

S1 Table. Digitized data from the Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP). Data for heterosexual men (HetM) and men who have sex with men (MSM).

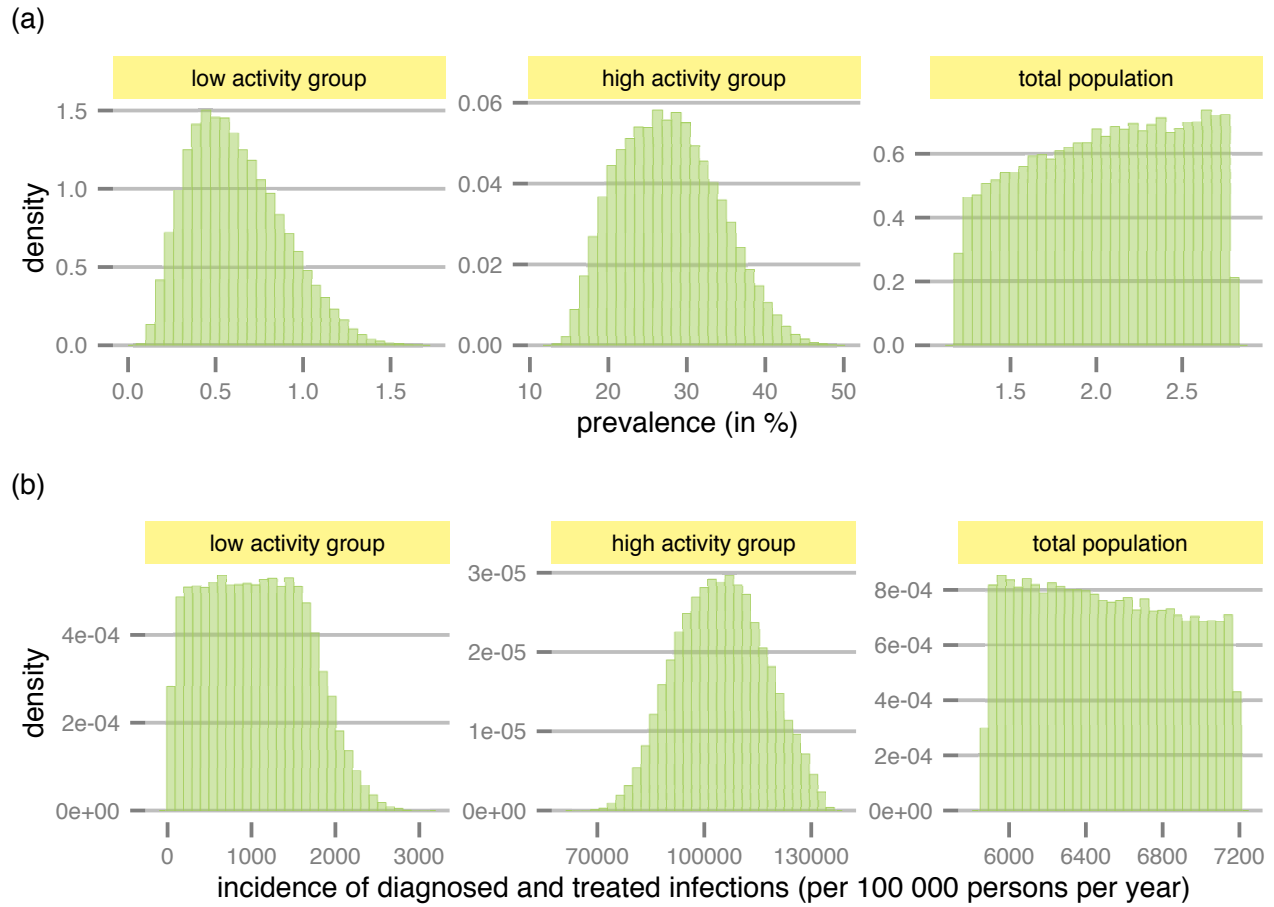
Year	Resistance	Programme	Population	Drug
2004	0.00	GRASP	HetM	Cefixime
2005	0.00	GRASP	HetM	Cefixime
2006	0.00	GRASP	HetM	Cefixime
2007	0.41	GRASP	HetM	Cefixime
2008	1.42	GRASP	HetM	Cefixime
2009	2.23	GRASP	HetM	Cefixime
2010	5.69	GRASP	HetM	Cefixime
2004	0.00	GRASP	MSM	Cefixime
2005	0.00	GRASP	MSM	Cefixime
2006	0.20	GRASP	MSM	Cefixime
2007	2.94	GRASP	MSM	Cefixime
2008	5.18	GRASP	MSM	Cefixime
2009	24.06	GRASP	MSM	Cefixime
2010	33.40	GRASP	MSM	Cefixime
2000	3.06	GRASP	HetM	Ciprofloxacin
2001	4.59	GRASP	HetM	Ciprofloxacin
2002	12.13	GRASP	HetM	Ciprofloxacin
2003	10.80	GRASP	HetM	Ciprofloxacin
2004	10.21	GRASP	HetM	Ciprofloxacin
2005	11.10	GRASP	HetM	Ciprofloxacin
2006	18.49	GRASP	HetM	Ciprofloxacin
2007	21.11	GRASP	HetM	Ciprofloxacin
2008	24.66	GRASP	HetM	Ciprofloxacin
2009	28.49	GRASP	HetM	Ciprofloxacin
2000	0.76	GRASP	MSM	Ciprofloxacin
2001	2.01	GRASP	MSM	Ciprofloxacin
2002	8.50	GRASP	MSM	Ciprofloxacin
2003	10.61	GRASP	MSM	Ciprofloxacin
2004	26.27	GRASP	MSM	Ciprofloxacin
2005	42.52	GRASP	MSM	Ciprofloxacin
2006	43.13	GRASP	MSM	Ciprofloxacin
2007	47.41	GRASP	MSM	Ciprofloxacin
2008	45.83	GRASP	MSM	Ciprofloxacin
2009	53.88	GRASP	MSM	Ciprofloxacin

S2 Table. Digitized data from the Gonococcal Isolate Surveillance Project (GISP). Data for men who have sex with women (MSW) and men who have sex with men (MSM). We used the MSW data as heterosexual men (HetM) data.

Year	Resistance	Programme	Population	Drug
1995	0.35	GISP	MSW	Ciprofloxacin
1996	0.18	GISP	MSW	Ciprofloxacin
1997	0.27	GISP	MSW	Ciprofloxacin
1998	0.24	GISP	MSW	Ciprofloxacin
1999	0.50	GISP	MSW	Ciprofloxacin
2000	0.41	GISP	MSW	Ciprofloxacin
2001	0.56	GISP	MSW	Ciprofloxacin
2002	1.00	GISP	MSW	Ciprofloxacin
2003	1.59	GISP	MSW	Ciprofloxacin
2004	2.86	GISP	MSW	Ciprofloxacin
2005	3.86	GISP	MSW	Ciprofloxacin
2006	7.04	GISP	MSW	Ciprofloxacin
1995	0.09	GISP	MSM	Ciprofloxacin
1996	0.06	GISP	MSM	Ciprofloxacin
1997	0.41	GISP	MSM	Ciprofloxacin
1998	0.03	GISP	MSM	Ciprofloxacin
1999	0.47	GISP	MSM	Ciprofloxacin
2000	0.62	GISP	MSM	Ciprofloxacin
2001	1.65	GISP	MSM	Ciprofloxacin
2002	7.31	GISP	MSM	Ciprofloxacin
2003	15.09	GISP	MSM	Ciprofloxacin
2004	23.92	GISP	MSM	Ciprofloxacin
2005	29.11	GISP	MSM	Ciprofloxacin
2006	39.13	GISP	MSM	Ciprofloxacin

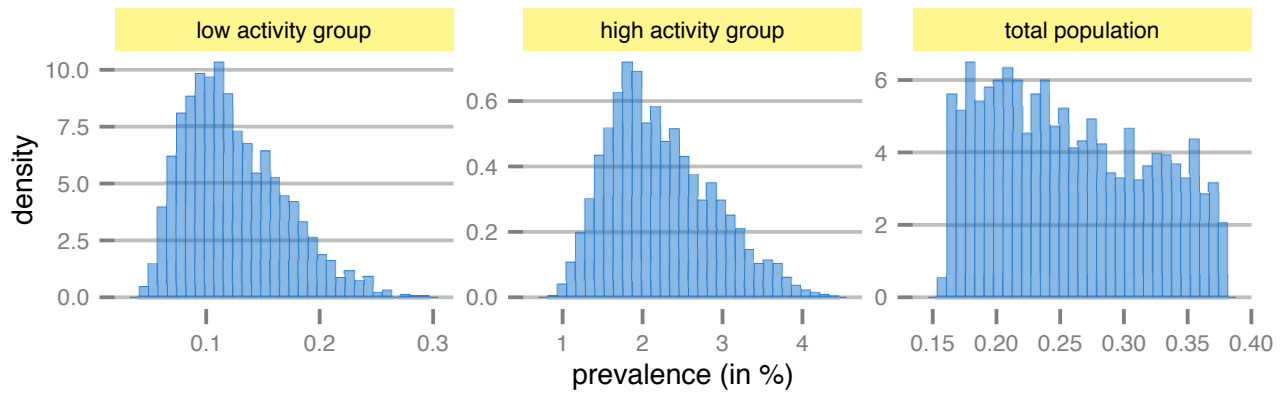
S3 Table. Prevalence and incidence of diagnosed and treated infections after model calibration.

Measure	Population	sexual activity	Median	IQR
Prevalence	HMW	low	0.12	0.09-0.15
Prevalence	HMW	high	2.13	1.74-2.64
Prevalence	HMW	either	0.25	0.20-0.31
Incidence	HMW	low	0.04	0.02-0.06
Incidence	HMW	high	2.85	2.16-3.74
Incidence	HMW	either	0.23	0.17-0.29
Prevalence	MSM	low	0.58	0.41-0.79
Prevalence	MSM	high	27.41	22.88-32.08
Prevalence	MSM	either	2.07	1.67-2.44
Incidence	MSM	low	1.02	0.54-1.5
Incidence	MSM	high	104.52	95.65-113.4
Incidence	MSM	either	6.49	6.18-6.83

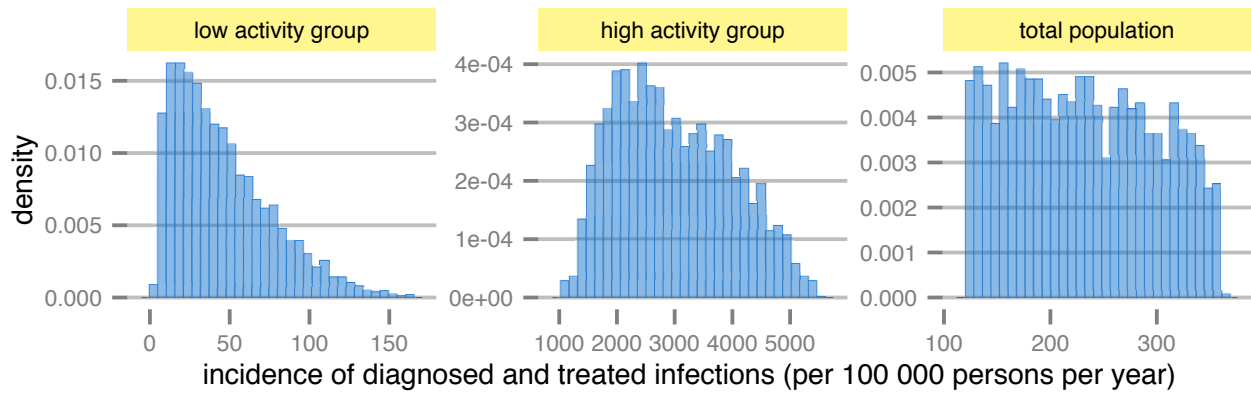


S1 Figure. Posterior distributions of prevalence and incidence of diagnosed and treated infections for MSM.

(a)



(b)



S2 Figure. Posterior distributions of prevalence and incidence of diagnosed and treated infections for HMW.