

Statewide Weekly Influenza Surveillance Report

Reporting Period: 1 January to 17 June 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 Regulation.¹ 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 Australia.²

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 18 June 2018. Hospital admissions data were extracted from *EpiLog*, a register of influenza admissions to Queensland public hospitals, on 18 June 2018. All reported data were correct at the time of extraction but may be subject to change following routine data 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 onset.⁴

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 0.99.896.⁷

Summary

	2018 Year to date*	Recent week (11 June – 17 June)
All influenza notifications	4,739	90
<u>Influenza A</u>[†]	2,779	60
A(H1N1)pdm09	218	2
A(H3N2)	272	1
Subtype unavailable	2,289	57
<u>Influenza B</u>	1,960	30
Victoria	1	0
Yamagata	8	0
Lineage unavailable	1,951	30
<u>Type unavailable</u>	0	0
Influenza hospitalisations[‡]	556	6
Intensive Care Unit (ICU) admissions	80	0[§]

* 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 (11 June to 17 June) there were 90 notifications.

- 60 (67%) were typed as influenza A and 30 (33%) as influenza B
 - Three influenza A have been subtyped: Two as A(H1N1)pdm09, one as A(H3N2).
 - Subtype is unavailable for 57 influenza A cases.

YTD 2018 (1 January to 17 June) there have been 4,739 notifications.

- 2,779 (59%) were typed as influenza A and 1,960 (41%) as influenza B
 - 490 influenza A have been subtyped: 218 (44%) were A(H1N1)pdm09 and 272 (56%) were A(H3N2)
 - Subtype is unavailable for 2,289 influenza A cases
 - Lineage is available for nine influenza B viruses: eight (89%) were B/Yamagata, one (11%) was B/Victoria.

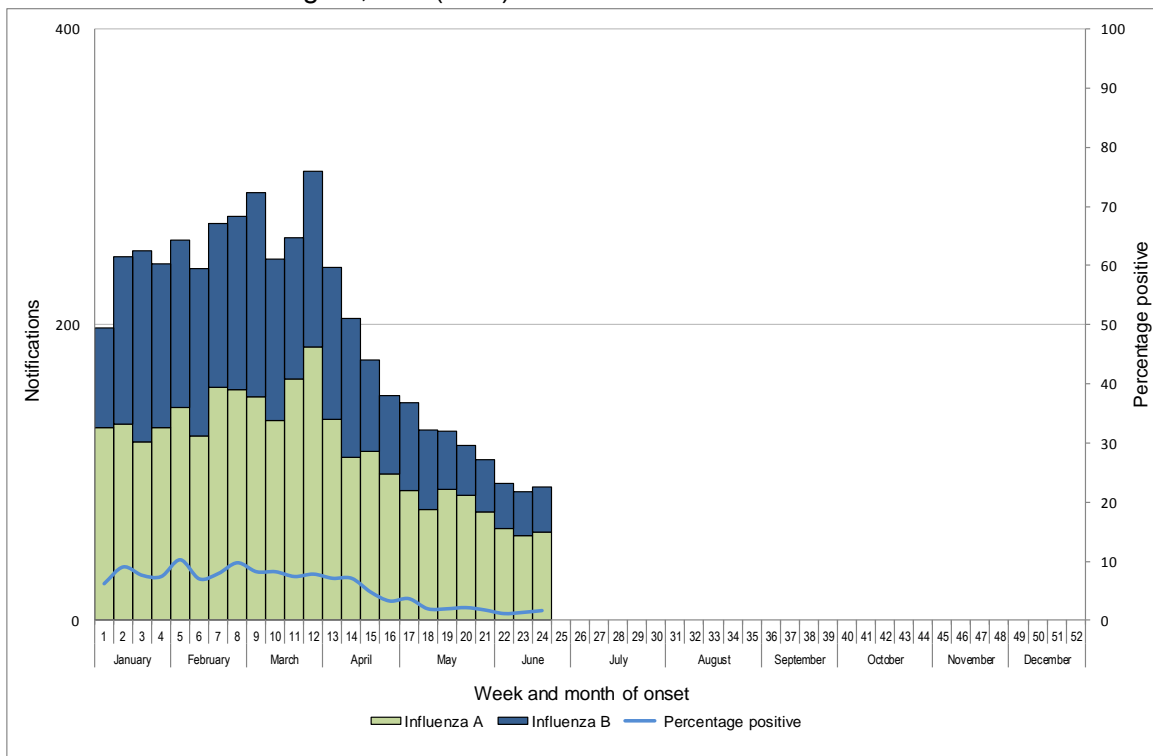


Figure 1 Weekly influenza notifications in Queensland by type and percentage of positive tests (public laboratory system only) by week and month of testing, 1 January to 17 June 2018.

- 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 positive tests show fluctuations to week 12, followed by a decreasing trend. Although the YTD count is 1.4 times the five year mean and 1.1 times the count for the same period in 2017, the overall pattern is consistent with inter-seasonal activity.
- The statewide percentage of positive tests (public laboratories) in the most recent week was 2%.

- YTD 2018 notification counts are summarised by region in Figure 2 and by region and Hospital and Health Service (HHS) in Table 1.

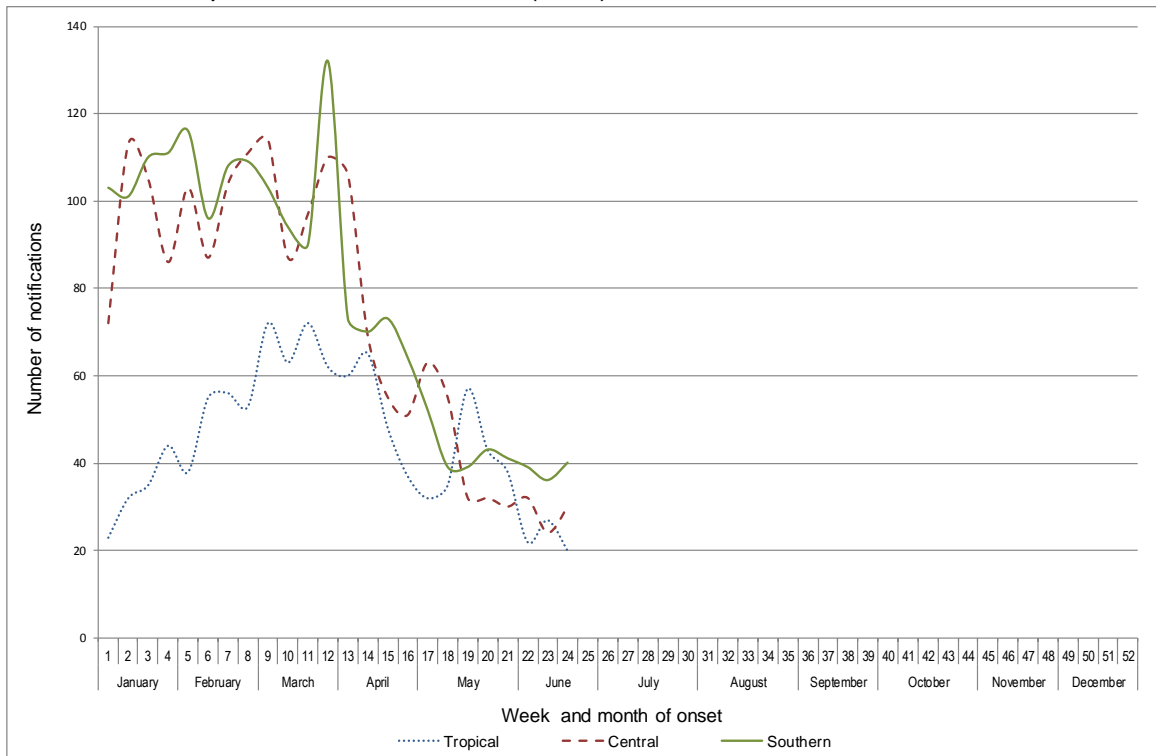


Figure 2 Queensland regional influenza notifications by week and month of onset, 1 January to 17 June 2018.

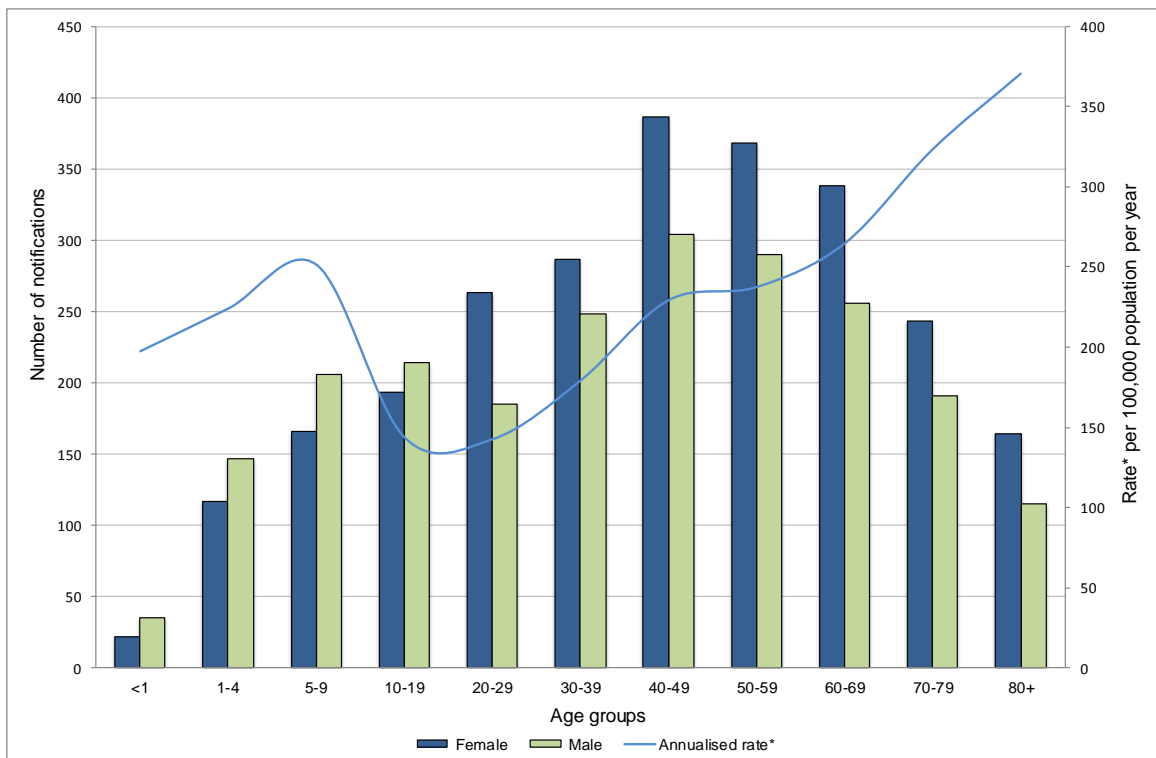


Figure 3 Queensland YTD 2018 influenza notifications by age group, sex, and age group specific notification rate, 1 January to 17 June 2018.

- 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.

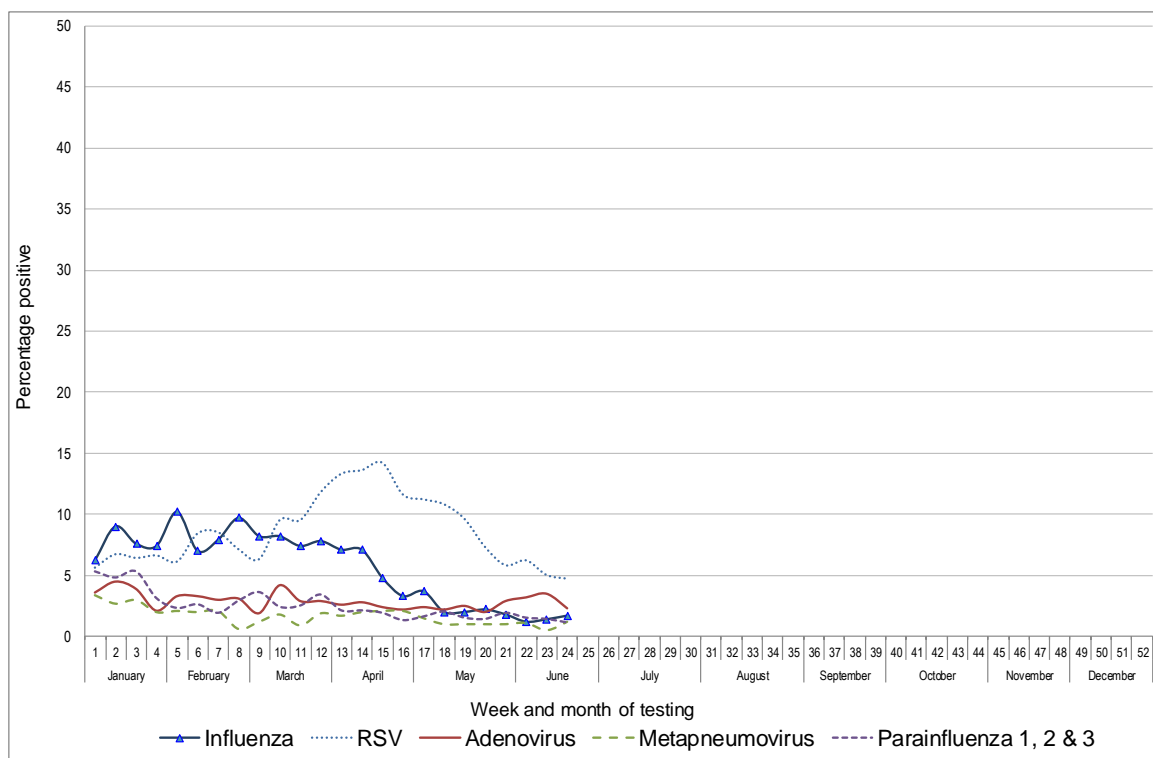


Figure 4 Percentage of positive influenza, respiratory syncytial virus (RSV), adenovirus, metapneumovirus and parainfluenza tests (public laboratory system only) by week and month of testing, 1 January to 17 June 2018.

- 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 17 June 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		
	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	8		
	North West	0	0	0	0	1	0	0	2	1	1	1	0	0	1	0	0	1	1	0	0	1	0	0	0		
	Townsville	8	13	17	16	14	19	22	26	32	27	37	23	30	14	16	14	13	9	34	23	23	13	19	10		
	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		
Central	Central Queensland	8	17	14	5	15	7	9	5	7	4	5	10	7	8	6	8	11	13	3	6	4	3	2	1		
	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		
	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	1		
	Sunshine Coast	21	20	17	21	23	25	28	34	36	31	21	26	28	17	7	14	19	15	7	6	7	6	3	7		
	Metro North	37	66	63	56	56	47	58	64	63	46	62	69	60	31	24	23	30	23	17	15	14	23	16	21		
Southern	Metro South	61	55	55	62	75	64	55	43	54	48	49	62	30	34	31	32	26	18	27	24	24	22	18	23		
	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	1		
	West Moreton	7	7	9	9	5	3	9	7	6	8	6	15	3	2	12	3	6	7	3	4	3	5	8	12		
	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	1		
	Gold Coast	29	31	30	31	31	23	36	46	36	29	27	49	36	27	23	28	17	9	7	10	8	8	9	3		
Queensland (Total)	198	246	250	241	257	238	268	273	289	244	259	304	239	204	176	152	147	129	128	118	109	93	87	90	-	-	

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																										30	
	Cairns and Hinterland																											365
	North West																											10
	Townsville																											472
	Mackay																											212
Central	Central Queensland																											178
	Central West																											8
	Wide Bay																											159
	Sunshine Coast																											439
	Metro North																											984
Southern	Metro South																											992
	Darling Downs																											142
	West Moreton																											159
	South West																											6
	Gold Coast																											583
Queensland (Total)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,739	

*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 (11 June to 17 June) there were six new admissions, with none requiring intensive care.
- YTD 2018 there have been 556 admissions, including 80 to intensive care (Figure 5). These counts include Queensland residents (531), interstate residents (10), and overseas visitors (15).

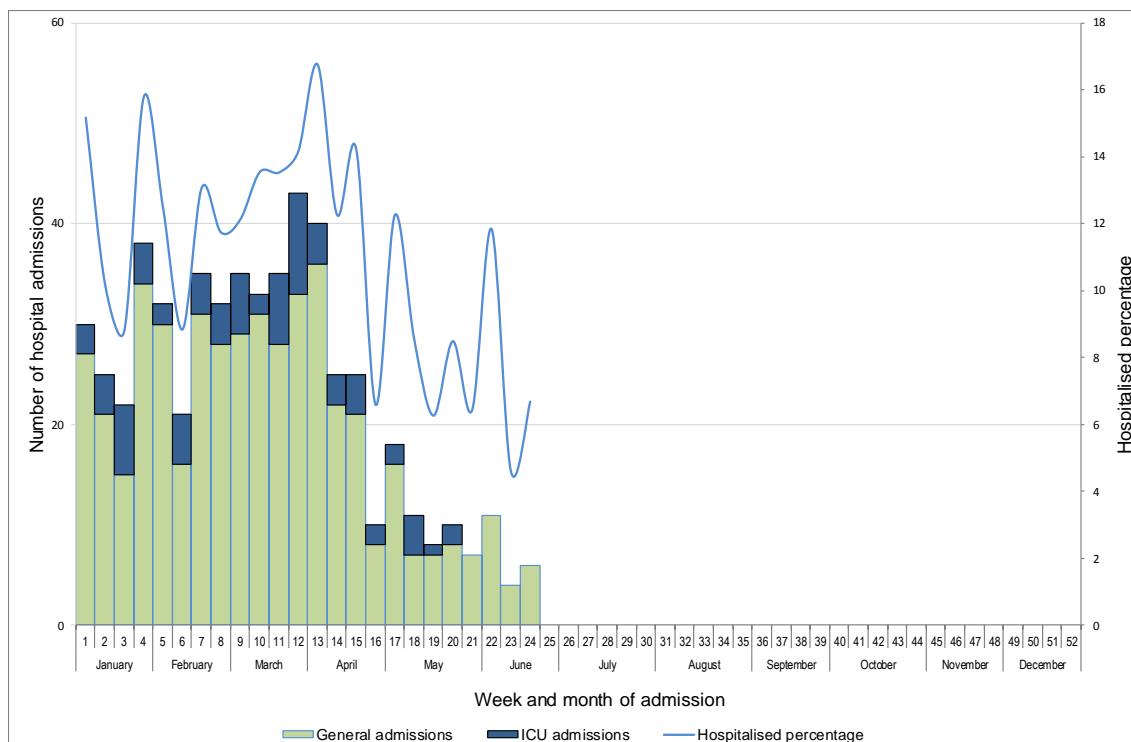


Figure 5 Laboratory confirmed influenza admissions to Queensland public hospitals (n=556) by week, month and type of admission, and weekly percentage of notifications admitted to Queensland public hospitals, 1 January to 17 June 2018.

- 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.

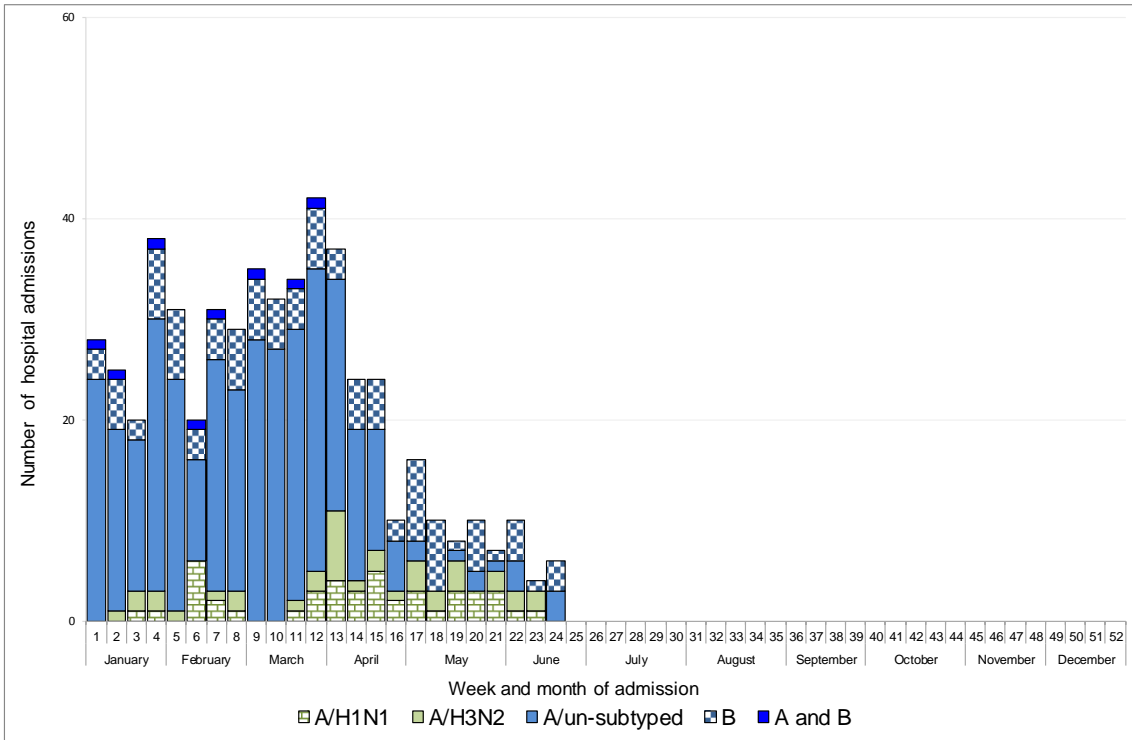


Figure 6 Laboratory confirmed influenza admissions of Queensland residents to Queensland public hospitals (n=531) by week, month, and influenza type/subtype, 1 January to 17 June 2018.

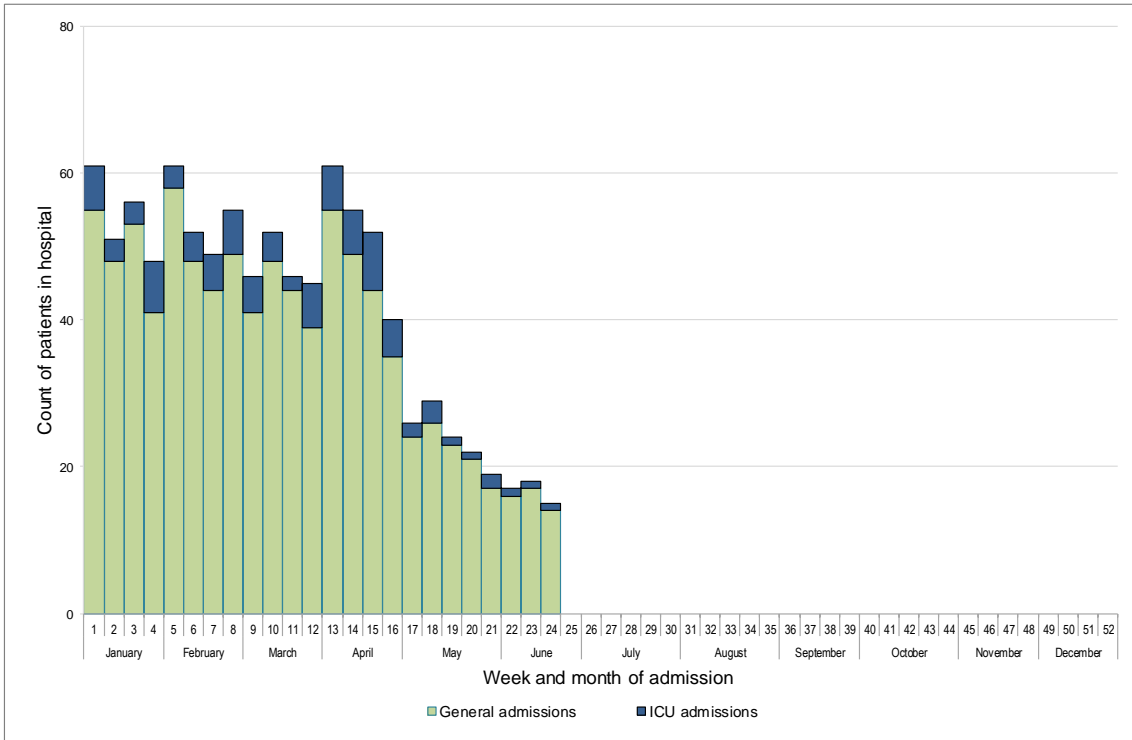


Figure 7 Beds occupied by patients with laboratory confirmed influenza in Queensland public hospitals by admission type, week and month, 1 January to 17 June 2018.

- Figure 8 shows the YTD age and sex distribution of hospitalisations.
 - Equal numbers of females and males have been hospitalised.
 - Mean and median ages were 51 and 59 years, respectively, with a range of younger than one month to 98 years.

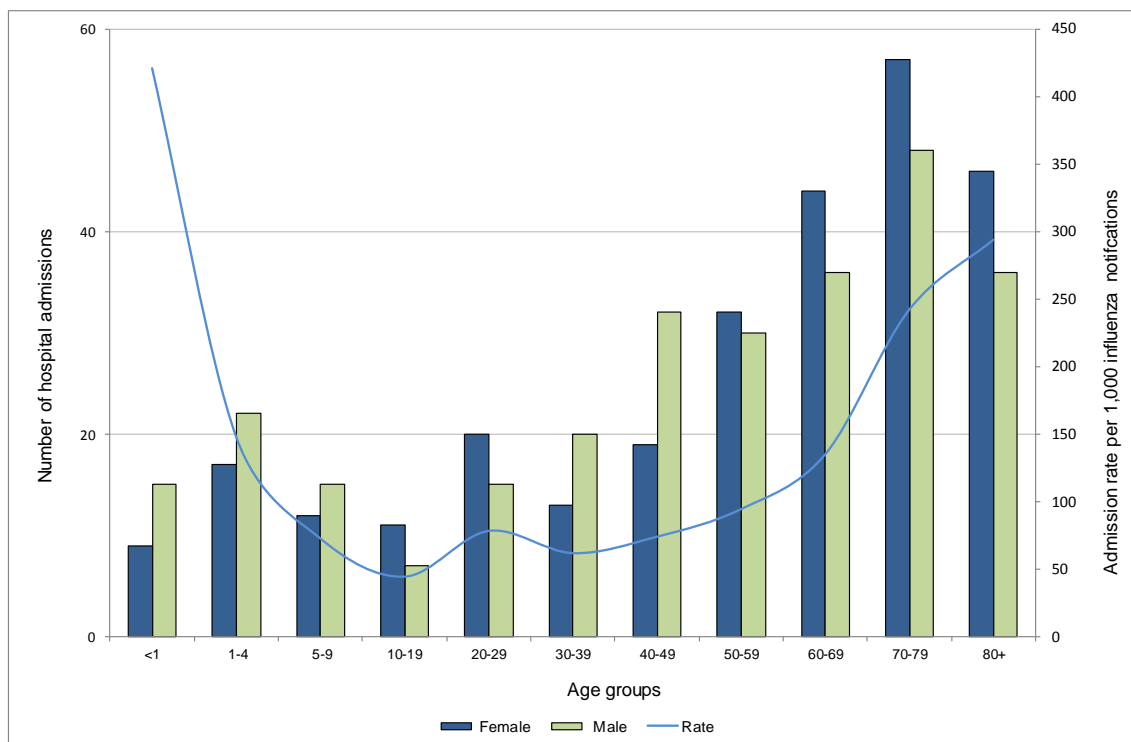


Figure 8 Laboratory confirmed influenza admissions to Queensland public hospitals, by age group and sex, and annual age specific admission rate per 1,000 notifications, 1 January to 17 June 2018.

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 17 June 2018.

Region	Hospital & Health Service	YTD notifications [^]	YTD hospital admissions [*]	YTD percentage of notifications hospitalised
Tropical	Torres and Cape	30	9	30.0%
	Cairns and Hinterland	365	43	11.8%
	North West	10	0	0.0%
	Townsville	472	51	10.8%
	Mackay	212	25	11.8%
Central	Central Queensland	178	13	7.3%
	Central West	8	1	12.5%
	Wide Bay	159	39	24.5%
	Sunshine Coast	439	45	10.3%
	Metro North	984	107	10.9%
Southern	Metro South	992	92	9.3%
	Darling Downs	142	13	9.2%
	West Moreton	159	16	10.1%
	South West	6	0	0.0%
	Gold Coast	583	92	15.8%
Total		4,739	546	11.5%

[^] Includes 31 overseas residents notified in Queensland

^{*} Includes 15 overseas visitors admitted to Queensland public hospitals

Note: A further 10 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.

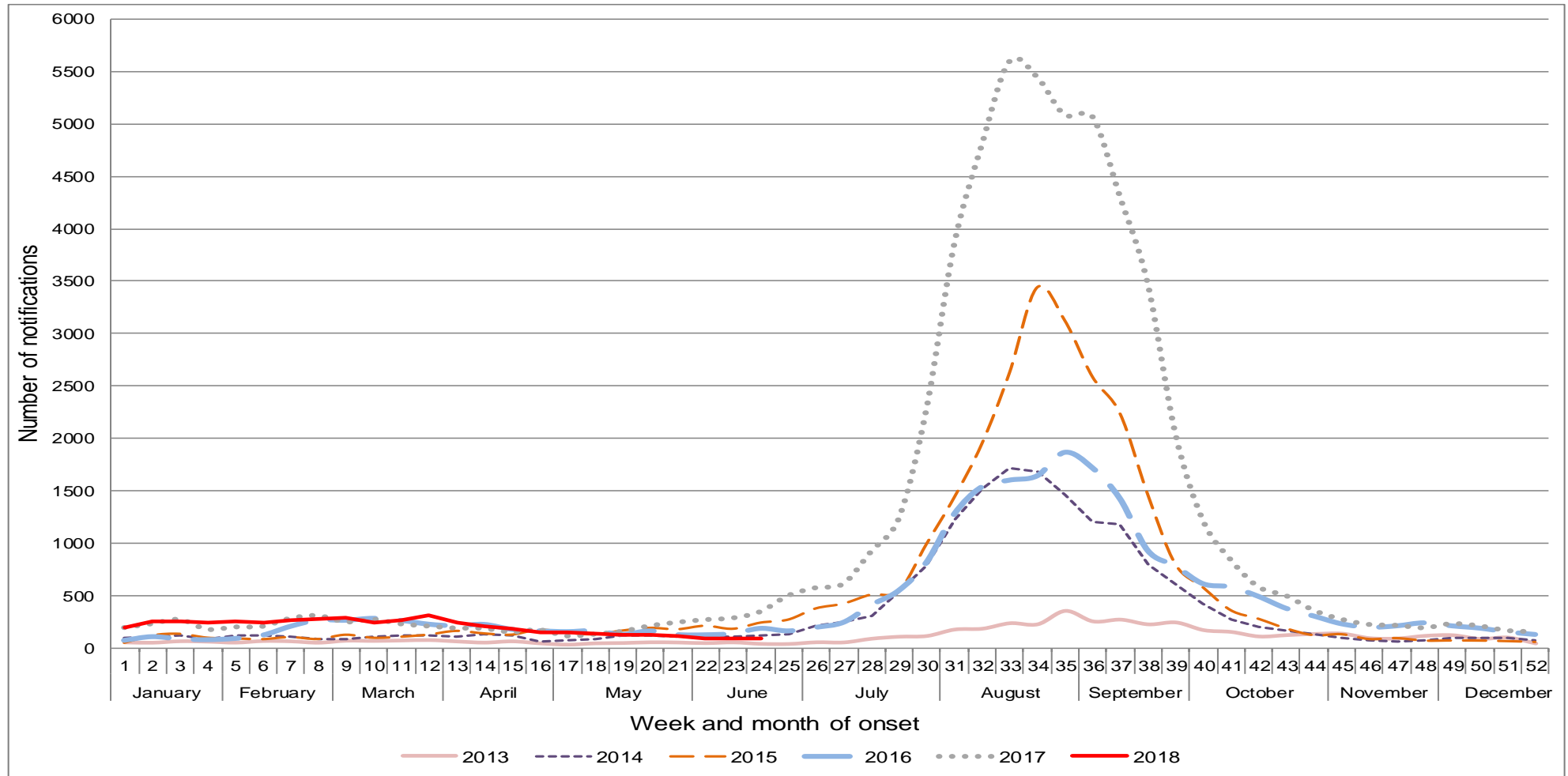
If you would like to find out more about FluTracking, or register to participate, please go to <http://www.flutracking.net/Info>

References

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2. National Notifiable Diseases Surveillance System. Summary Tables. Australian Government Department of Health.
<http://www9.health.gov.au/cda/source/cda-index.cfm>
3. Australia Bureau of Statistics, [Population by Age and Sex, Regions of Australia](#) (catalogue No. 3235.0), issued 28 September 2017.
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5. Excel (2016). Microsoft Corporation.
6. Microsoft Visual Studio (2015) version 12.02.21005.1 REL
7. RStudio Inc version 0.99.896

Appendices

Appendix 1: Laboratory confirmed influenza notifications in Queensland, by week of onset, 1 January 2013 to 17 June 2018.



Appendix 2: 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