Queensland Health

Statewide Weekly Influenza Surveillance Report

Reporting Period: 01st January 2012 –14th October 2012

Total Notifications	16304
Influenza A*	12159
A(H1N1)pdm09†	35
H3N2	1867
Un-subtyped	10257
Influenza B	4145
Un-typed	0
Number of Confirmed Influenza Hospitalisations (Queensland Public Hospitals Only)	1452

*Subtype counts/proportions may be subject to change

†World Health Organisation (WHO) standard abbreviation for the influenza strain associated with the 2009 pandemic, also known as A/California/7/2009 (H1N1)

Influenza vaccine virus composition for Australia 2012 http://www.influenzacentre.org/centre_vaccines.htm	A (H1N1): an A/California/7/2009 (H1N1) - like strain, 15 µg HA per dose A (H3N2): an A/Perth/16/2009 (H3N2) - like strain, 15 µg HA per dose B: a B/Brisbane/60/2008 - like strain, 15 µg HA per dose

Influenza Notifications

Year to date (YTD) there have been 16304 notifications of influenza in Queensland. Subtype is recorded for 1902 of the 12159 notifications of influenza A, comprising 35 A(H1N1)pdm09 and 1867 H3N2. Twenty-five percent (4145) of notifications have been influenza B.

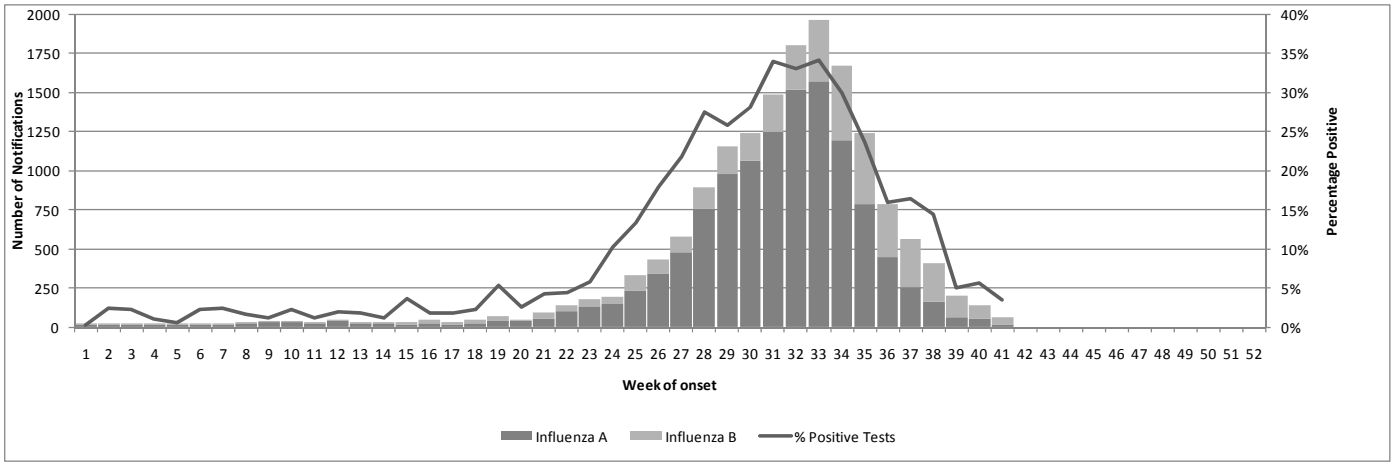

Figure 1: Influenza notification counts in Queensland by type and week of onset and percentage of positive influenza tests (public laboratory system only) by week, from 1st January 2012 to 14th October 2012. ***Data extracted from NOCS 15/10/2012 and AUSLAB 15/10/2012.***

***Un-typed notifications have been excluded.**

Figure 1 shows Queensland notifications for influenza A and B by week of onset. An increasing trend is apparent from around week 19 (week beginning Monday 7th May) with a peak in week 33 (week beginning Monday 13th August).

Overall, influenza B has accounted for approximately 25% of notifications. However, the weekly percentage of notifications due to influenza B has been increasing since week 35; with 73% (49/67) in the most recent week (41). Review of data by region (Figure 2) indicates a sustained downward trend in notification numbers in all areas of the state since week 33. The season profile in the tropical region shows a less well defined peak than the southern or central regions. Weekly counts are now consistent with preseason levels.

Figure 1 also shows the percentage of positive influenza tests, performed in the public laboratory sector in Queensland, by week of testing for the YTD 2012. The number of positive tests can be influenced by many factors including the amount of testing done. However, the percentage of positive tests may be an indicator of disease frequency in the population and would be expected to change as the influenza season progresses. The increasing trend shown in Figure 1, from around week 23 (week beginning 4th June), is consistent with an evolving influenza season. The percentage positive has decreased from a peak of 34% during week 33 to 3% during the most recent week (41). The laboratory test data presented in Figure 1 should be interpreted with caution as they may not be representative of influenza testing across all laboratory sectors. In addition, there may be some inaccuracies associated with the extraction of data from the laboratory information system (AUSLAB).

The recent week's data may be incomplete for both notifications and AUSLAB and will usually be an underestimate in data presented by date of disease onset.

The 2012 YTD notification count (16304) is 2.2 times the five year mean (7571) for the same period. However, it is important to note that the profile of influenza notifications is not the same each year, especially with regard to the start and peak of the season. Comparison of YTD data, or counts during a particular week, across years may be misleading. In addition, there have been changes to diagnostic methods and test requesting practices in recent years, which may influence counts.

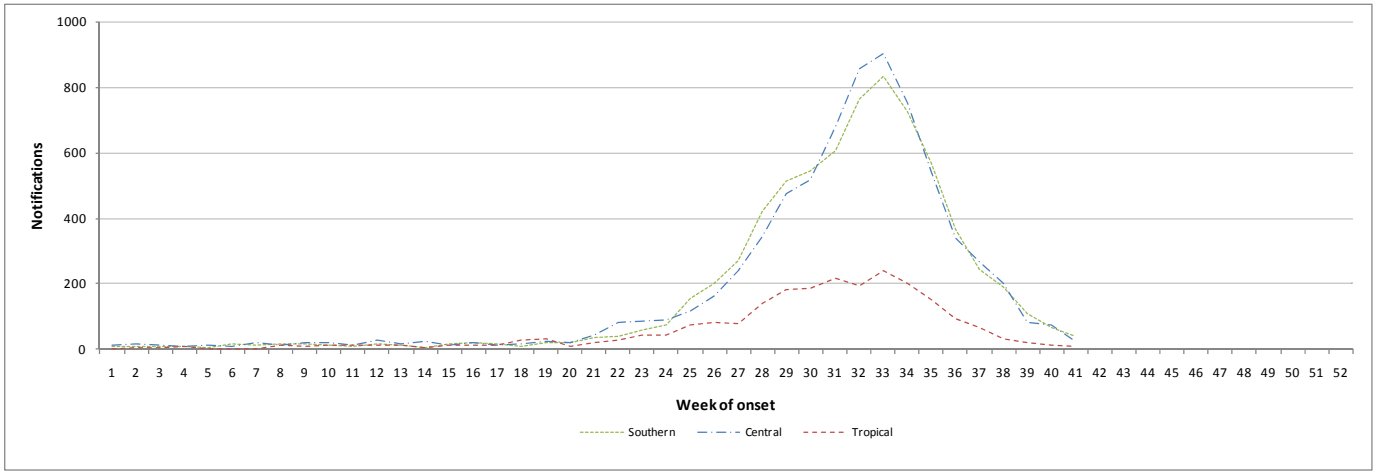

Figure 2: Influenza notification counts by region 1st January 2012 to 14th October 2012. ***Data extracted from NOCS 15/10/2012.***

Figure 3 shows the 2012 YTD influenza notifications by age group and gender. The highest influenza notification rate has been in the 1-4 age group (833.6 per 100,000 population) and the lowest rate in the 50-59 age group (218.6 per 100,000 population). The median age was 27 years and the age range was <1 to 102 years. Overall, there were slightly more notifications in females (54%) than males (46%).

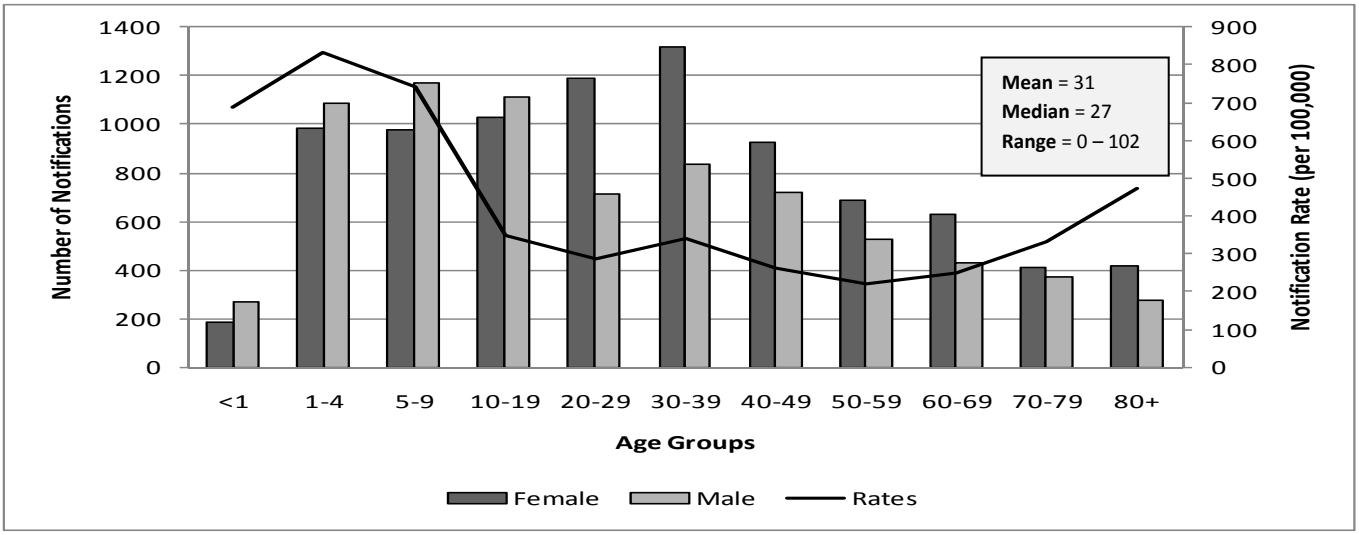

Figure 3: Influenza notification counts and crude rates (per 100,000) in Queensland by age group and gender from 1st January 2012 to 14th October 2012. *Data extracted from NOCS 15/10/2012.* (2010 Population Data were used for rates).

Influenza Hospitalisations

Figure 4 shows the number of laboratory confirmed influenza admissions to public hospitals in Queensland, by week and admission type, detected through the EpiLog[1] system. Admissions show a sustained downward trend beginning in week 34. Hospitalisations are considered a proxy measure of illness severity, with the most severely affected of all notified cases (Figure 1) requiring hospital care. YTD 2012 there have been 1452 admissions, including 157 to intensive care units (ICU). Weekly admission counts have now returned to preseason levels.

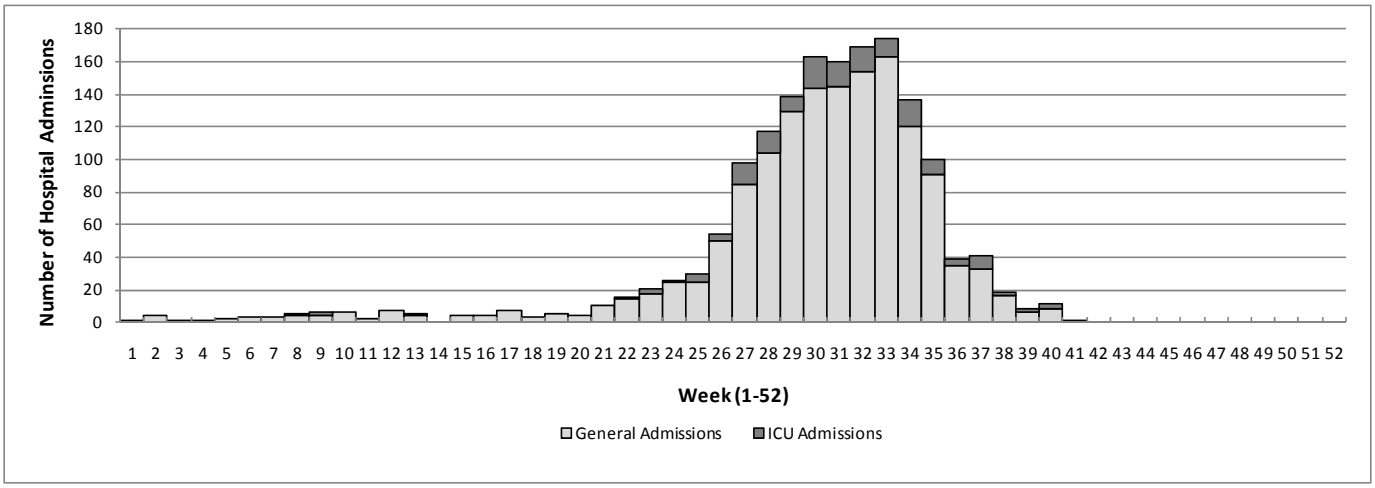

Figure 4: Admission of laboratory confirmed influenza cases, to Queensland public hospitals, by week and type of admission, with admission from 1st January 2012 to 14th October 2012. *Data extracted from EpiLog 15/10/2012.*

[1] EpiLog is a web based application developed by Queensland Health, which generates admission records for confirmed influenza cases through interfaces with the inpatient information and public laboratory databases. Records can also be generated manually.

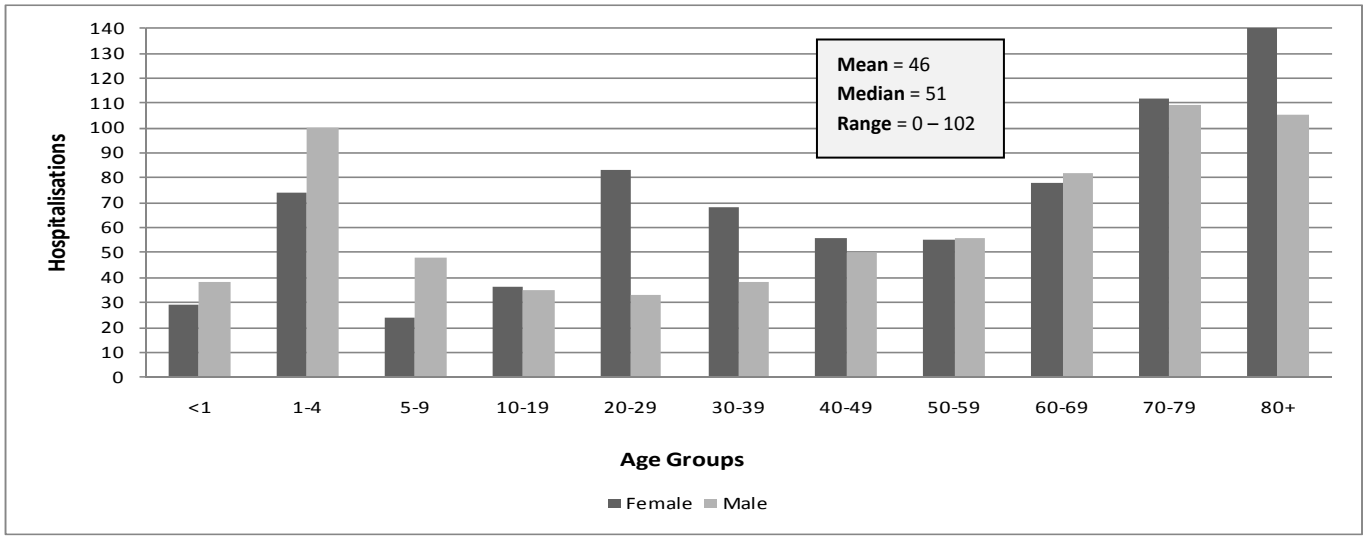

Figure 5: Laboratory confirmed influenza admission counts, in Queensland public hospitals, by age group and gender, with admission from 1st January 2012 to 14th October 2012. ***Data extracted from EpiLog 15/10/2012.***

Figure 5 shows the age and gender distribution of the YTD confirmed influenza admissions to public hospitals, as detected by the EpiLog system. Overall, the highest number of hospitalisations (248) occurred in the 80+ year age group, with 42% male and 58% female. The median age of hospitalised cases was 51 years and the range was <1 to 102.

Figure 6 shows the geographical distribution of the 2012 YTD hospitalisations by Hospital & Health Services (HHS). The weekly notification counts by HHS, together with the YTD totals, are shown in Table 1.

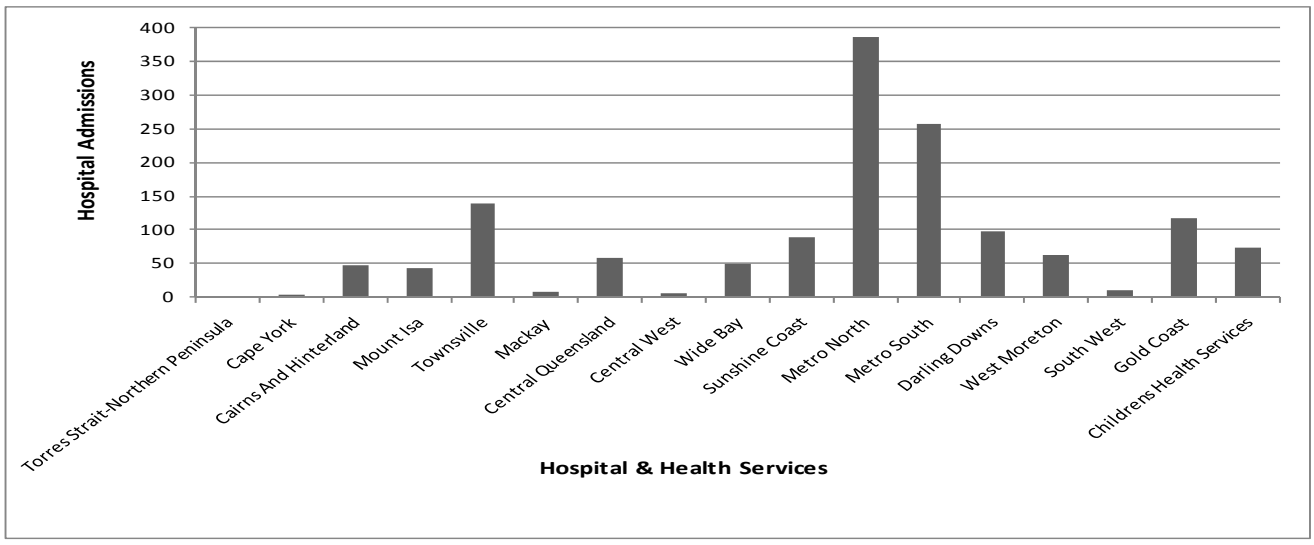

Figure 6: Laboratory confirmed influenza admissions to public hospitals in Queensland by Hospital & Health Services (HHS), from 1st January 2012 to 14th October 2012. ***Data extracted from EpiLog 15/10/2012.***

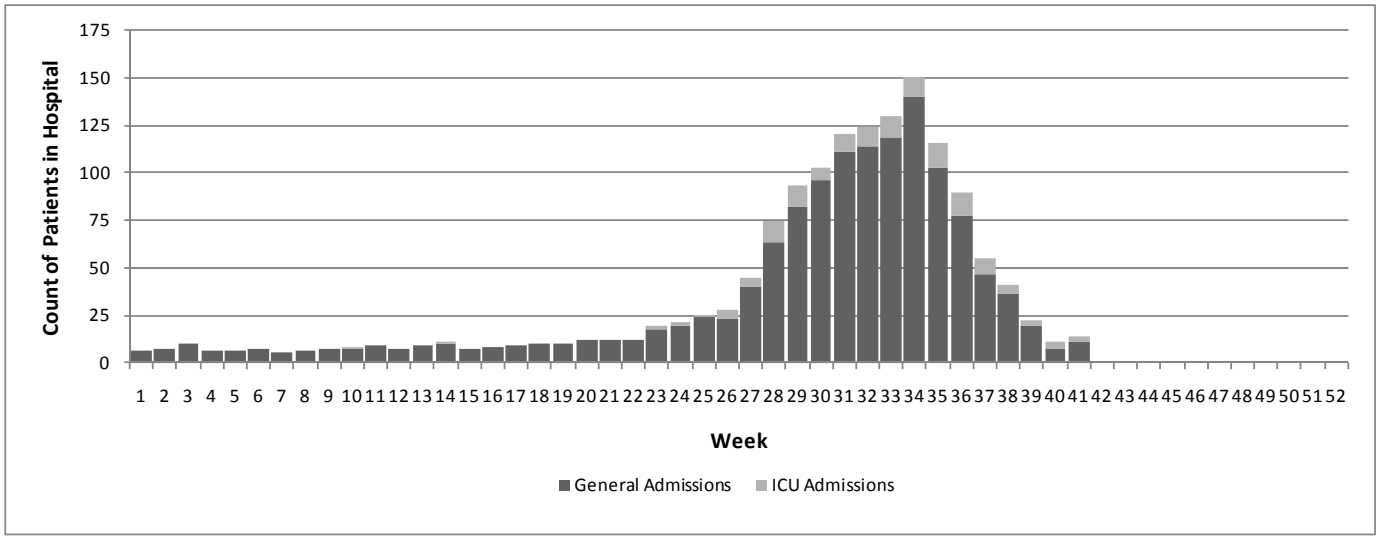

Figure 7: Hospital occupancy: Number of patients with laboratory confirmed influenza in public hospitals in Queensland by week and admission type from 1st January 2012 to 14th October 2012. *Data extracted from EpiLog 15/10/2012.*

Figure 7 shows the number of inpatients in public hospitals, with laboratory confirmed influenza, during each week since 1st January 2012. The data are a function of admissions as well as lengths of stay. This is distinct from the data in Figure 4 which shows new admissions during each week. The occupancy has shown a sustained downward trend beginning in week 35, which is consistent with other data sources indicating the influenza activity is decreasing. Detailed analysis of length of stay has not been undertaken at this stage.

Australian Sentinel Practices Research Network (ASPREN)

ASPREN is a national syndromic surveillance program co-ordinated by the Discipline of General Practice at the University of Adelaide and The Royal Australian College of General Practitioners. One of the conditions under surveillance is influenza like illness (ILI).

General practitioners (GP) participating in the ASPREN program contribute data on the proportion of consultations which are ILI related. Currently there are 43 Queensland GPs registered with ASPREN, although weekly participation rate may vary. YTD 2012 GP participation has ranged from 30 - 63 % during the 2012 season. During the most recent week 21% of GP participated.

The number of ILI presentations per 1000 GP consultations has shown a sustained decreasing trend over the last five weeks. During the most recent week there were 6.0 ILI presentations per 1000 GP consultations.

Further information about ASPREN can be found at http://www.racgp.org.au/aspren.

Table 1: Influenza notifications by week of onset and Hospital & Health Service (HHS) Queensland, 2012 (as on 14th October 2012). *Data extracted from NOCS 15/10/2012.*

	Week of onset																									
Hospital & Health Service	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
TORRES STRAIT-NORTHERN PENINSULA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAPE YORK	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	1	1	7	7	0	3	0	0	1	0	0
CAIRNS AND HINTERLAND	1	1	1	4	0	1	1	2	2	5	2	2	2	0	3	4	3	5	7	1	6	7	8	6	10	11
MOUNT ISA	0	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	1	1	7	1	3	8	8	4	12	13
TOWNSVILLE	1	1	1	1	1	2	0	7	3	8	8	8	9	3	5	5	6	7	8	7	7	13	24	29	51	53
MACKAY	1	2	1	1	1	0	0	2	1	0	2	1	1	1	0	2	0	7	1	1	2	0	1	4	3	3
CENTRAL QUEENSLAND	0	3	0	2	0	0	1	1	4	0	3	2	0	0	1	0	1	0	0	2	3	2	2	3	0	5
CENTRAL WEST	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
WIDE BAY	1	3	3	1	1	2	2	1	2	2	0	2	1	0	2	5	0	1	2	0	1	1	2	3	2	6
SUNSHINE COAST	0	4	2	1	6	1	4	2	0	6	3	3	4	6	1	3	0	2	5	3	3	7	7	3	13	15
METRO NORTH	10	4	3	6	7	5	9	6	12	10	6	19	9	17	6	11	7	9	12	14	31	69	71	75	96	131
METRO SOUTH	2	4	6	6	2	5	4	8	7	5	4	8	8	3	12	9	6	4	8	8	13	13	27	33	57	100
DARLING DOWNS	3	1	0	1	2	2	2	3	1	3	1	0	2	1	1	0	1	1	5	1	13	13	16	17	43	38
WEST MORETON	0	1	0	0	0	1	0	0	0	0	1	1	1	0	0	3	2	1	1	0	1	4	4	3	9	13
SOUTH WEST	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	1	2	0	4	11	8
GOLD COAST	1	0	2	1	0	4	3	3	4	1	1	4	0	0	2	3	5	1	6	10	7	4	10	12	29	38
Queensland (Total)	**21**	**24**	**19**	**24**	**21**	**23**	**28**	**37**	**37**	**41**	**31**	**50**	**37**	**32**	**36**	**46**	**34**	**46**	**69**	**48**	**94**	**143**	**180**	**197**	**336**	**437**

	Week of onset																									
Hospital & Health Service	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**YTD Total**
TORRES STRAIT-NORTHERN PENINSULA	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	**3**
CAPE YORK	0	3	0	1	2	0	3	1	2	1	4	0	2	0	0	-	-	-	-	-	-	-	-	-	-	-	**43**
CAIRNS AND HINTERLAND	10	21	22	40	42	41	36	41	26	25	18	8	4	3	2	-	-	-	-	-	-	-	-	-	-	-	**434**
MOUNT ISA	11	1	3	5	13	54	47	25	7	3	0	1	0	0	0	-	-	-	-	-	-	-	-	-	-	-	**232**
TOWNSVILLE	52	99	142	122	136	83	122	100	90	48	37	17	13	5	5	-	-	-	-	-	-	-	-	-	-	-	**1339**
MACKAY	4	16	15	15	22	16	31	32	24	16	6	6	2	4	0	-	-	-	-	-	-	-	-	-	-	-	**247**
CENTRAL QUEENSLAND	23	16	34	44	93	151	184	143	80	36	44	42	7	11	4	-	-	-	-	-	-	-	-	-	-	-	**947**
CENTRAL WEST	2	8	3	2	2	7	3	7	1	1	1	3	1	0	0	-	-	-	-	-	-	-	-	-	-	-	**46**
WIDE BAY	6	15	23	28	42	48	60	55	52	32	37	19	8	8	6	-	-	-	-	-	-	-	-	-	-	-	**485**
SUNSHINE COAST	31	60	89	77	116	175	228	167	107	78	38	33	18	16	5	-	-	-	-	-	-	-	-	-	-	-	**1342**
METRO NORTH	172	242	318	365	413	468	425	379	291	187	143	94	44	35	9	-	-	-	-	-	-	-	-	-	-	-	**4240**
METRO SOUTH	146	234	324	312	311	382	371	296	257	187	108	94	44	34	17	-	-	-	-	-	-	-	-	-	-	-	**3479**
DARLING DOWNS	51	64	58	97	95	163	231	233	169	112	74	48	27	11	10	-	-	-	-	-	-	-	-	-	-	-	**1614**
WEST MORETON	29	38	61	46	92	75	72	72	42	16	25	21	7	6	4	-	-	-	-	-	-	-	-	-	-	-	**652**
SOUTH WEST	3	6	3	9	29	39	19	11	21	15	6	4	10	2	2	-	-	-	-	-	-	-	-	-	-	-	**208**
GOLD COAST	40	70	62	79	78	99	131	107	67	32	27	21	15	10	4	-	-	-	-	-	-	-	-	-	-	-	**993**
Queensland (Total)	**580**	**893**	**1157**	**1242**	**1486**	**1802**	**1963**	**1670**	**1237**	**789**	**568**	**411**	**202**	**145**	**68**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**16304**

Data presented in this report were the most accurate available at the time of extraction. Surveillance datasets are subject to change. Please direct any enquiries to EPI@health.qld.gov.au