

Supplementary File 3 – PE of bed nets. PE of bed nets in decreasing order, by outcome measured, and bed net definition. *: indicates significant result. MC: multi-country. †: in multi-country studies the number between brackets indicates the number of countries. ITN: insecticide-treated nets. LLIN: long lasting insecticidal nets. NIBN: non-impregnated bed nets. CCS: case-control survey. CSS: cross-sectional survey.

Outcome	CIMP	Sampling unit	Study design	Country [†]	PE (%) [95%CI]	Reference
Infection	LLIN	Individual	CSS	Benin	64 [41;78]*	Tokponnon 2014 [7]
Infection	LLIN	Individual	CSS	Kenya	48 [26;63]*	Minakawa 2015 [8]
Infection	LLIN	Individual	CSS	Benin	44 [9;64]*	Tokponnon 2014 [7]
Infection	LLIN	Household	CSS	Ethiopia	40 [11;60]*	Graves 2009 [9]
Infection	LLIN	Individual	CSS	The Gambia	39 [14;57]*	Mwesigwa 2015 [10]
Infection	LLIN	Individual	CSS	Equatorial Guinea	36 [26;45]*	Rehman 2013 [11]
Infection	LLIN	Individual	Cohort	Benin	26 [13;38]*	Damien 2010 [12]
Infection	LLIN	Household	CSS	Ethiopia	24 [-9;47]	Deressa 2014 [6]
Infection	LLIN	Household	CSS	Rwanda	-14 [-72;24]	Kateera 2015 [13]
Infection	LLIN	Individual	CSS	Ethiopia	-79 [-236;5]	Graves 2009 [9]
Infection	LLIN	Individual	CSS	Ethiopia	-101 [-264;-11]*	Ashton 2011 [14]
Infection	ITN	Individual	Cohort	Nigeria	100 [98;100]*	Olowookere 2013 [15]
Infection	ITN	Individual	CSS	Ethiopia	83 [50;94]*	Abate 2013 [16]
Infection	ITN	Individual	CSS	Nigeria	79 [64;88]*	Fana 2015 [17]
Infection	ITN	Individual	CSS	Ethiopia	78 [32;93]*	Nega 2015 [18]
Infection	ITN	Individual	CSS	The Gambia	69 [42;84]*	Clarke 2001 [19]
Infection	ITN	Individual	CSS	Tanzania	62 [38;77]*	Abdulla 2001 [20]
Infection	ITN	Individual	CSS	Burkina Faso	57 [34;72]*	Ouédraogo 2011 [21]
Infection	ITN	Individual	CSS	Vietnam	54 [10;77]*	Thang 2008 [22]
Infection	ITN	Individual	CSS	Mozambique	51 [50;52]*	Brentlinger 2007 [23]
Infection	ITN	Cluster	CSS	Tanzania	50 [22;68]*	West 2013 [24]
Infection	ITN	Individual	CSS	Zambia	50 [-3;76]	Sutcliffe 2011 [25]
Infection	ITN	Household	CSS	Tanzania	47 [15;67]*	Abdulla 2002 [26]
Infection	ITN	Individual	CSS	Philippines	43 [-71;62]	Bell 2005 [27]
Infection	ITN	Individual	CSS	DRC	41	Maketa 2015 [28]
Infection	ITN	Individual	CSS	Uganda	37 [13;54]*	Spencer 2004 [29]

Outcome	CIMP	Sampling unit	Study design	Country [†]	PE (%) [95%CI]	Reference
Infection	ITN	Individual	CSS	Equatorial Guinea	35 [23;45]*	Rehman 2011 [30]
Infection	ITN	Individual	CSS	Equatorial Guinea	32 [3;52]*	Kleinschmidt 2009 [31]
Infection	ITN	Individual	CSS	Kenya	30 [-4;53]	Ouma 2007 [32]
Infection	ITN	Individual	CSS	Kenya	28 [1;48]*	Atieli 2011 [33]
Infection	ITN	Individual	CSS	Laos	28 [-146;78]	Nonaka 2010 [34]
Infection	ITN	Individual	CSS	Tanzania	25 [4;41]*	Winskill 2011 [35]
Infection	ITN	Cluster	Step. wedge	The Gambia	25	D'Alessandro 1995 [36]
Infection	ITN	Individual	CSS	Multicountry (7)	24 [1;42]*	Lim 2011 [37]
Infection	ITN	Individual	CSS	Tanzania	24 [5;39]*	Geissbühler 2009 [38]
Infection	ITN	Individual	CSS	Laos	22 [-165;77]	Nonaka 2010 [34]
Infection	ITN	Individual	CSS	Nigeria	21 [1;37]*	Kyu 2013 [39]
Infection	ITN	Individual	CSS	Malawi	21 [2;36]*	Skarbinski 2011 [40]
Infection	ITN	Individual	CSS	Burkina Faso	20 [-50;50]	Cisse 2014 [41]
Infection	ITN	Household	CSS	Multicountry (7)	20 [3;35]*	Lim 2011 [37]
Infection	ITN	Individual	CSS	Malawi	19 [-18;44]	Rehman 2011 [30]
Infection	ITN	Household	CSS	MC (10) – Med.T.	13 [3;22]*	Fullman 2013 [42]
Infection	ITN	Household	CSS	MC (11) – High T.	10 [3;16]*	Fullman 2013 [42]
Infection	ITN	Individual	CSS	Tanzania	7 [1;14]*	Maheu-Giroux 2013 [43]
Infection	ITN	Household	CSS	MC (11) – Low T.	4 [-50;38]	Fullman 2013 [42]
Infection	ITN	Individual	CSS	Uganda	2 [-11;14]	Steinhardt 2013 [44]
Infection	ITN	Individual	CSS	Malawi	2 [-27;25]	Skarbinski 2012 [45]
Infection	ITN	Individual	CSS	Mozambique	-20 [-80;10]	Temu 2012 [46]
Infection	ITN	Cluster	CSS	Zambia	-150 [-1567;61]	Bulterys 2009 [47]
Infection	Bed net	Cluster	CSS	Mozambique	79 [31;94]*	Plucinski 2014 [48]
Infection	Bed net	Individual	CSS	Nigeria	73 [41;88]*	Singh 2014 [49]
Infection	Bed net	Household	CSS	Rwanda	62 [11;84]*	Rulisa 2013 [50]
Infection	Bed net	Individual	CSS	DRC	60 [30;80]*	Matangila 2014 [51]
Infection	Bed net	Individual	CSS	Gabon	60 [-40;90]	Bouyou-Akotet 2010 [52]
Infection	Bed net	Individual	CSS	Afghanistan	59 [34;75]*	Rowland 2002 [53]
Infection	Bed net	Individual	Cohort	Uganda	55 [0;80]*	Nankabirwa 2011 [54]
Infection	Bed net	Individual	CSS	Somalia	54 [44;63]*	Noor 2008 [55]

Outcome	CIMP	Sampling unit	Study design	Country [†]	PE (%) [95%CI]	Reference
Infection	Bed net	Cluster	CSS	Cote d'Ivoire	49 [2;76]*	Raso 2009 [56]
Infection	Bed net	Individual	CSS	Papua N. Guinea	48 [40;54]*	Hii 2001 [57]
Infection	Bed net	Individual	CSS	Senegal	47 [-72;84]	Littrell 2013 [58]
Infection	Bed net	Household	CSS	Malawi	46 [10;67]*	Townes 2013 [59]
Infection	Bed net	Individual	CSS	Equatorial Guinea	43 [33;52]*	Kleinschmidt 2007 [60]
Infection	Bed net	Individual	Cohort	Kenya	42 [12;61]*	McClure 2014 [61]
Infection	Bed net	Individual	CCS	DRC	41 [0;62]*	Muhindo 2015 [62]
Infection	Bed net	Individual	CSS	Kenya	40 [21;55]*	Halliday 2012 [63]
Infection	Bed net	Individual	CSS	Burkina Faso	40 [12;60]*	Baragatti 2009 [64]
Infection	Bed net	Individual	CSS	Uganda	39 [17;56]*	De Beaudrap 2011 [65]
Infection	Bed net	Individual	CSS	Uganda	37 [3;59]*	Osterbauer 2012 [66]
Infection	Bed net	Individual	CSS	Multicountry (2)	37 [17;53]*	Satoguina 2009 [67]
Infection	Bed net	Individual	CSS	Uganda	36 [1;59]*	Davis 2006 [68]
Infection	Bed net	Individual	CSS	Kenya	35 [-2;59]	Gitonga 2012 [69]
Infection	Bed net	Individual	CSS	Equatorial Guinea	32 [14;46]*	Bradley 2012 [70]
Infection	Bed net	Individual	CSS	Kenya	31 [10;47]*	Gitonga 2012 [69]
Infection	Bed net	Individual	CSS	Kenya	30 [-45;66]	Gitonga 2012 [69]
Infection	Bed net	Individual	CSS	Mozambique	30 [10;46]*	Kleinschmidt 2009 [31]
Infection	Bed net	Individual	Cohort	Uganda	29 [10;44]*	De Beaudrap 2013 [71]
Infection	Bed net	Individual	CSS	Burkina Faso	28 [8;43]*	Baragatti 2009 [64]
Infection	Bed net	Individual	CSS	Sao Tome & Pr.	26 [6;42]*	Hagmann 2003 [72]
Infection	Bed net	Individual	CSS	Uganda	25 [4;42]*	Pullan 2010 [73]
Infection	Bed net	Individual	CSS	Benin	23 [3;39]*	Nahum 2010 [74]
Infection	Bed net	Individual	CSS	Cambodia	23 [-22;51]	Sluydts 2014 [75]
Infection	Bed net	Individual	CSS	Tanzania	20 [12;28]*	Mmbando 2011 [76]
Infection	Bed net	Individual	CSS	Cote d'Ivoire	14 [-14;37]	Raso 2009 [56]
Infection	Bed net	Individual	CSS	Ghana	13 [7;19]*	Koram 2003 [77]
Infection	Bed net	Individual	CSS	Kenya	11 [-5;24]	Gitonga 2012 [69]
Infection	Bed net	Individual	CSS	Cote d'Ivoire	10 [-18;31]	Houngbedji 2015 [78]
Infection	Bed net	Individual	CSS	Tanzania	5	Somi 2007 [79]
Infection	Bed net	Individual	Cohort	Cote d'Ivoire	-3 [-32;20]	Ouattara 2014 [80]

Outcome	CIMP	Sampling unit	Study design	Country [†]	PE (%) [95%CI]	Reference
Infection	Bed net	Individual	CSS	Kenya	-6 [-113;47]	Gitonga 2012 [69]
Infection	Bed net	Individual	CSS	Kenya	-14 [-78;26]	Gitonga 2012 [69]
Infection	Bed net	Individual	CSS	Ghana	-25 [-57;1]	Sarpong 2015 [81]
Infection	Bed net	Individual	CSS	India	-29 [-229;50]	Hamer 2009 [82]
Infection	Bed net	Individual	CSS	Burkina Faso	-33 [-120;19]	Baragatti 2009 [64]
Infection	NIBN	Individual	CSS	Kenya	60 [28;78]*	Mwangi 2003 [83]
Infection	NIBN	Individual	CSS	The Gambia	51 [34;64]*	Clarke 2001 [19]
Infection	NIBN	Individual	CSS	Tanzania	51 [0;76]*	Abdulla 2001 [20]
Clinical	LLIN	Cluster	Cohort	Senegal	93 [90;95]*	Trape 2011 [84]
Clinical	LLIN	Individual	CCS	Senegal	90 [55;98]*	Wotodjo 2015 [85]
Clinical	LLIN	Individual	CCS	Benin	68 [29;85]*	Rogier 2009 [86]
Clinical	LLIN	Individual	Cohort	Senegal	60 [38;75]*	Wotodjo 2015 [87]
Clinical	LLIN	Individual	CSS	Niger	50 [26;67]*	Nonaka 2014 [88]
Clinical	LLIN	Individual	CCS	The Gambia	45 [-1;71]	Okebe 2014 [89]
Clinical	LLIN	Individual	Cohort	Benin	40 [1;63]*	Moiroux 2012 [90]
Clinical	LLIN	Individual	CSS	Laos	20 [2;35]*	Shirayama 2007 [91]
Clinical	LLIN	Individual	Cohort	Benin	-36 [-125;17]	Damien 2010 [12]
Clinical	ITN	Individual	CCS	Afghanistan	78 [45;91]*	Rowland 1997 [92]
Clinical	ITN	Individual	Cohort	Nigeria	74 [53;85]*	Ugwu 2013 [93]
Clinical	ITN	Individual	CCS	Afghanistan	69 [53;79]*	Rowland 2002 [53]
Clinical	ITN	Individual	CCS	Afghanistan	66 [42;79]*	Rowland 2002 [53]
Clinical	ITN	Individual	Step. wedge	Cote d'Ivoire	64 [28;83]*	Henry 1999 [94]
Clinical	ITN	Individual	Cohort	Kenya	57 [30;73]*	Bejon 2009 [95]
Clinical	ITN	Individual	CCS	Colombia	56 [2;80]*	Alexander 2005 [96]
Clinical	ITN	Individual	CCS	Malawi	50 [20;70]*	Mathanga 2005 [97]
Clinical	ITN	Individual	Cohort	Uganda	49 [17;68]*	Clark 2008 [98]
Clinical	ITN	Individual	Cohort	Uganda	43 [29;54]*	Kamya 2007 [99]
Clinical	ITN	Individual	CCS	Nigeria	43 [-126;86]	Oladeinde 2012 [100]
Clinical	ITN	Individual	CCS	Malawi	40 [10;60]*	Mathanga 2005 [97]
Clinical	ITN	Individual	Cohort	Ethiopia	39	Loha 2012 [101]
Clinical	ITN	Individual	Cohort	Malawi	30 [20;50]*	Lindblade 2015 [102]

Outcome	CIMP	Sampling unit	Study design	Country [†]	PE (%) [95%CI]	Reference
Clinical	ITN	Household	CCS	Tanzania	14 [-39;47]	Abdulla 2002 [26]
Clinical	ITN	Household	CSS	Tanzania	12 [0;22]*	Dickinson 2012 [103]
Clinical	ITN	Individual	CCS	Ethiopia	10 [-77;63]	Abdella 2009 [104]
Clinical	ITN	Individual	CCS	Mozambique	-3 [-69;37]	Macedo de Oliv 2011 [105]
Clinical	ITN	Individual	CCS	Burkina Faso	-23 [-93;21]	Yamamoto 2009 [106]
Clinical	ITN	Household	Cohort	Tanzania	-40 [-70;-10]*	Abdulla 2002 [26]
Clinical	ITN	Household	CCS	Tanzania	-42 [-117;7]	Abdulla 2002 [26]
Clinical	Bed net	Individual	CCS	Indonesia	91 [-96;100]	Roosihermatie 2000 [107]
Clinical	Bed net	Individual	CCS	India	70 [50;90]*	Sharma 2009 [108]
Clinical	Bed net	Individual	CCS	Afghanistan	66 [54;74]*	Rowland 2002 [53]
Clinical	Bed net	Household	CCS	Rwanda	65 [29;82]*	Rulisa 2013 [50]
Clinical	Bed net	Household	CSS	Ethiopia	60 [30;70]*	Deressa 2007 [109]
Clinical	Bed net	Individual	CCS	Ethiopia	59 [-144;93]	Abdella 2009 [104]
Clinical	Bed net	Household	Cohort	Bangladesh	58 [38;72]*	Haque 2013 [110]
Clinical	Bed net	Individual	CCS	Kenya	57 [23;76]*	Ong'echa 2006 [111]
Clinical	Bed net	Individual	CCS	Uganda	56 [-5;81]	Byakika-Kibw. 2009 [112]
Clinical	Bed net	Individual	Cohort	Uganda	55 [29;71]*	Njama 2003 [113]
Clinical	Bed net	Individual	CCS	Afghanistan	38 [-141;84]	Webster 2003 [114]
Clinical	Bed net	Individual	CCS	Kenya	36 [-18;67]	Snow 1998 [115]
Clinical	Bed net	Individual	CCS	Kenya	25 [-46;62]	Snow 1998 [115]
Clinical	Bed net	Individual	Cohort	Benin	21 [4;35]*	Nahum 2010 [74]
Clinical	Bed net	Individual	CCS	Kenya	19 [-49;56]	Ernst 2009 [116]
Clinical	Bed net	Individual	CCS	South Africa	14 [-115;66]	Coleman 2010 [117]
Clinical	Bed net	Individual	CSS	Nigeria	11 [-2;23]	Yusuf 2010 [118]
Clinical	Bed net	Household	CCS	Kenya	10 [-70;50]	Siri 2010 [119]
Clinical	Bed net	Individual	CCS	Afghanistan	-8 [-60;27]	Webster 2003 [114]
Clinical	Bed net	Household	CCS	Congo	-9 [-97;37]	Carme 1994 [120]
Clinical	Bed net	Individual	CCS	Peru	-21 [-60;8]	Guthmann 2001 [121]
Clinical	Bed net	Individual	CCS	Indonesia	-83615	Roosihermatie 2000 [107]
Clinical	NIBN	Individual	Cohort	Kenya	35 [6;55]*	Mwangi 2003 [83]
Clinical	NIBN	Individual	Cohort	Malawi	20 [0;40]*	Lindblade 2015 [102]

Outcome	CIMP	Sampling unit	Study design	Country [†]	PE (%) [95%CI]	Reference
Death	LLIN	Individual	Cohort	Kenya	8 [-24;31]	Komazawa 2012 [122]
Death	ITN	Individual	Cohort	Kenya	44 [4;67]*	Fegan 2007 [123]
Death	ITN	Individual	CCS	Tanzania	27 [3;45]*	Schellenberg 2001 [124]
Death	ITN	Cluster	Step. wedge	The Gambia	25 [2;43]*	D'Alessandro 1995 [36]
Death	ITN	Household	CSS	Multicountry (25)	8 [-14;26]	Eisele 2012 [125]
Death	Bed net	Household	Cohort	Papua N. Guinea	56 [39;69]*	Smith 2002 [126]
Death	Bed net	Household	Cohort	Tanzania	47 [3;71]*	Gosoni 2008 [127]
Obstetrical	ITN	Individual	CSS	Tanzania	78 [41;92]*	Kabanywanyi 2008 [128]
Obstetrical	ITN	Individual	CSS	Nigeria	63 [28;81]*	Ezebialu 2012 [129]
Obstetrical	ITN	Individual	CSS	Cote d'Ivoire	53 [18;73]*	Vanga-Bosson 2011 [130]
Obstetrical	ITN	Individual	CSS	Malawi	33 [33;58]*	Gutman 2013 [131]
Obstetrical	ITN	Individual	CSS	Tanzania	23 [-65;64]	Nganda 2004 [132]
Obstetrical	ITN	Individual	CSS	Burundi	22 [18;26]*	Msyamboza 2007 [133]
Obstetrical	ITN	Household	CSS	Multicountry (25)	-4 [-14;4]	Eisele 2012 [125]
Obstetrical	ITN	Individual	CSS	Nigeria	-11 [-138;48]	Tongo 2011 [134]
Obstetrical	Bed net	Individual	CSS	Tanzania	60 [-45;89]	Mpogoro 2014 [135]
Obstetrical	Bed net	Individual	CSS	Uganda	44 [1;69]*	Namusoke 2010 [136]
Obstetrical	Bed net	Individual	CSS	Cameroon	-11 [-150;41]	Tonga 2013 [137]
Obstetrical	Bed net	Individual	CSS	Gabon	-43 [-233;44]	Kurth 2010 [138]