

Supplementary Material

The changing epidemiology of *Neisseria gonorrhoeae* genogroups and antimicrobial resistance in Queensland, Australia, 2010–15: a case series analysis of unique *Neisseria gonorrhoeae* isolates

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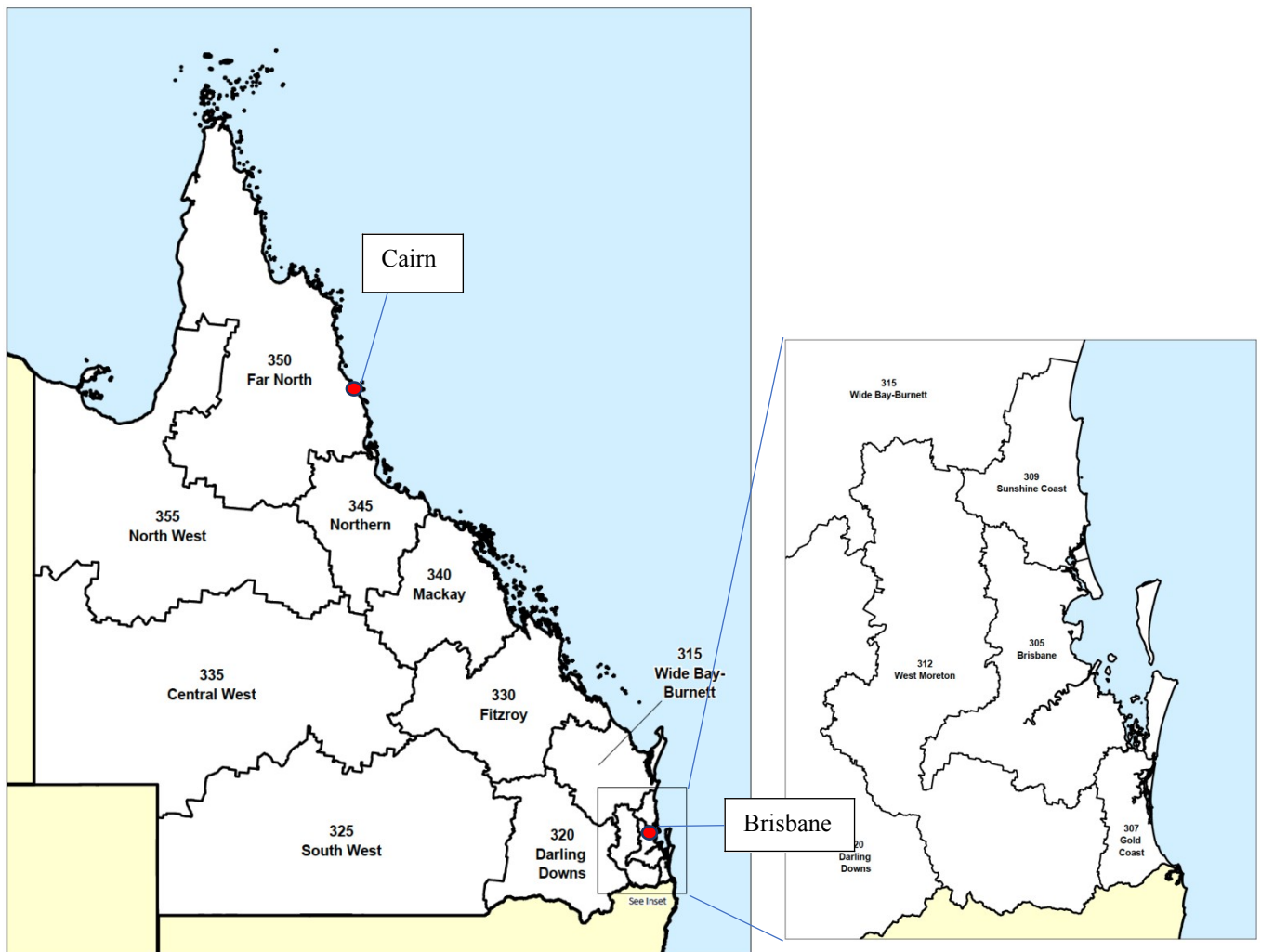
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Supplementary Files



Supplementary Figure S1: Australian Standard Geographical Classification (ASGC), Queensland Maps

Supplementary Box S1: Data analysis matrix

Variables	Region	Year*	Age group	Sex	ST/Genogroup ^t	AMR [§]	Swab site
Region		✓	✓	✓	✓	✓	✓
Year*	✓		✓	✓	✓	✓	
Age group	✓	✓		✓	✓		
Sex	✓	✓	✓		✓	✓	✓
ST/Genogroup ^t	✓	✓	✓	✓		✓	✓
AMR [§]	✓	✓		✓	✓		
Swab site				✓	✓		

* Year of notification

^t Strain or genogroup

[§] Antimicrobial resistance

Supplementary Table S1: Total Queensland *N. gonorrhoeae* isolates by age group and sex, January 2010 to August 2015

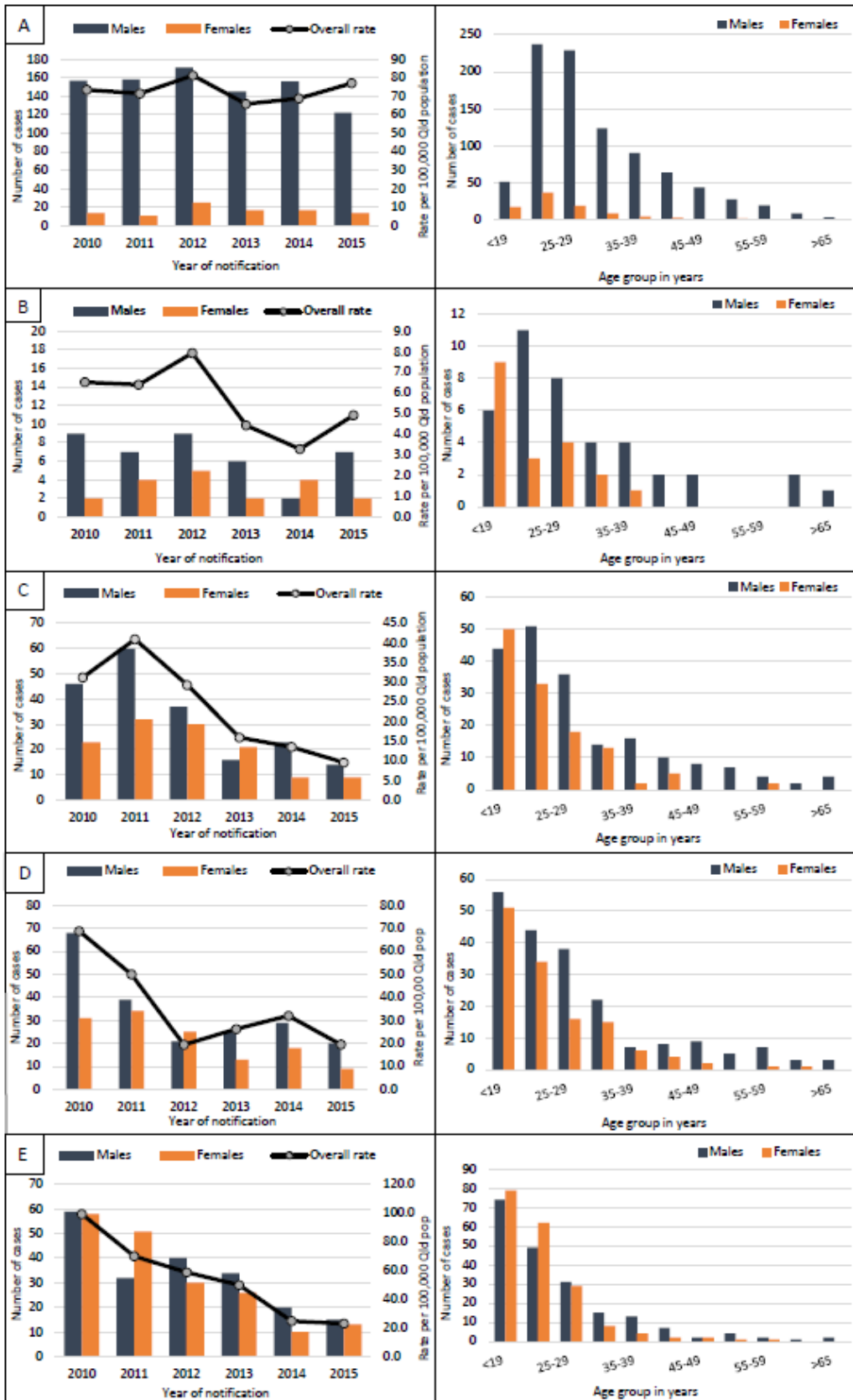
Age group	Males	Females	Total
<19	444	336	780
20-24	744	324	1068
25-29	564	150	714
30-34	324	90	414
35-39	248	43	291
40-44	187	38	225
45-49	125	13	138
50-54	105	22	127
55-59	63	15	78
60-64	41	9	50
>65	26	4	30
Total	2871	1044	3915
Total %	73	27	100

Supplementary Table S2: *N. gonorrhoeae* isolates by region and sex in Queensland, January 2010 to August 2015

Region	Males	Females	Total	%	Total rate*
Brisbane City	909	98	1007	25	68.8
Brisbane surrounds	498	194	692	18	5.9
Gold Coast	380	128	508	13	15.5
Sunshine Coast	82	32	114	3	5.8
Wide Bay-Burnett	46	8	54	1	3.2
Darling & South West	70	21	91	2	5.8
Fitzroy	70	23	93	2	6.9
Central & North West	92	50	142	4	42.9
Mackay	40	19	59	2	5.6
Northern Qld	196	124	320	8	23.1
Cairns	202	130	332	8	34.4
Far North surrounds	200	188	388	10	54.1
Overseas*	22	16	38	1	-
Interstate*	89	26	115	3	-
Total	2896	1057	3953	100	14.3

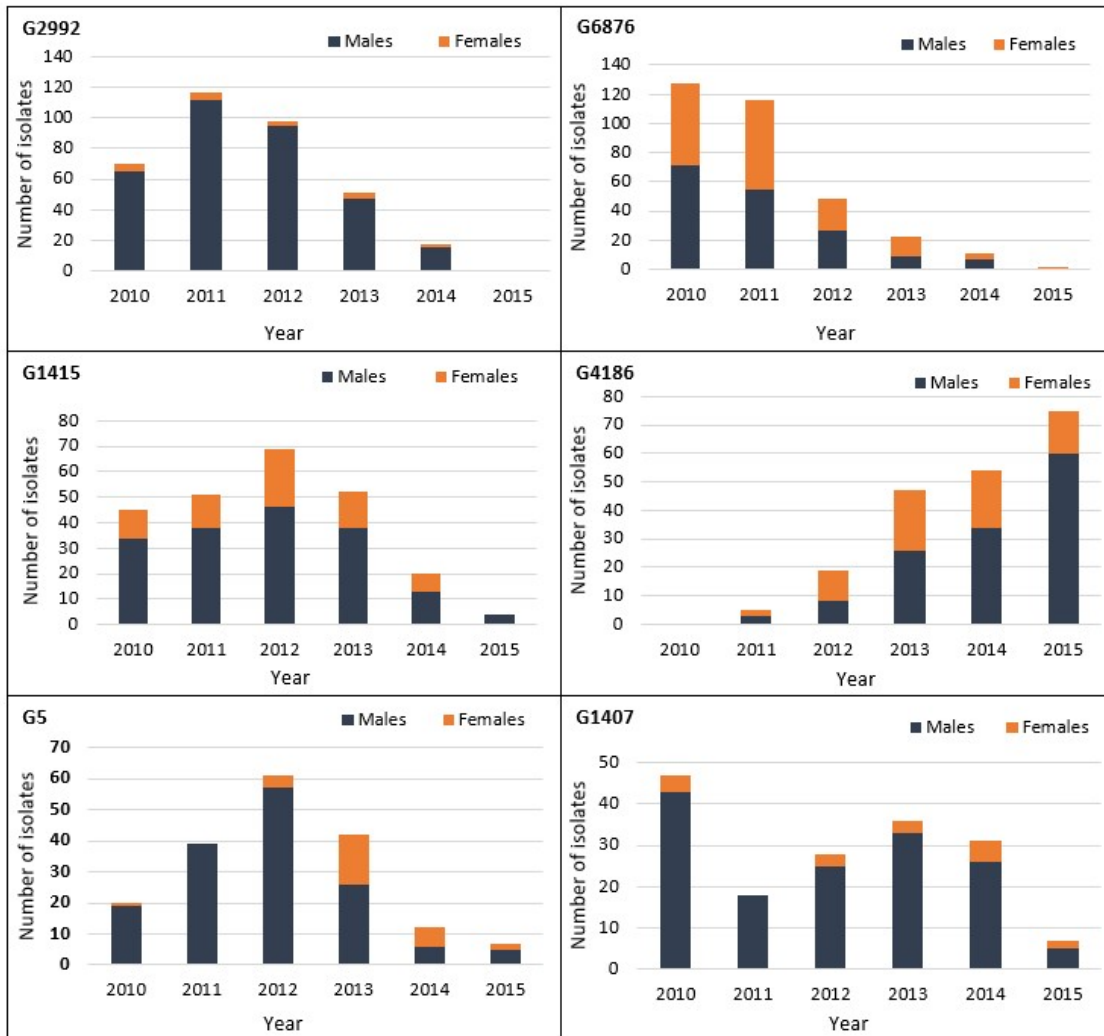
* Overall rate of isolates per 100,000 population in each region

NOTE: isolate rates for overseas and interstate not calculated

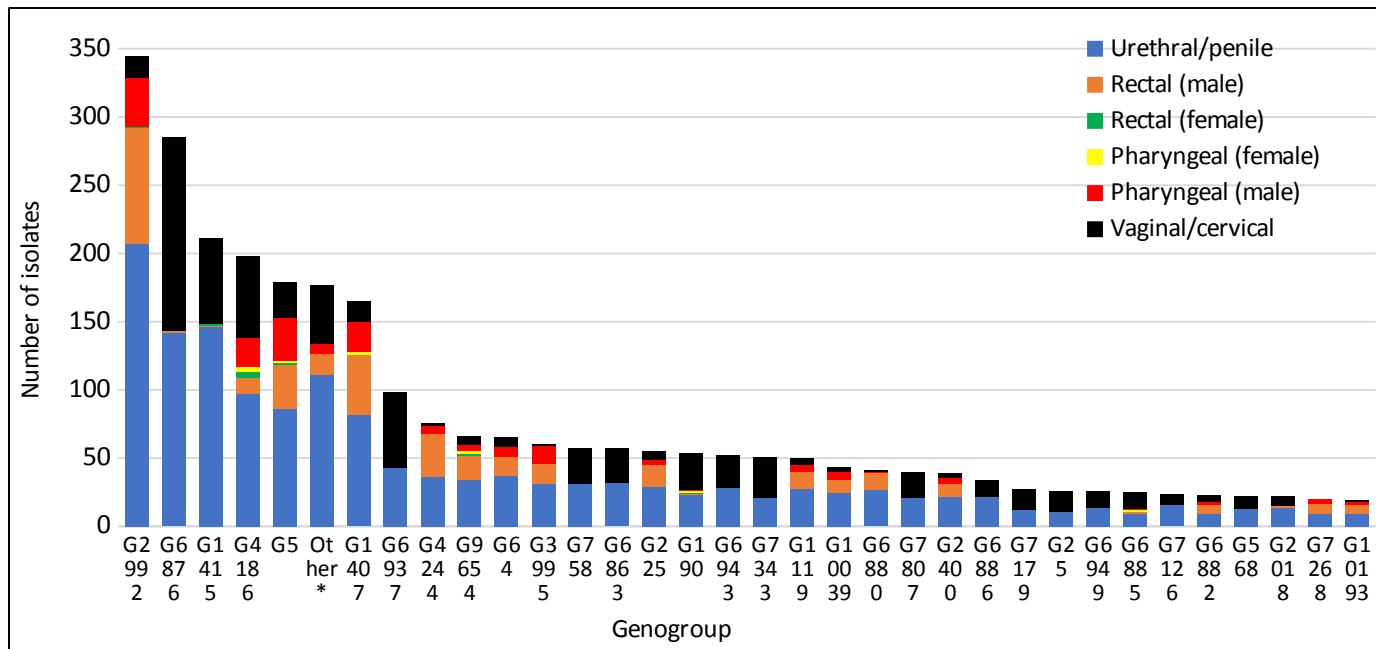


Supplementary Figure S2: *N. gonorrhoeae* isolates by year, sex, age group and rate in A) Brisbane city, B) Mackay, C) Northern Queensland, D) Cairns, E) Far North Queensland, January 2010 to August 2015.

NOTE: In 2015, data were only available from January to August, and isolate rates have been adjusted to reflect this.



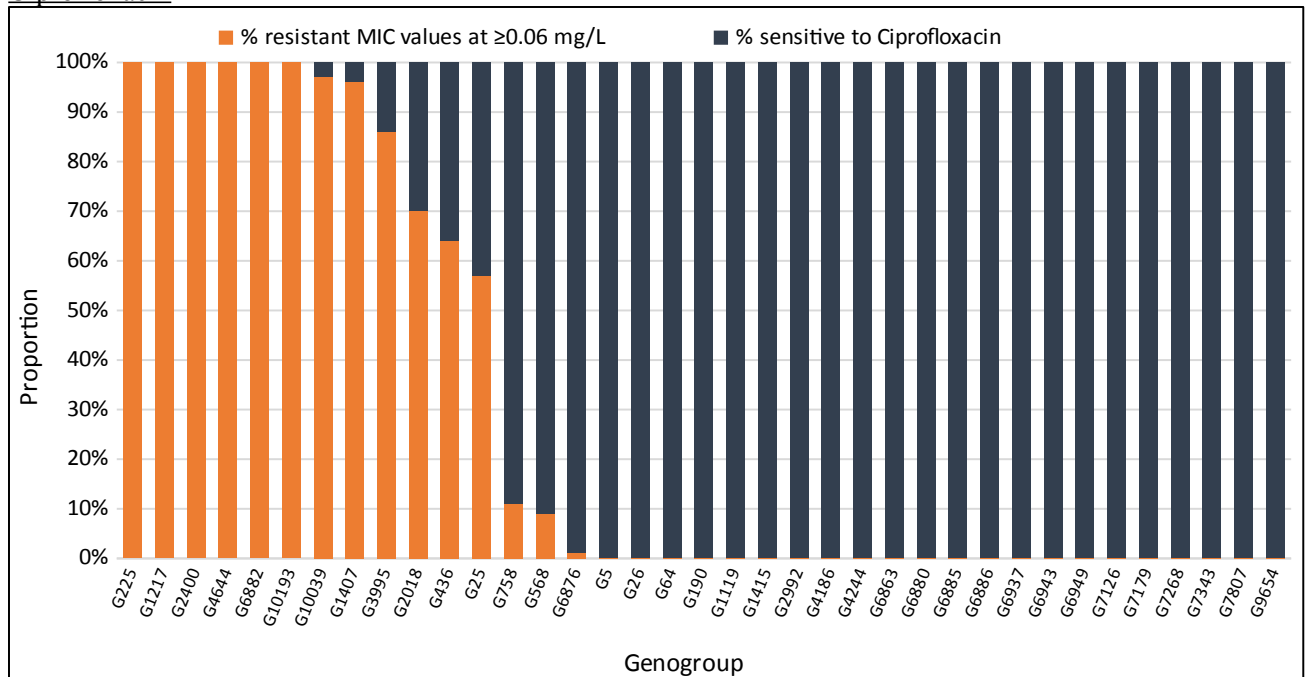
Supplementary Figure S3: *N. gonorrhoeae* isolates by most common genogroup, year and sex, Queensland, January 2010 to August 2015



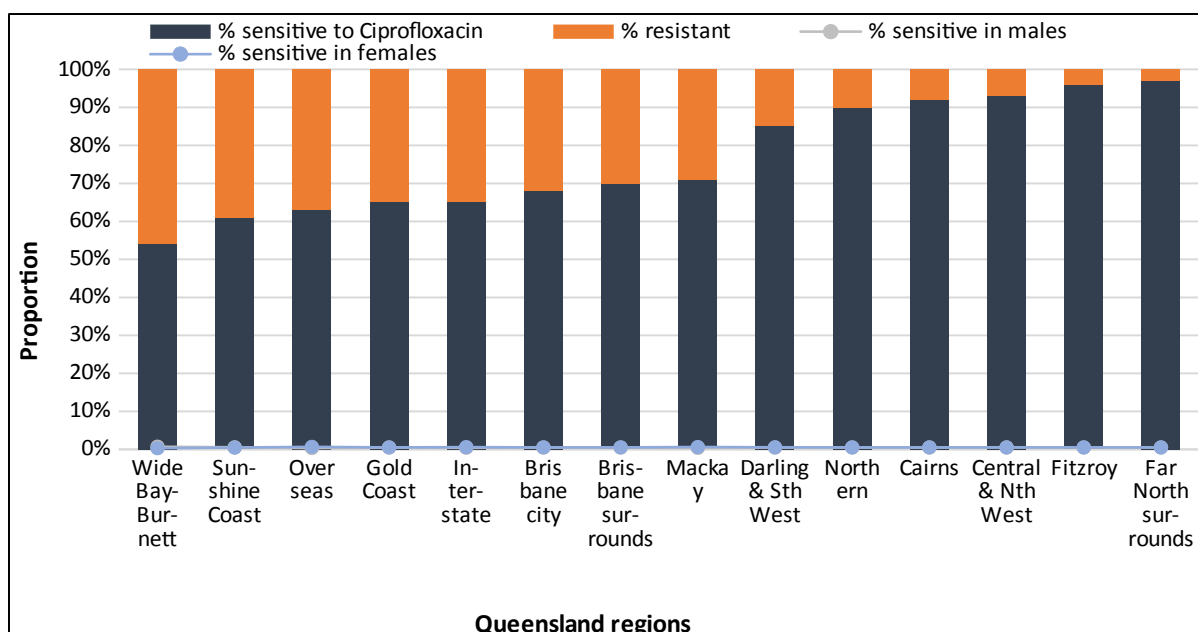
Supplementary Figure S4: Site of *N. gonorrhoeae* swab by genogroup, Queensland, January 2010 to August 2015

Antibiotic Resistance Genogroup and Year

Ciprofloxacin



Supplementary Figure S5: Sensitivity to ciprofloxacin by genogroups, ordered by % sensitive, Queensland, January 2010 to August 2015.



Supplementary Figure S6: Sensitivity to ciprofloxacin by sex and region, ordered by % sensitive, Queensland, January 2010 to August 2015.

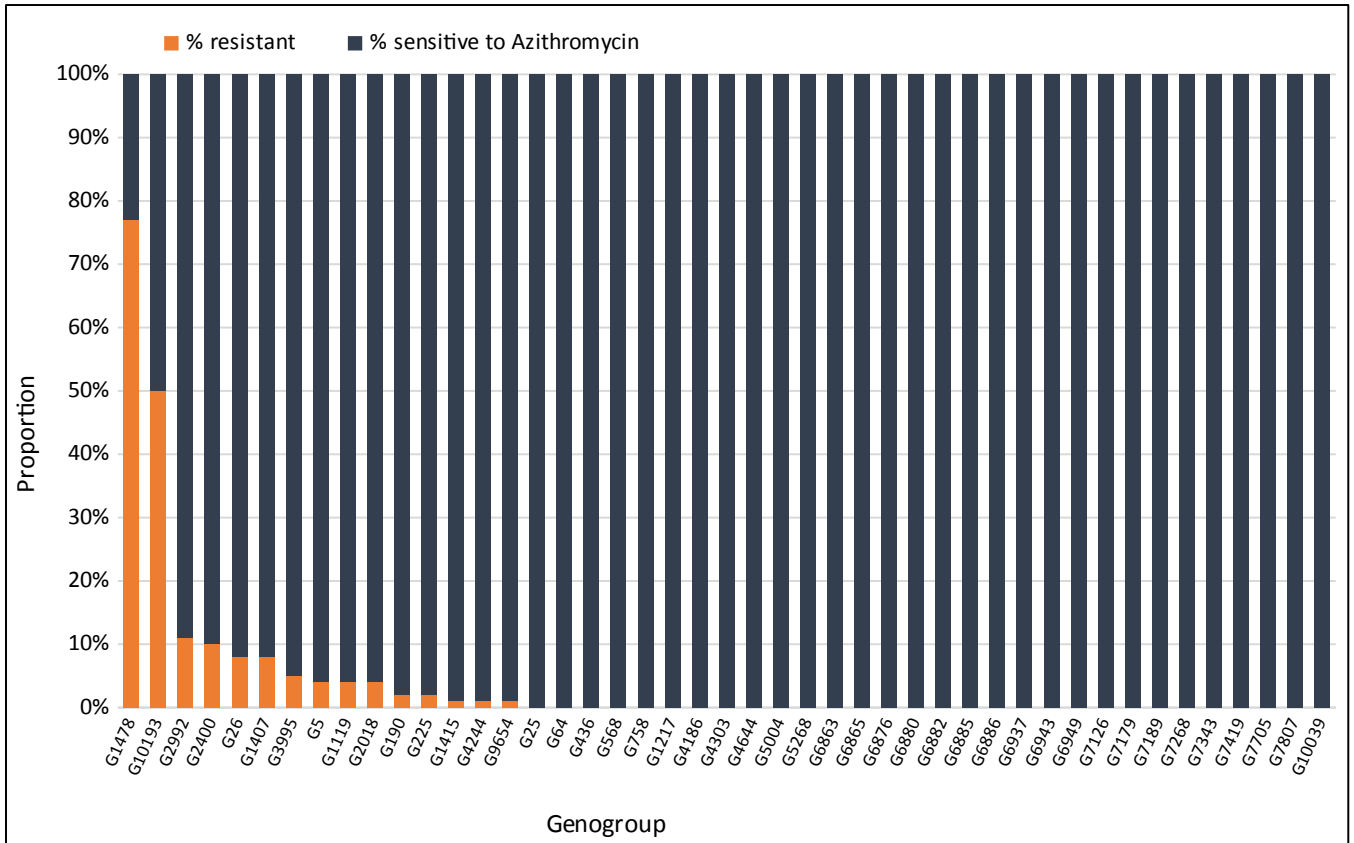
Supplementary Table S3: Sensitivity (%) to ciprofloxacin by year (MIC values at ≥ 0.06 mg/L)

Genogroup	2010	2011	2012	2013	2014	2015
G5	100	100	100	100	100	100
G25	36	40	57	50		
G26			100	100	100	100
G64	100	100	100	100		
G190	100	100	100	100	100	
G225	0	0	0	0	0	0
G436	67	0	100	0		0
G568	100	80	100	100	0	
G758	93	87	86	94	100	0
G1119	100	0	100	100	100	100
G1217	0	0	0	0		
G1407	4	0	0	8	3	0
G1415	100	100	100	100	100	100
G1478	0				100	89
G2018		50	100		100	0
G2400		0	0	0	0	0
G2992	100	100	100	100	100	
G3995		100	0	0	38	25
G4186		100	100	100	98	99
G4244			100	100	100	100
G4303	100	100	0	100	100	
G4644	0			0	0	
G5004					100	
G5268	50	100	100	100	100	100
G6863	100	100	100		0	

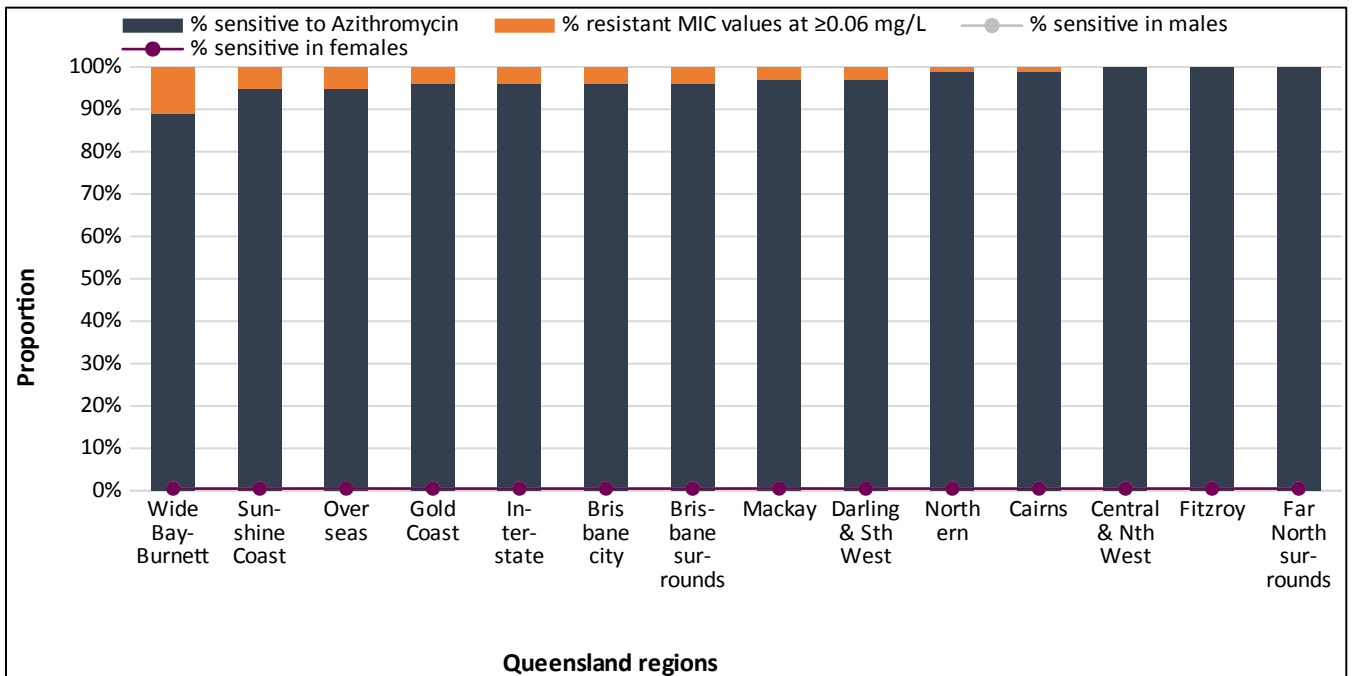
G6865	100	100	100	100		100
G6876	100	99	98	100	100	100
G6880	100	100	100	100		
G6882	0	0	0			
G6885	100	100	100			
G6886	100	100	100	100		
G6937	100	100	100	100	100	100
G6942	100		100	100	100	100
G6943	100	100	100	100	100	100
G6949	100	100	100			
G7126	100	100	100	100	100	100
G7179	100	100	100	100		
G7189	100	100	100	100		
G7268	100			100	100	100
G7343		100	100	100	100	100
G7419		100	100	100	100	100
G7268						
G7705	100		100			100
G7807			100	100	100	100
G9654				100	100	100
G10039					10	0
G10193					0	0

NB:Genogroups showing resistance are highlighted in grey.

Azithromycin



Supplementary Figure S7: Sensitivity to azithromycin by genogroups, ordered by % sensitive



Supplementary Figure S8: Sensitivity to Azithromycin by sex and region, ordered by % sensitive

Supplementary Table S4: Sensitivity (%) to azithromycin by year (MIC values at ≥ 0.06 mg/L)

Genogroup	2010	2011	2012	2013	2014	2015
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G5	100	100	98	86	100	86
G25	100	100	100	100		
G26			0	100	100	100
G64	100	100	100	100		
G190	100	100	92	100	100	
G225	100	95	100	100	100	100
G436	100	100	100	100		100
G568	100	100	100	100	100	
G758	100	100	100	100	100	100
G1119	100	100	100	100	100	91
G1217	100	100	100	100		
G1407	100	83	96	78	97	86
G1415	100	100	100	94	100	100
G1478						11
G2018	100	100	100		100	0
G2400		0	100	75	100	100
G2992	83	92	92	82	94	
G3995		100	100	98	85	100
G4186		100	95	100	100	100
G4244				95	100	100
G4303	100	100	100	100	100	
G4644	100	100	100	100	100	
G5004					100	
G5268	100	100	100	100	100	100
G6863	100	100	100		100	
G6865	100	100	100	100		100
G6876	100	100	100	100	100	100
G6880	100	100	100	100		
G6882	100	100	100			
G6885	100	100	100			
G6886	100	100	100	100	100	
G6937	100	100	100	100	100	100
G6942	100	100	100	100	100	100
G6943	100	100	100	100	100	100
G6949	100	100	100			
G7126	100	100	100	100	100	100
G7179	100	100	100	100		
G7189	100	100	100	100		
G7268				100	100	100
G7343			100	100	100	100
G7419			100	0	100	100
G7268	100	100	100			
G7705	100	100	100			100
G7807			100	100	100	100
G9654				100	97	100
G10039						100

G10193						58
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NB: Genogroups showing resistance are highlighted in grey.