



Enhanced surveillance of chlamydia and gonorrhoea infections diagnosed in the Gold Coast during the period of the Commonwealth Games 2018 (GC2018)

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Background:

- Previous studies during mass events have demonstrated mixed results of the impact on sexual health services.
- This is the first study to examine the demographics of all patients with chlamydia (CT) and gonorrhoea (NG) diagnosed within a health district hosting a mass gathering event.

Aim:

- To describe the differences in the demographics of patients diagnosed with chlamydia and gonorrhoea in the Gold Coast during the period of the Commonwealth Games 2018 (GC2018) compared to the same time period in 2017
- To demonstrate any differences in management of CT and NG during GC2018 including adherence to treatment guidelines, time to treatment and contact tracing

Methods:

- Data was extracted from the Queensland Health Notifiable Diseases Surveillance System (NDSS).
- All patients diagnosed with CT or NG during the study period were included in the analysis.
- The study was conducted for a 8 week period in 2017 and 2018 (Pre-Games 12-25th March; Games 26th March – 22nd April and Post – Games 23rd April – 6th May).
- An enhanced surveillance questionnaire was sent to all providers who had made a diagnosis of chlamydia or gonorrhoea infection during the study period.
- Data was analysed to look for differences in demographics and management of CT and NG in non-sexual health (GP) and sexual health (SH) services.
- Data was analysed using chi-squared and unpaired t-tests.

Results: Table 1: Demographics of patients during GC2018

	Non-Sexual Health		p-value	GCSHS		p-value
	2017 n (% total 2017)	2018 n (% total 2018)		2017 n (% total 2017)	2018 n (% total 2018)	
Total	385 (73.1)	328 (70.8)		142 (26.9)	135 (29.2)	
STI diagnosis			0.036			0.626
Chlamydia	319 (77.1)	290 (72.9)		95 (22.9)	94 (27.1)	
Gonorrhoea	66 (58.4)	38 (48.1)		47 (41.6)	41 (51.9)	
Gender			0.588			0.186
Male	152 (59.4)	123 (58.0)		104 (40.6)	89 (42.0)	
Female	233 (86.0)	205 (81.7)		38 (14.0)	46 (18.3)	
Patient Age			0.192			0.702
15-24 yr	202 (38.3)	166 (35.9)		54 (10.2)	59 (12.7)	
25-34 yr	110 (20.9)	115 (24.8)		51 (9.7)	42 (9.1)	
35-44yr	47 (8.9)	30 (6.5)		19 (3.6)	15 (3.2)	
>45 yr	26 (4.9)	17 (3.7)		18 (3.5)	19 (4.1)	
Sexual Preference			0.074			0.194
Same sex/ both	13 (2.5)	6 (1.3)		71 (13.5)	57 (12.3)	
Hetero	82 (15.6)	93 (20.1)		71 (13.5)	78 (16.8)	
missing	32 (6.1)	24 (5.2)		0 (0.0)	0 (0.0)	
Patient postcode			0.058			0.09
North GC	51 (9.7)	64 (13.8)		10 (1.9)	15 (3.2)	
Central GC	164 (31.1)	117 (25.3)		76 (14.4)	84 (18.1)	
South GC	150 (28.5)	124 (23.5)		40 (7.6)	29 (6.3)	
Overseas/ Interstate	20 (3.8)	23 (4.4)		16 (3.0)	7 (1.5)	
Provider postcode			0.011			
North GC	53 (10.1)	48 (10.4)		na	na	
Central GC	174 (33.0)	141 (26.8)		na	na	
South GC	141 (26.8)	139 (30.0)		na	na	
missing	14 (2.7)	0 (0.0)		na	na	
Medicare eligible	N=269	N= 258	0.253	N=269	N=258	0.003
yes	119 (44.2)	106 (41.1)		89 (33.1)	76 (17.8)	
no	7 (2.6)	11 (4.3)		0 (0.0)	13 (5.0)	
missing	1 (0.4)	6 (2.3)		53 (19.7)	46 (17.8)	

- There were 527 cases of CT and NG (414 and 113 respectively) in 2017 compared to 463 (384 and 79) cases in 2018. There were no significant increases in CT and NG cases during GC2018.
- No differences were noted in type of services utilised (GP v SH), gender, age or patients' sexual preferences during GC2018.
- 73% of cases in 2017 were managed by GPs which did not change during GC2018 (p=0.439).
- There were significantly more Medicare .ineligible patients seen by SH in GC2018 compared to 2017 (p=0.003).
- There were more patients seen in the North GC in 2018 compared to 2017, and GPs saw more out of area patients while SH services saw less.

Results: Table 2: Management of CT and NG during GC2018

	Non-Sexual Health		p-value	GCSHS		p-value
	2017 n (%) ¹	2018 n (%) ²		2017 n (%) ¹	2018 n (%) ²	
Total cohort	385	328		142	137	
Total returned questionnaires	127	123		142	135	
% return	33.0	37.5		100	100	
Treated at practice	120 (44.6)	114 (72.2)	0.729	136 (50.6)	120 (75.9)	0.03
not treated	7 (2.6)	8 (5.1)		6 (2.2)	15 (9.5)	
missing	0 (0.0)	1 (0.6)		0 (0.0)	0 (0.0)	
Time to treatment			0.056			0.789
Max time to treatment	27	158		50	31	
Average time to treatment	5	8		5	5	
Treated on day	32 (11.9)	12 (7.6)	0.014	40 (14.9)	32 (20.3)	0.322
Not treated on day	95 (35.3)	111 (70.3)		98 (36.4)	103 (65.2)	
Treated as per guidelines			0.472			0.93
yes	114 (42.4)	112 (70.9)		136 (50.6)	120 (75.9)	
no	3 (1.1)	5 (3.2)		0	0	
missing	10 (3.7)	6 (3.8)		0	0	
contact tracing			0.476			0.607
yes	79 (29.4)	86 (33.3)		133 (49.4)	124 (48.1)	
no	34 (12.6)	30 (11.6)		2 (0.7)	0 (0.0)	
missing	14 (5.2)	7 (2.7)		7 (2.6)	11 (4.3)	

¹%of total questionnaires returned in 2017

²%of total questionnaires returned in 2018

- An average of 67.6% of questionnaires were completed.
- There were fewer patients who were treated at point of care for CT or NG at GPs during GC2018 with longer times to treatment.
- There were no differences in adherence to guidelines or contact tracing in 2018 compared to 2017.
- Adherence to guidelines in GPs were high (90% and 93% in 2018 and 2017 respectively).
- Only 62% and 70% of patients seen in GPs had contact tracing though there were no differences between 2017 and GC2018.

Conclusion:

- GC2018 did not have significant impact on CT and NG rates at the Gold Coast in that demographics of patients and types of providers accessed did not change.
- Changes in locality of providers making CT and NG diagnoses may reflect transient changes in population during GC2018.
- Time to treatment were longer during GC2018 at GP services, which may reflect barriers to access of services during mass gathering periods.
- Contact tracing rates remain significantly lower in GP services compared to SH.
- This study re-affirms findings from other studies which show that increased capacity for sexual health services specifically is not required during mass gathering events.
- However, partnerships and referral pathways between SH and GP services can be improved to ensure timely treatment and contact tracing, by capitalising on the access to care for testing in primary care and specialist skill mix of SH services.

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