29%	0	0.00%	149	66%	2004	54%
Burkina Faso	2593	1764	68%	1640	64%	903	35%	0	0.00%	609	65%	1500	53%
Mozambique	1429	748	52%	830	66%	434	34%	0	0.00%	435	100%	2327	52%
Senegal	4442	0	0%	4022	95%	167	4%	46	1.07%	182	81%	4083	51%
Burundi	1736	514	30%	1539	92%	127	8%	6	0.37%	69	50%	2369	50%
Zambia	2651	1291	49%	2609	96%	107	4%	0	0.00%	87	78%	664	50%
Namibia	546	429	79%	523	97%	13	2%	0	0.00%	13	81%	1440	49%
Ethiopia	1412	0	0%	1249	94%	83	6%	2	0.15%	85	100%	4609	49%
Zimbabwe	744	655	88%	741	99%	6	1%	0	0.00%	4	50%	1489	47%
Mean			54%		85%		14%		0.09%		72%		58%

Appendix 7. Problems with malaria care quality among under-5 children who were eligible to go through all the treatment cascades

Country	Cases eligible to go through all cascades	Treated with one malarial drug ^b		Treated with more than two antimalarial drug		Receipt of treatment after 24 hours ^c		Patient encounters with problems on quality of malaria care ^d	
	n	n	%	n	%	n	%	n	%
Uganda	57	41	72%			25	44%	38	67%
Gambia	9	9	100%			4	44%	5	56%
Burundi	81	77	95%	0	0.0%	42	52%	43	53%
Sierra Leone	51	39	76%	1	2.0%	31	61%	26	51%
Ghana	174	81	47%			111	64%	88	51%
Kenya	15	11	73%			8	53%	7	47%
Tanzania	254	254	100%			137	54%	117	46%
Malawi	244	242	99%			136	56%	106	43%
Senegal	44	33	75%	5	11.4%	36	82%	17	39%
Nigeria	133	113	85%	3	2.3%	96	72%	49	37%
Liberia	81	65	80%	1	1.2%	60	74%	29	36%
Burkina Faso	462	447	97%			303	66%	164	35%
Togo	160	160	100%			105	66%	55	34%
Madagascar	25	24	96%			18	72%	8	32%
Zambia	76	72	95%			59	78%	21	28%
Mali	104	92	88%			80	77%	26	25%
Angola	162	162	100%			130	80%	32	20%
Namibia	8	7	88%			8	100%	1	13%
Rwanda	25	25	100%			22	88%	3	12%
Mozambique	296	295	100%			296	100%	1	0%
Cambodia	1	1	100%			1	100%	0	0%
Zimbabwe	1	1	100%			1	100%	0	0%
Average			89%				72%		33%

Appendix 8. Problems with quality of malaria care among febrile children under-five in Tanzania noted with the largest regional difference of 30



Note: Highlighted area is Dodoma, the capital city of Tanzania, where quality of malaria care was found to be only slightly better than the neighboring regions.

Appendix 9. Differences in malaria care quality scores by country

Country	Minimum regional quality score	Maximum regional quality score	Difference in scores
Swaziland	0.50	0.51	0.01
Senegal	0.48	0.51	0.03
Nigeria	0.63	0.67	0.04
Burundi	0.50	0.55	0.04
Malawi	0.53	0.59	0.05
Mali	0.63	0.69	0.06
Gambia	0.49	0.56	0.07
Togo	0.57	0.64	0.07
Angola	0.55	0.63	0.08
Liberia	0.45	0.54	0.09
Cambodia	0.57	0.67	0.09
Zimbabwe	0.57	0.66	0.09
Madagascar	0.58	0.68	0.10
Ethiopia	0.51	0.61	0.10
Cameroon	0.55	0.65	0.10
Rwanda	0.51	0.62	0.11
Uganda	0.48	0.60	0.12
Mozambique	0.58	0.71	0.13
Kenya	0.45	0.60	0.15
Ghana	0.43	0.58	0.15
Sierra Leone	0.45	0.60	0.15
Zambia	0.42	0.59	0.16
Burkina Faso	0.54	0.70	0.16
Namibia	0.52	0.68	0.17
Tanzania	0.52	0.82	0.30