

Statewide Weekly Influenza Surveillance Report

Reporting Period: 1 January to 12 August 2018

Influenza Surveillance Report

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<https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/diseases-infection/surveillance/reports/flu/default.asp>

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Introduction

Laboratory confirmed influenza is a nationally notifiable condition in Australia and has been notifiable in Queensland since 2001. In Queensland, notification is mandated under the provisions of the *Public Health Act (2005)* and its subordinate Regulation¹. A case definition, which requires a positive laboratory result, is applied to identify valid notifications. Annual influenza counts and rates vary by year and jurisdiction within Australia².

In Queensland, the influenza season occurs annually in southern and central areas typically between May and October. In the tropical region, the pattern can be more variable and may include clusters outside this period.

The purpose of this report is to provide a weekly, year to date data summary of influenza notifications in Queensland through the year.

Methods

Data were extracted for influenza notifications from the Queensland Health notifiable conditions register on 13 August 2018. Hospital admissions data were extracted from *EpiLog*, a register of influenza admissions to Queensland public hospitals, on 13 August 2018. All reported data were correct at the time of extraction but may be subject to change following routine data updating and quality revisions.

Denominator data for rate calculations were obtained from the *Australian Bureau of Statistics*³.

Year to date (YTD) notification rates for 2018 have been annualised.

The International Organization for Standardization (ISO) week date system 8601 was used to determine the week of disease onset⁴.

Percentage positive values are calculated using only tests with a result at the time of calculation in the denominator.

Data analyses were undertaken using Microsoft Excel 2016⁵, SQL Server Management Studio 2015⁶ and RStudio version 0.99.896⁷.

Summary

	2018 Year to date*	Recent week (6 August–12 August)
All influenza notifications	6,654	309
<u>Influenza A</u>[†]	4,346	279
A(H1N1)pdm09	509	15
A(H3N2)	343	7
Subtype unavailable	3,494	257
<u>Influenza B</u>	2,308	30
Victoria	1	0
Yamagata	16	0
Lineage unavailable	2,291	30
<u>Type unavailable</u>	0	0
Influenza hospitalisations[‡]	729	24
Intensive Care Unit (ICU) admissions	105	3 [§]

* 2018 Year to date (YTD) includes recent week commencing from ISO Week 1 of the year, 1 January 2018

† Subtype counts/proportions may be subject to change as further laboratory results become available

‡ Queensland public hospitals only, includes general and ICU admissions

§ New admissions to ICU during the recent week

Australian Influenza Vaccine Committee (AIVC) decision on the influenza vaccine composition for the Australian 2018 season
http://www.influenzacentre.org/surveillance_vaccines.htm

Trivalent vaccine

- A/Michigan/45/2015 (H1N1)pdm09-like virus
- A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus
- B/Phuket/3073/2013 (Yamagata lineage)-like virus

Quadrivalent vaccine

Viruses listed above, plus the additional B virus:

- B/Brisbane/60/2008 (Victoria lineage)-like virus

1. Influenza notifications

Recent week onset (6 August to 12 August) there were 309 notifications.

- 279 (90%) were typed as influenza A, and 30 (10%) as influenza B.
 - 22 influenza A have been subtyped: 15 (68%) as A(H1N1)pdm09, and seven (32%) as A(H3N2).
 - Subtype is unavailable for 257 influenza A cases.

YTD 2018 (1 January to 12 August) there have been 6,654 notifications.

- 4,346 (65%) were typed as influenza A, and 2,308 (35%) as influenza B.
 - 852 influenza A have been subtyped: 509 (60%) were A(H1N1)pdm09, and 343 (40%) were A(H3N2).
 - Subtype is unavailable for 3,494 influenza A cases.
 - Lineage is available for 17 influenza B viruses: 16 (94%) were B/Yamagata, one (6%) was B/Victoria.

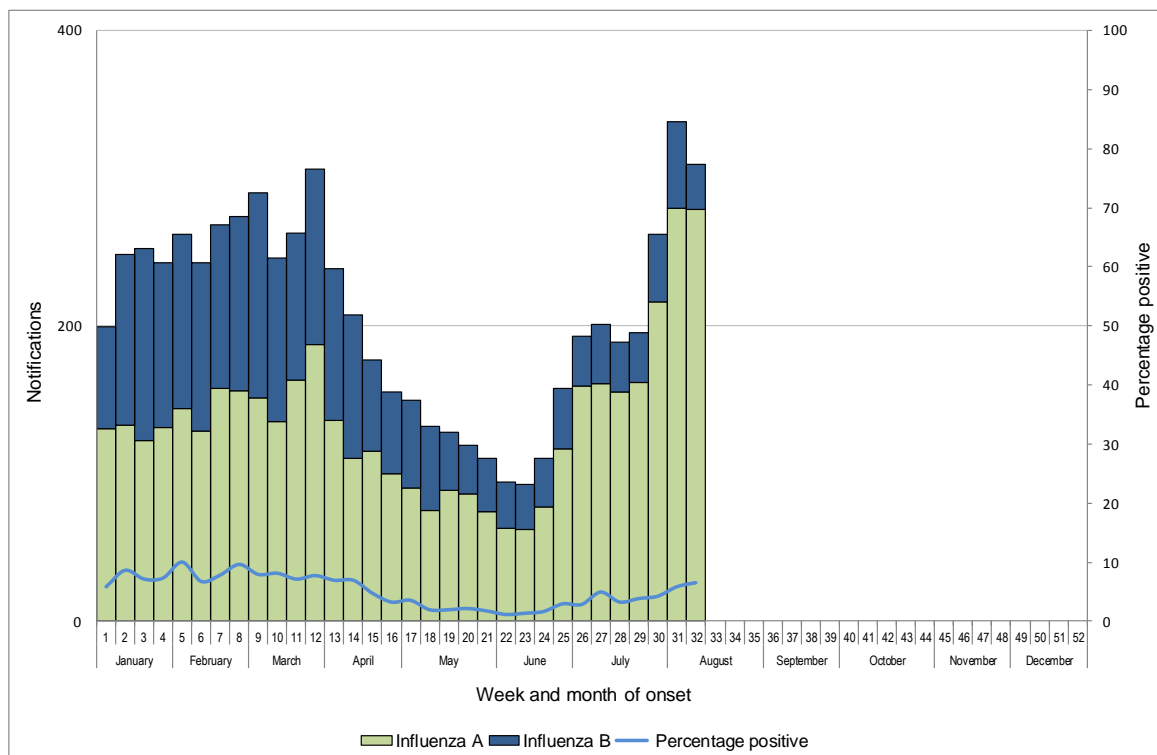


Figure 1 Weekly influenza notifications in Queensland by type and percentage of positive tests (public laboratory system only) by week and month of testing, 1 January to 12 August 2018.

- Figure 1 shows the statewide notification counts by week, type, and the percentage of positive influenza tests (public laboratory system only).
- Notification counts and percentage of tests positive show fluctuations to week 12, followed by a decreasing trend to week 23. Although notification counts have increased in recent weeks when compared to week 23, the percentage of tests positive remains low (7%), and is consistent with inter-seasonal activity. The YTD count is 0.7 times the five year mean and 0.3 times the count for the same period in 2017.

- The statewide percentage of positive tests (public laboratories) in the most recent week was 7%.
- YTD 2018 notification counts are summarised by region in Figure 2 and by region and Hospital and Health Service (HHS) in Table 1.

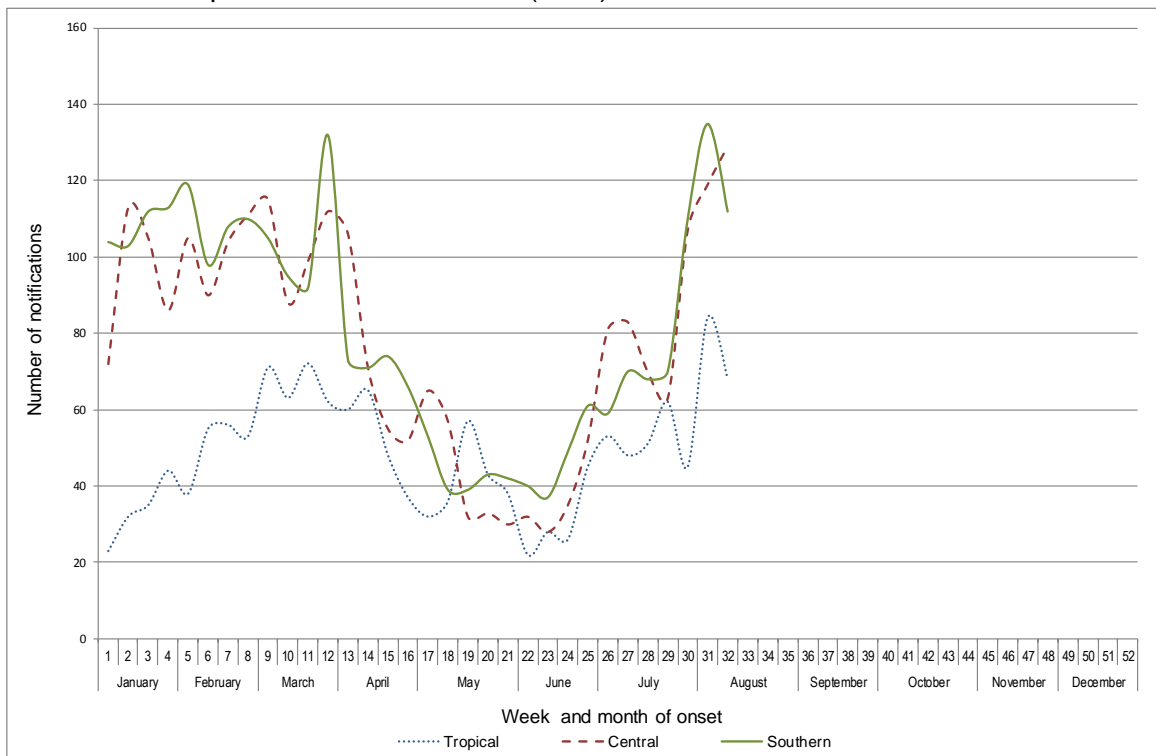


Figure 2 Queensland regional influenza notifications by week and month of onset, 1 January to 12 August 2018.

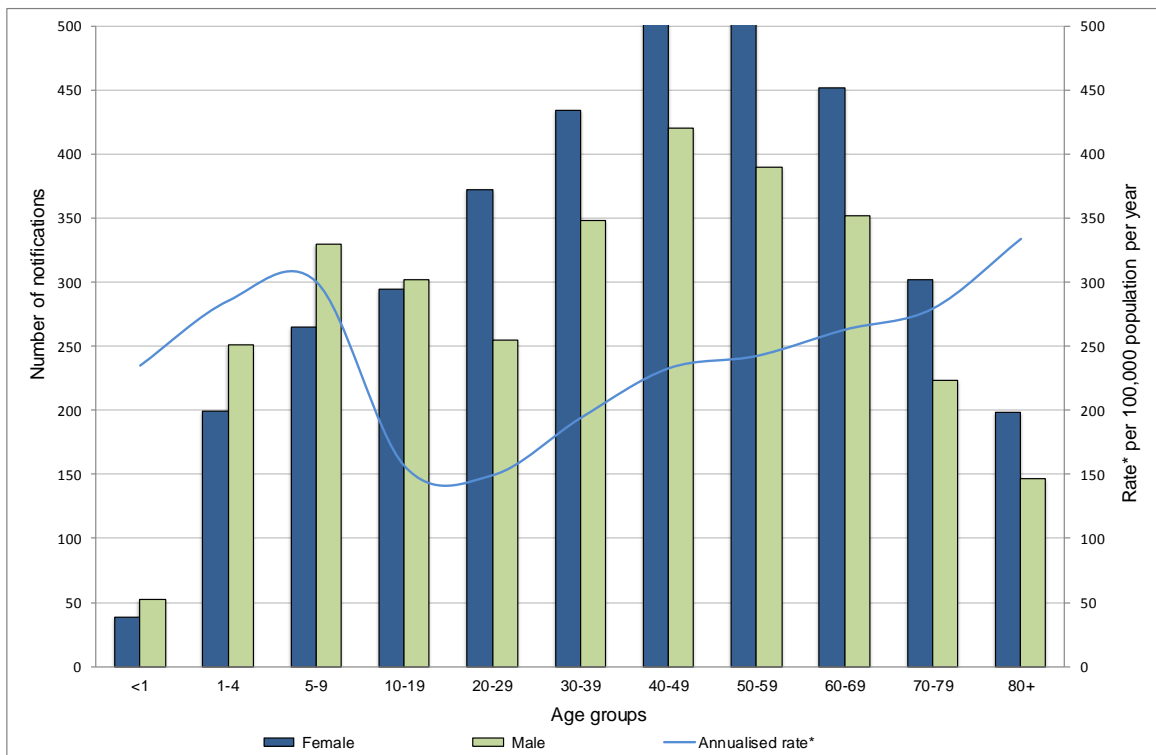


Figure 3 Queensland YTD 2018 influenza notifications by age group, sex, and age group specific notification rate, 1 January to 12 August 2018.

- Figure 3 shows the YTD age and sex distribution of notifications.
 - Overall notifications were higher in females (54%) than males (46%).
 - Median age was 39 years, with a range of 6 days to 103 years.

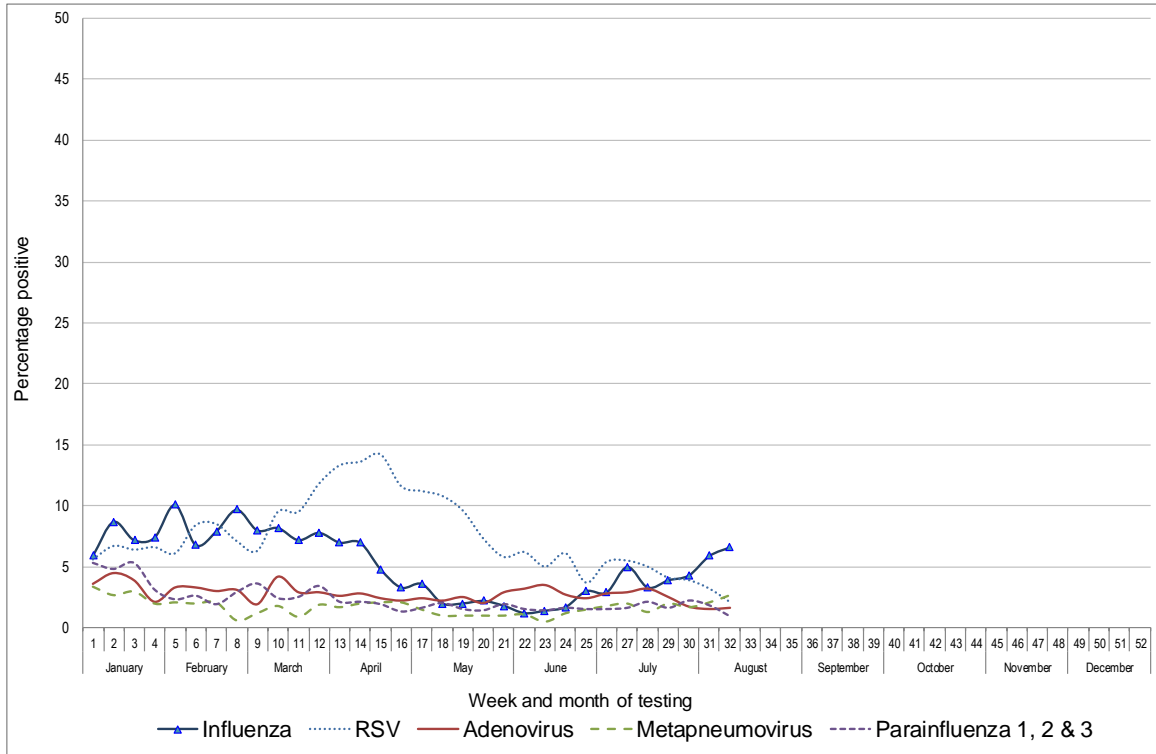


Figure 4 Percentage of positive influenza, respiratory syncytial virus (RSV), adenovirus, metapneumovirus, and parainfluenza tests (public laboratory system only) by week and month of testing, 1 January to 12 August 2018.

- Figure 4 shows the percentage of positive tests for influenza as well as non-notifiable respiratory viruses, which are important causes of influenza-like illness.

Table 1 Influenza notifications by week of onset, region* and Hospital and Health Service (HHS), 1 January to 12 August 2018.

Region	Hospital & Health Service	Week of onset																									
		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
Tropical	Torres and Cape	0	2	2	0	1	5	3	7	1	1	1	1	1	0	0	1	0	1	2	1	0	0	0	0	0	0
	Cairns and Hinterland	10	11	10	26	17	24	14	10	20	22	16	20	20	32	16	12	15	15	13	12	11	6	5	9	6	7
	North West	0	0	0	0	1	0	0	2	0	1	1	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0
	Townsville	8	13	17	16	14	19	22	26	32	27	37	23	30	14	16	14	13	10	34	23	23	13	20	15	33	43
	Mackay	5	6	6	2	5	7	17	8	18	12	17	18	9	18	16	10	3	9	8	7	3	3	3	2	6	3
Central	Central Queensland	8	17	14	5	15	7	9	5	7	4	5	10	7	8	6	8	11	13	3	7	4	3	3	2	2	7
	Central West	0	1	0	0	1	0	1	0	0	0	0	1	0	0	2	1	0	0	0	0	1	0	0	0	0	0
	Wide Bay	6	9	11	4	8	8	8	8	8	6	9	4	11	13	16	5	3	4	5	5	4	0	3	3	6	7
	Sunshine Coast	21	20	17	21	23	25	28	34	36	31	23	27	28	17	7	14	19	17	7	6	7	6	5	7	14	19
	Metro North	37	66	63	56	58	50	58	64	64	47	62	70	60	33	24	24	32	23	17	15	14	23	17	23	30	48
Southern	Metro South	61	57	55	62	75	65	55	43	54	48	49	62	30	35	31	33	26	18	27	24	24	22	19	28	35	39
	Darling Downs	5	7	16	8	5	5	7	13	7	9	8	6	4	7	7	1	3	5	2	5	6	4	1	2	4	6
	West Moreton	7	7	9	9	5	3	9	7	6	8	6	15	3	2	12	3	6	7	3	4	4	5	8	12	9	6
	South West	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
	Gold Coast	30	31	32	33	34	24	36	47	38	30	29	49	36	27	24	29	18	9	7	10	8	9	9	5	11	6
Queensland (Total)	199	248	252	243	262	243	268	274	291	246	263	306	239	207	177	155	150	132	128	119	110	94	93	110	158	193	

Region	Hospital & Health Service	Week of onset																										YTD Total
		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	
Tropical	Torres and Cape	2	0	1	1	2	0																					36
	Cairns and Hinterland	7	10	12	8	26	24																					466
	North West	0	0	0	1	0	1																					11
	Townsville	33	39	44	30	47	38																					786
	Mackay	6	2	5	5	9	5																					253
Central	Central Queensland	10	2	7	9	10	19																					247
	Central West	0	0	0	0	0	0																					8
	Wide Bay	4	5	5	5	4	7																					204
	Sunshine Coast	25	19	16	30	25	28																					622
	Metro North	44	44	35	63	80	75																					1,419
Southern	Metro South	44	42	39	60	77	51																					1,390
	Darling Downs	3	7	4	12	13	16																					208
	West Moreton	10	10	8	20	15	21																					259
	South West	1	0	0	0	2	0																					14
	Gold Coast	12	9	19	18	28	24																					731
Queensland (Total)	201	189	195	262	338	309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,654

*Regions defined here are aggregates of HHS used for surveillance purposes only and are not official geographical areas

2. Influenza hospitalisations (public hospitals)

Public hospital admissions with confirmed influenza:

- In the recent week (6 August to 12 August) there were 24 new admissions, with three requiring intensive care.
- YTD 2018 there have been 729 admissions, including 105 to intensive care (Figure 5). These counts include Queensland residents (695), interstate residents (15), and overseas visitors (19).

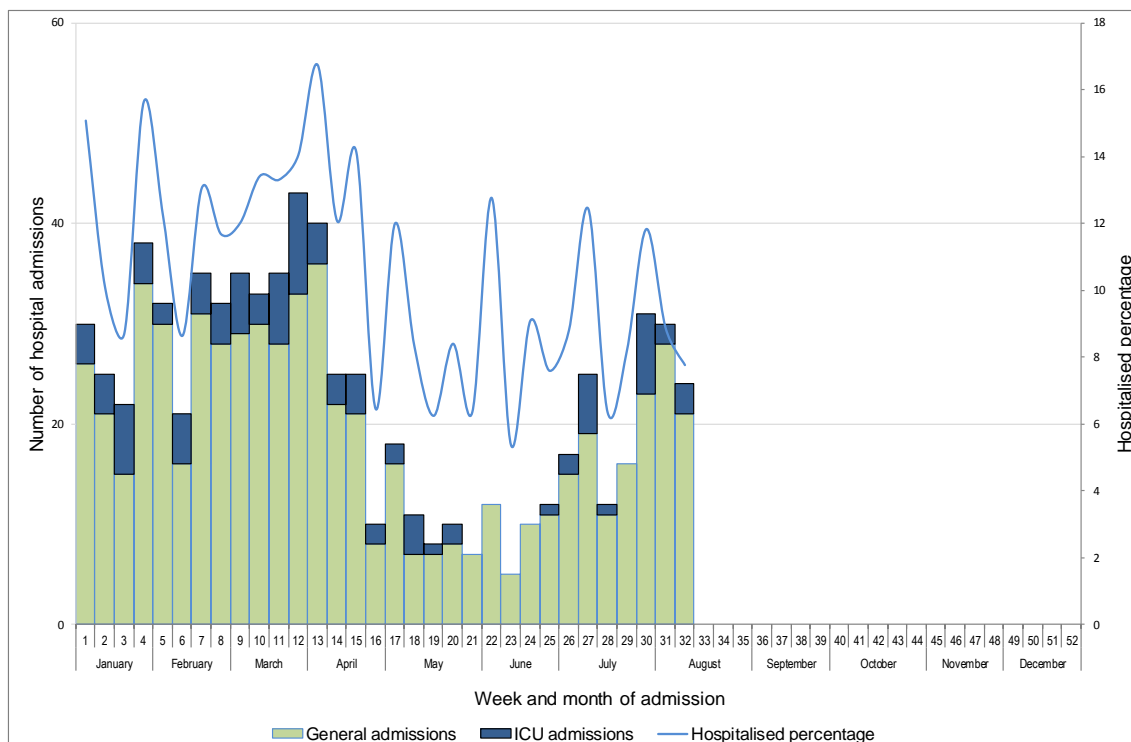


Figure 5 Laboratory confirmed influenza admissions to Queensland public hospitals (n=729) by week, month, type of admission, and weekly percentage of notifications admitted to Queensland public hospitals, 1 January to 12 August 2018.

- Admissions by influenza type and subtype in Queensland residents are summarised in Figure 6.
- The weekly number of beds occupied by patients with influenza in public hospitals is summarised in Figure 7.

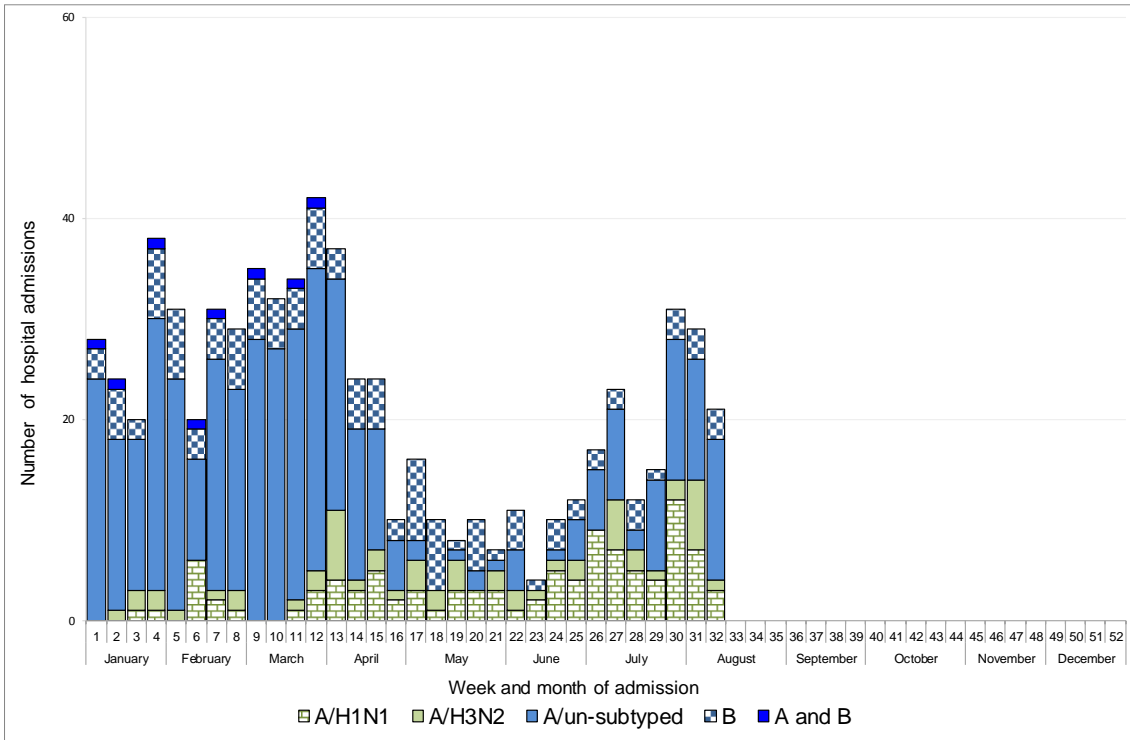


Figure 6 Laboratory confirmed influenza admissions of Queensland residents to Queensland public hospitals (n=695) by week, month, and influenza type/subtype, 1 January to 12 August 2018.

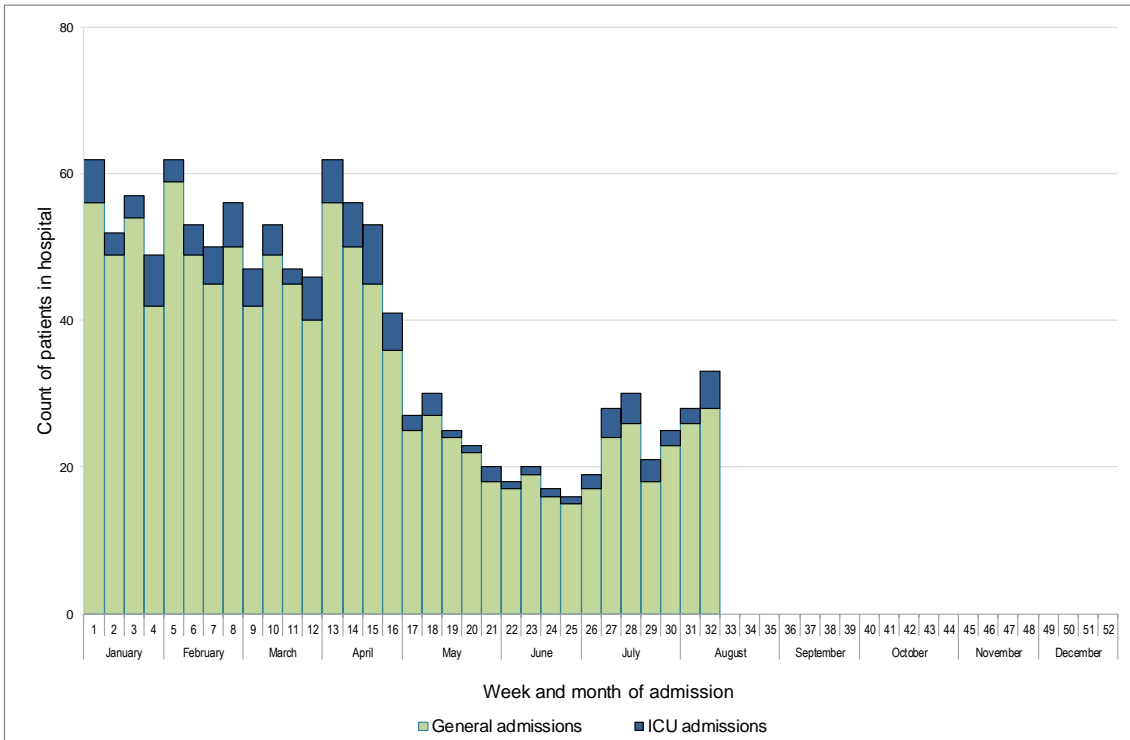


Figure 7 Beds occupied by patients with laboratory confirmed influenza in Queensland public hospitals by admission type, week and month, 1 January to 12 August 2018.

- Figure 8 shows the YTD age and sex distribution of hospitalisations.
 - Equal percentages of females and males have been hospitalised.
 - Mean and median ages were 49 and 56 years, respectively, with a range of younger than one month to 98 years.

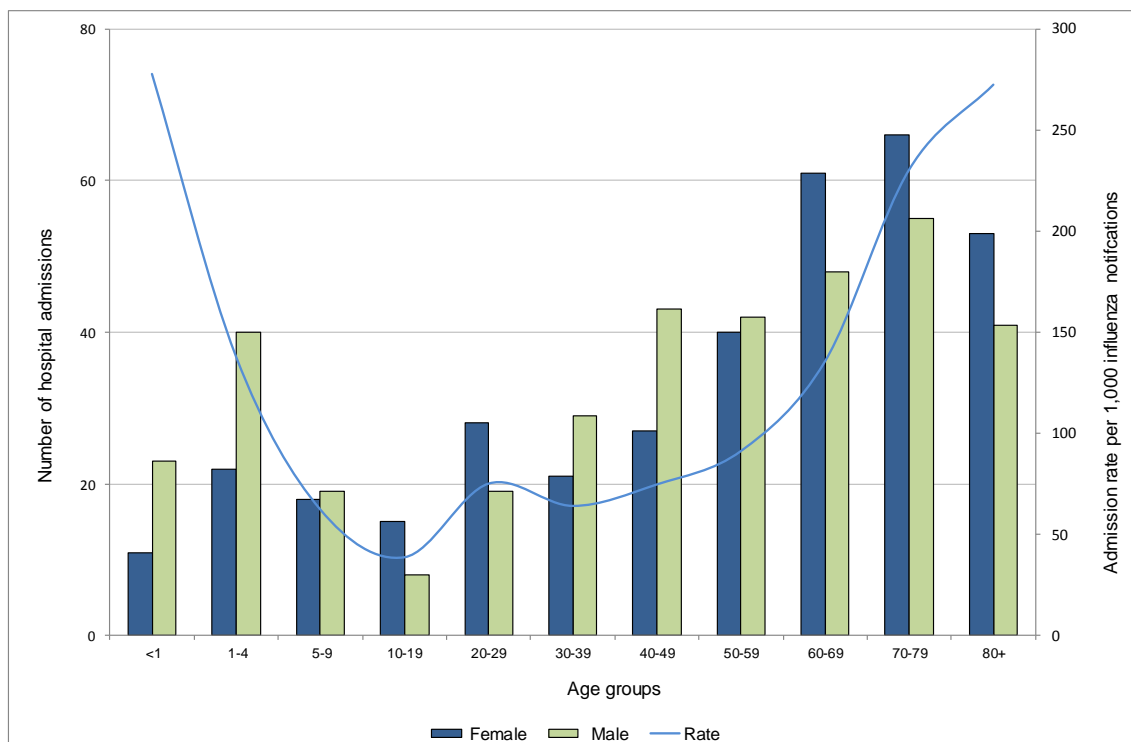


Figure 8 Laboratory confirmed influenza admissions to Queensland public hospitals, by age group, sex, and annual age specific admission rate per 1,000 notifications, 1 January to 12 August 2018.

Table 2 YTD 2018 laboratory confirmed influenza notifications and admissions to Queensland public hospitals, by region and Hospital and Health Service (HHS), 1 January to 12 August 2018.

Region	Hospital & Health Service	YTD notifications ^A	YTD hospital admissions*	YTD percentage of notifications hospitalised
Tropical	Torres and Cape	36	10	27.8%
	Cairns and Hinterland	466	52	11.2%
	North West	11	0	0.0%
	Townsville	786	107	13.6%
	Mackay	253	30	11.9%
Central	Central Queensland	247	18	7.3%
	Central West	8	1	12.5%
	Wide Bay	204	43	21.1%
	Sunshine Coast	622	67	10.8%
	Metro North	1,419	125	8.8%
Southern	Metro South	1,390	124	8.9%
	Darling Downs	208	15	7.2%
	West Moreton	259	18	6.9%
	South West	14	0	0.0%
	Gold Coast	731	104	14.2%
Total		6,654	714	10.7%

^A Includes 46 overseas visitors notified in Queensland

* Includes 19 overseas visitors admitted to Queensland public hospitals

Note: A further 15 interstate residents were admitted to Queensland public hospitals and are not included in the above table. Influenza notifications in Australian residents are reported by the health department in the state or territory of usual residence.

3. FluTracking

FluTracking is an online surveillance initiative run jointly by Hunter New England (NSW Health), The University of Newcastle, The Hunter Medical Research Institute, and the Australian Government Department of Health.

The system gathers data on the emerging influenza season by collating and reporting responses to online weekly surveys. Participation is quick and easy, open to any individual who is resident in Australia and can include family and friends.

There are approximately 30,000 participants around Australia, including more than 3,500 Queensland residents.

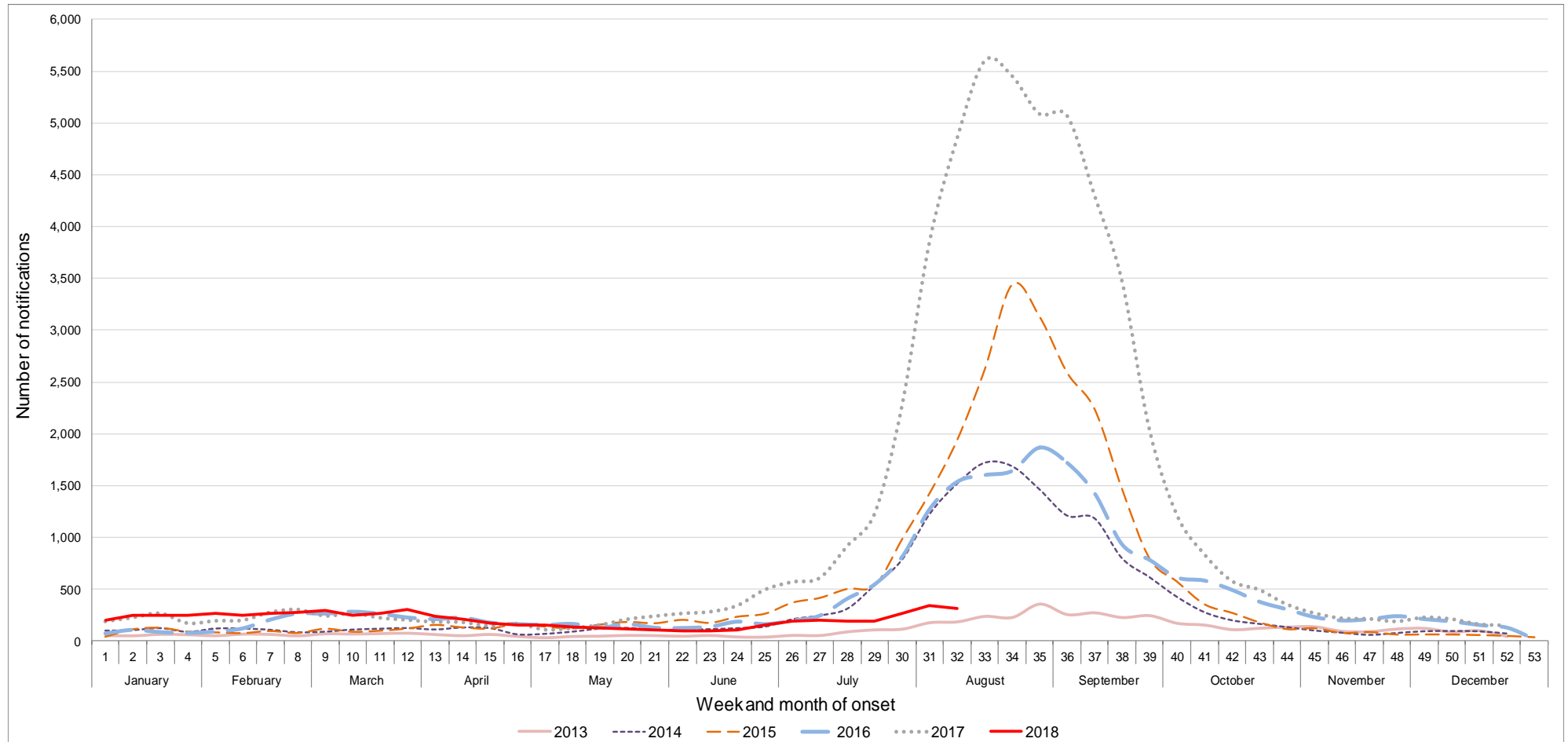
If you would like to find out more about FluTracking, or register to participate, please go to <http://www.flutracking.net/Info>

References

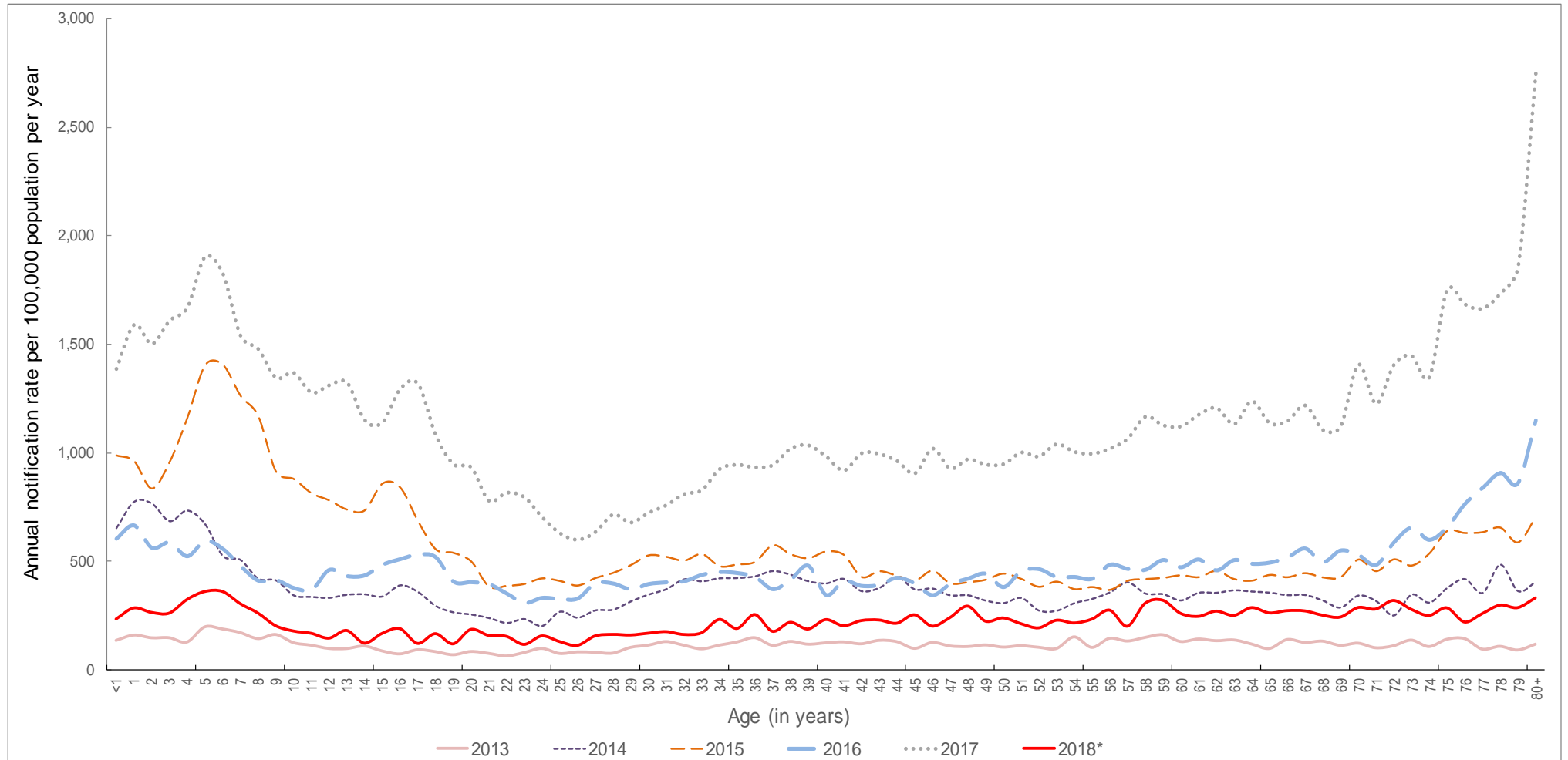
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Appendices

Appendix 1: Laboratory confirmed influenza notifications in Queensland, by week of onset, 1 January 2013 to 12 August 2018.



Appendix 2: Annual* age-specific influenza notification rates in Queensland, 1 January 2013 to 12 August 2018.



*Annualised rate for 2018 (year-to-date)

Appendix 3: Hospital and Health Services (2018 edition) with regions

Hospital and Health Services, Queensland Health by Recognised Public Hospitals and Primary Health Centres



Prepared by: Statistical Reporting and Coordination, Health Statistics Branch, 29 January 2015
 Hospital and Health Services by recognised public hospitals and primary health centres as at 29 November 2014

Regions and Hospital and Health Services		
Tropical	Central	Southern
Torres and Cape	Central Queensland	Metro South
Cairns and Hinterland	Central West	Darling Downs
North West	Wide Bay	West Moreton
Townsville	Sunshine Coast	South West
Mackay	Metro North	Gold Coast