

Digital appendix 1

Yearly distribution of articles, authors, pages and references for Cambodia

Year	<i>TP</i>	<i>AU</i>	<i>APP</i>	<i>NR</i>	<i>NR/TP</i>	<i>PG</i>	<i>PG/TP</i>
1972	1	2	2.0	16	16	5	5.0
1973	0	0	N/A	0	N/A	0	N/A
1974	2	2	1.0	17	8.5	17	8.5
1975	1	3	3.0	2	2.0	12	12
1976	0	0	N/A	0	N/A	0	N/A
1977	0	0	N/A	0	N/A	0	N/A
1978	0	0	N/A	0	N/A	0	N/A
1979	0	0	N/A	0	N/A	0	N/A
1980	0	0	N/A	0	N/A	0	N/A
1981	0	0	N/A	0	N/A	0	N/A
1982	0	0	N/A	0	N/A	0	N/A
1983	0	0	N/A	0	N/A	0	N/A
1984	0	0	N/A	0	N/A	0	N/A
1985	0	0	N/A	0	N/A	0	N/A
1986	1	1	1.0	0	0	8	8.0
1987	2	3	1.5	9	4.5	10	5.0
1988	1	2	2.0	17	17	7	7.0
1989	2	4	2.0	10	5.0	14	7.0
1990	0	0	N/A	0	N/A	0	N/A
1991	0	0	N/A	0	N/A	0	N/A
1992	0	0	N/A	0	N/A	0	N/A
1993	1	7	7.0	0	0	1	1.0
1994	3	14	4.7	63	21	25	8.3
1995	5	16	3.2	42	8.4	22	4.4
1996	0	0	N/A	0	N/A	0	N/A
1997	5	20	4.0	70	14	33	6.6
1998	8	28	3.5	131	16	81	10
1999	12	78	6.5	236	20	97	8.1
2000	14	63	4.5	301	22	122	8.7
2001	16	66	4.1	355	22	93	5.8
2002	24	176	7.3	652	27	152	6.3
2003	23	143	6.2	637	28	222	9.7
2004	47	293	6.2	1 345	29	364	7.7
2005	49	329	6.7	1 189	24	369	7.5
2006	66	429	6.5	1 710	26	505	7.7
2007	89	672	7.6	2 551	29	716	8.0
2008	84	620	7.4	2 328	28	712	8.5
2009	121	998	8.2	3 540	29	1 023	8.5

2010	129	1,176	9.1	4 441	34	1 221	9.5
2011	129	1,297	10	4 325	34	1 117	8.7
2012	169	1,807	11	6 017	36	1 474	8.7
2013	201	2,148	11	7 561	38	1 843	9.2
2014	206	2,285	11	7 679	37	2 087	10
2015	243	2,850	12	9 649	40	2 649	11
2016	285	4,667	16	11 680	41	3 118	11
2017	277	3,007	11	12 033	43	3 084	11
2018	314	7,106	23	13 537	43	3 423	11
2019	325	6,555	20	14 937	46	3 974	12
Total	2,855	36,867		107 080		28 600	
Average			13		38		10

TP: number of articles; *AU*: number of authors; *APP*: number of authors per article; *NR*: number of cited references; *PG*: page counts.

Digital appendix 2.

Characteristics of document type (percentage from a total of 3689 publications)

Document type	<i>TP</i>	%	<i>AU</i>	<i>APP</i>	<i>TC</i> ₂₀₁₉	<i>CPP</i> ₂₀₁₉
Article	2 855	77	38 589	14	60 013	21
Meeting abstract	482	13	4 220	8.8	41	0.085
Review	138	3.7	1 644	12	7 506	54
Letter	106	2.9	656	6.2	2 010	19
Editorial material	80	2.2	660	8.3	890	11
Proceedings article	59	1.6	554	9.4	1 257	21
Correction	14	0.38	186	13	4	0.29
Book chapter	11	0.30	88	8.0	126	11
News item	9	0.24	35	3.9	6	0.67
Note	3	0.081	8	2.7	21	7.0
Reprint	1	0.027	7	7.0	0	0
Retracted publication	1	0.027	8	8.0	6	6.0
Retraction	1	0.027	8	8.0	0	0

TP: number of publications; *AU*: number of authors; *APP*: number of authors per publication; *TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication year to the end of 2019; *CPP*₂₀₁₉: number of citations (*TC*₂₀₁₉) per publication (*TP*).

Digital appendix 3

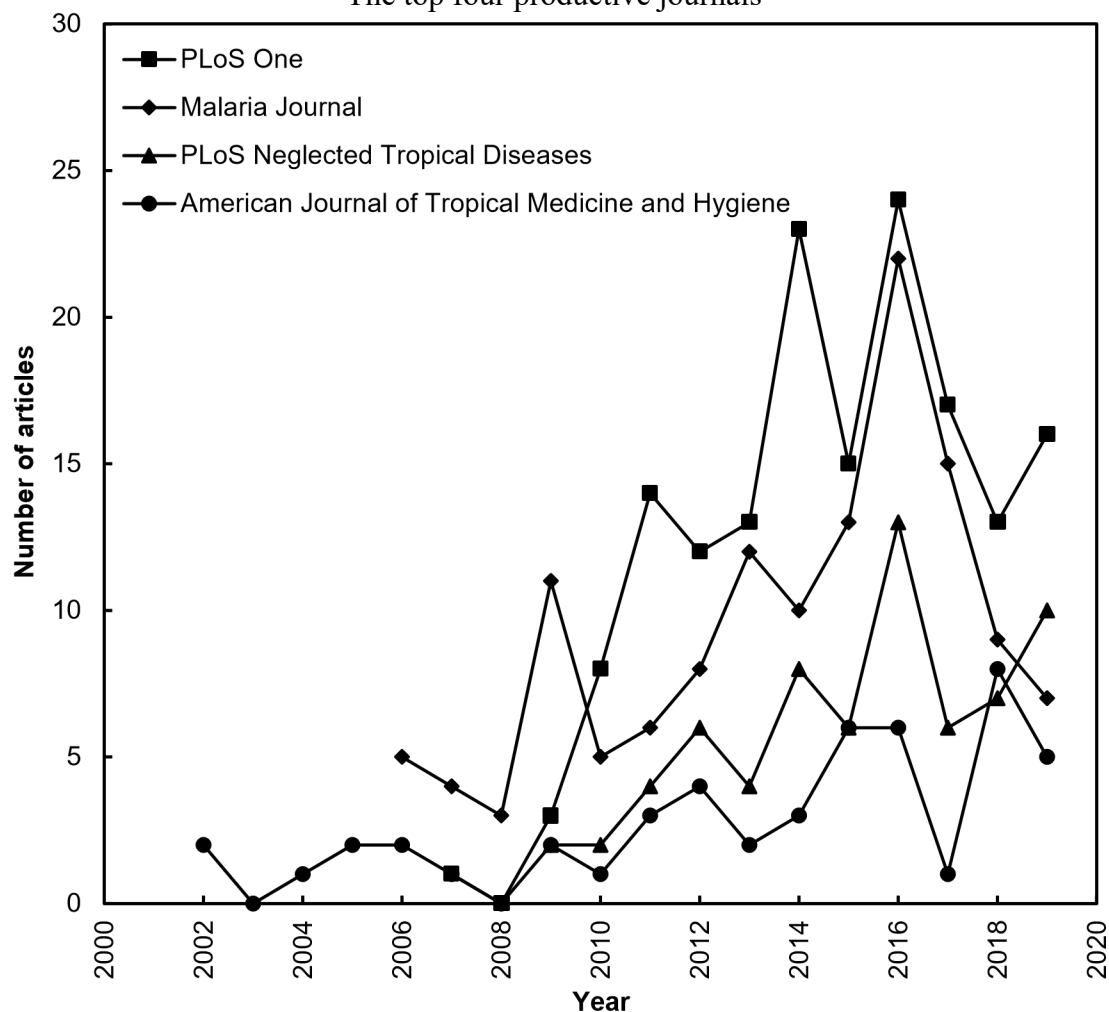
Characteristics by language

Language	<i>TP</i>	%	<i>AU</i>	<i>APP</i>	<i>TC</i> ₂₀₁₉	<i>CPP</i> ₂₀₁₉
English	2 830	99	38,505	14	59,941	21
French	19	0.67	76	4.0	68	3.6

German	5	0.18	6	1.2	3	0.60
Spanish	1	0.035	2	2.0	1	1.0

TP: number of publications; *AU*: number of authors; *APP*: number of authors per publication; *TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication to the end of 2019; *CPP*₂₀₁₉: number of citations (*TC*₂₀₁₉) per publication (*TP*).

Digital appendix 4
The top four productive journals



Digital appendix 5

Top 11. Web of Science categories with *TP* >100 (Percentage from a total of 2 855 articles)

Web of Science categories	<i>TP</i>	%	No. Journals
Infectious diseases	635	22	93
Tropical medicine	386	14	23
Public, environmental and occupational health	345	12	193
Parasitology	285	10	39
Immunology	246	8.6	158

Multidisciplinary sciences	229	8.0	71
Microbiology	177	6.2	135
Environmental sciences	176	6.2	265
Nutrition and dietetics	115	4.0	89
Ecology	110	3.9	168
Virology	104	3.6	37

Digital appendix 6
Top 10 collaborative countries

Country	<i>TP</i>	<i>TP R</i> (%)	<i>FP R</i> (%)	<i>RP R</i> (%)	<i>CPP</i> ₂₀₁₉
USA	831	1 (29)	1 (13)	1 (13)	33
France	629	2 (22)	2 (8.4)	2 (10)	25
Thailand	596	3 (21)	6 (6.0)	6 (6.4)	32
UK	545	4 (19)	4 (7.5)	4 (7.9)	37
Australia	460	5 (16)	5 (6.4)	5 (7.0)	23
Japan	373	6 (13)	3 (7.7)	3 (8.1)	19
Vietnam	313	7 (11)	13 (1.3)	15 (0.81)	34
Switzerland	235	8 (8.2)	9 (2.1)	9 (2.4)	47
China	229	9 (8.0)	8 (2.5)	10 (2.3)	30
Belgium	207	10 (7.3)	7 (3.4)	7 (3.7)	24

TP R (%): total number of articles and rank; *FP R* (%): total number of first-author articles and rank; *RP R* (%): total number of corresponding-author articles and rank; *CPP*₂₀₁₉: citations per publication ($CPP_{2019} = TC_{2019}/TP$).

Digital appendix 7
Top ten collaborative institutions in overseas

Institute	<i>TP</i>	<i>TP R</i> (%)	<i>FP R</i> (%)	<i>RP R</i> (%)	<i>CPP</i> ₂₀₁₉
Mahidol University, Thailand	285	1 (10)	1 (2.1)	1 (2.1)	44
Pasteur Institute, France	198	2 (6.9)	3 (1.4)	3 (1.7)	38
University of Oxford, UK	194	3 (6.8)	4 (1.0)	4 (1.2)	40
Institute of Tropical Medicine, Belgium	125	4 (4.4)	2 (1.8)	2 (1.9)	23
London School of Hygiene & Tropical Medicine, UK	111	5 (3.9)	4 (1.0)	5 (1.2)	39
Khon Kaen University, Thailand	87	6 (3.0)	8 (0.88)	6 (1.1)	15
Centers for Disease Control and Prevention, USA	85	7 (3.0)	4 (1.0)	7 (1.0)	38
WHO, Switzerland	71	8 (2.5)	41 (0.28)	29 (0.39)	74

University of Melbourne, Australia	66	9 (2.3)	27 (0.39)	17 (0.46)	33
Chiang Mai University, Thailand	61	10 (2.1)	48 (0.25)	38 (0.28)	11

TP: total number of articles; *TP R (%)*: rank of total number of articles and percentage; *FP R (%)*: rank of first-author articles and percentage; *RP R (%)*: rank of corresponding-author articles and percentage; *CPP*₂₀₁₉: citations per publication ($CPP_{2019} = TC_{2019}/TP$).

Digital appendix 8

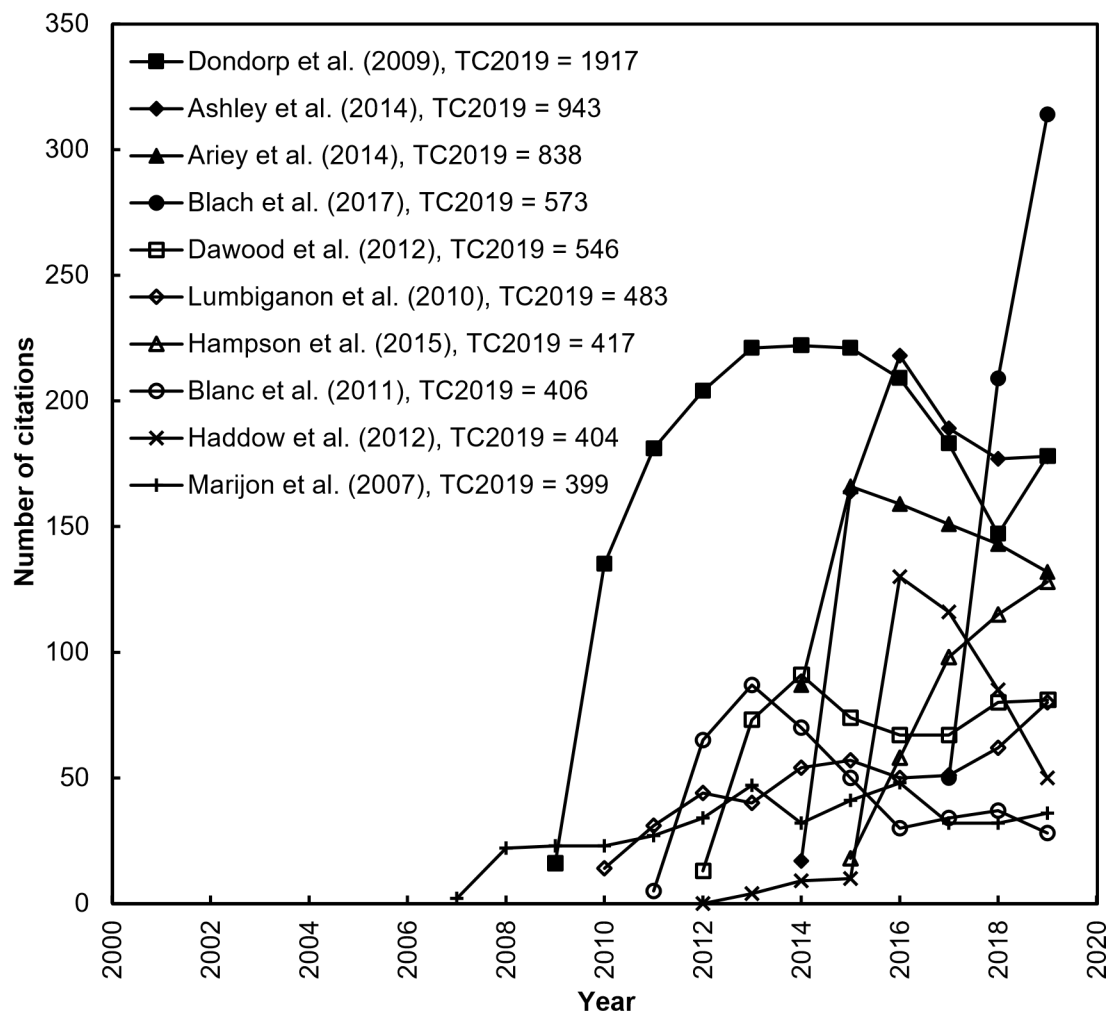
Top ten productive institutes in Cambodia

Institute	<i>TP</i>	<i>TP R (%)</i>	<i>IP R (%)</i>	<i>CP R (%)</i>	<i>FP R (%)</i>	<i>RP R (%)</i>	<i>CPP</i> ₂₀₁₉
Pasteur Institute	576	1 (20)	N/A	1 (20)	1 (6.5)	N/A	33
Ministry of Health	274	2 (10)	N/A	2 (10)	2 (1)	N/A	23
National Center for Parasitology Entomology and Malaria Control	238	3 (8.3)	N/A	3 (8.4)	9 (0.46)	N/A	55
University of Health Sciences	125	4 (4.4)	N/A	4 (4.4)	9 (0.46)	N/A	12
Ministry of Agriculture Forestry and Fisheries	124	5 (4.3)	N/A	5 (4.4)	12 (0.42)	N/A	13
Royal University of Phnom Penh	112	6 (3.9)	N/A	6 (3.9)	3 (0.7)	N/A	8.2
National Center for HIV/AIDS	109	7 (3.8)	N/A	7 (3.8)	20 (0.21)	N/A	14
Angkor Hospital for Children	107	8 (3.7)	N/A	8 (3.8)	5 (0.6)	N/A	18
WHO Cambodia Representative Office	104	9 (3.6)	N/A	9 (3.7)	15 (0.35)	N/A	31
National Institute of Public Health	85	10 (3)	N/A	10 (3)	12 (0.42)	N/A	14

TP: total number of articles; *TP R (%)*: rank of total number of articles and percentage; *IP R (%)*: rank of institute independent articles and percentage; *CP R (%)*: rank of inter-institutionally collaborative articles and percentage; *FP R (%)*: rank of first-author articles and percentage; *RP R (%)*: rank of corresponding-author articles and percentage; *CPP*₂₀₁₉: citations per publication ($CPP_{2019} = TC_{2019}/TP$); N/A: not available

Digital appendix 9

Citation history of the top ten articles



Digital appendix 10
Top ten most productive journals

Journals	<i>TP</i> (%)	<i>IF</i> ₂₀₁₉	Web of Science category	<i>TC</i> ₂₀₁₉	<i>CPP</i> ₂₀₁₉
PLoS One	159 (5.6)	2.740	multidisciplinary sciences	2 503	16
Malaria Journal	130 (4.6)	2.631	infectious diseases parasitology tropical medicine	2 712	21
PLoS Neglected Tropical Diseases	68 (2.4)	3.885	infectious diseases parasitology tropical medicine	2 652	39
American Journal of Tropical Medicine and Hygiene	49 (1.7)	2.126	public, environmental and occupational health tropical medicine	1 148	23
Antimicrobial Agents and Chemotherapy	41 (1.4)	4.904	microbiology pharmacology and pharmacy	1 392	34

Emerging Infectious Diseases	40 (1.4)	6.259	immunology infectious diseases	1 174	29
Tropical Medicine & International Health	36 (1.3)	2.308	public, environmental and occupational health tropical medicine	1 198	33
Nutrients	35 (1.2)	4.546	nutrition and dietetics	209	6.0
JAIDS-Journal of Acquired Immune Deficiency Syndromes	34 (1.2)	3.475	immunology infectious diseases	753	22
BMC Public Health	31 (1.1)	2.521	public, environmental and occupational health	539	17

TP (%): rank and the percentage of number of articles; *IF*₂₀₁₉: journal impact factor in 2019; *TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication year to the end of 2019; *CPP*₂₀₁₉: number of citations (*TC*₂₀₁₉) per publication (*TP*).

Digital appendix 11

Top ten most frequently cited articles

Rank (<i>TC</i> ₂₀₁₉)	Rank (<i>C</i> ₂₀₁₉)	Article titles	References
1 (1917)	3 (178)	Artemisinin Resistance in <i>Plasmodium falciparum</i> Malaria.	Dondorp et al. (2009)
2 (943)	3 (178)	Spread of Artemisinin Resistance in <i>Plasmodium falciparum</i> Malaria	Ashley et al. (2014)
3 (838)	5 (132)	A molecular marker of artemisinin-resistant <i>Plasmodium falciparum</i> malaria	Ariey et al. (2014)
4 (573)	1 (314)	Global prevalence and genotype distribution of hepatitis C virus infection in 2015: a modelling study	Blach et al. (2017)
5 (546)	8 (81)	Estimated global mortality associated with the first 12 months of 2009 pandemic influenza A H1N1 virus circulation: a modelling study	Dawood et al. (2012)
6 (483)	9 (80)	Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health 2007-08	Lumbiganon et al. (2010)
7 (417)	6 (128)	Estimating the Global Burden of Endemic Canine Rabies	Hampson et al. (2015)
8 (406)	42 (28)	Earlier versus Later Start of Antiretroviral Therapy in HIV-Infected Adults with Tuberculosis	Blanc et al. (2011)
9 (404)	19 (50)	Genetic Characterization of Zika Virus Strains: Geographic Expansion of the Asian Lineage	Haddow et al. (2012)
10 (399)	31 (36)	Prevalence of rheumatic heart disease detected by echocardiographic screening	Marijon et al. (2007)

*TC*₂₀₁₉: the total number of citations from Web of Science Core Collection since publication year to the end of 2019; *C*₂₀₁₉: number of citations in 2019.