Alaska State Virology Laboratory (ASVL) Weekly Report – Week #52
December 22 - 28, 2019

(This report was prepared by Jayme Parker, Public Health Microbiologist III at the Alaska State Virology Lab in Fairbanks, Alaska)

The Section of Epidemiology is the primary contact for consultation for the following potential active infections: rabies, norovirus, measles, mumps, rubella, varicella zoster, and novel influenza. Please direct your calls to the Epi-Team at 907-269-8000; or their 24 hour # 1-800-478-0084.

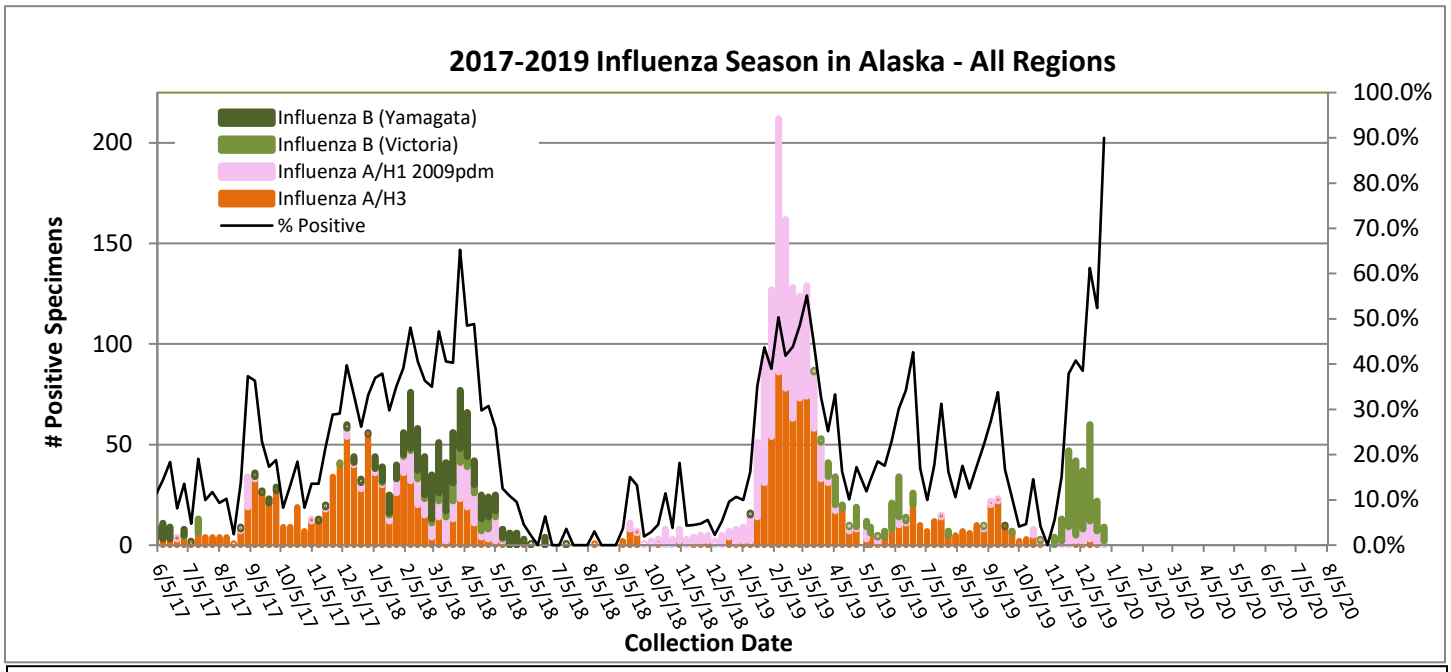
1. Influenza virus

PCR Testing for Week #2019-52 TP: true positive, FP: false positive, TN: true negative, FN: false negative. True = 2 tests concur, False = 2 tests do not concur Collection Date Range: 11/25/2019 – 12/22/2019		Corresponding Influenza Sentinel Providers Results								
		Rapid Influenza Test Results				PCR Test Results				No Data
ASVL PCR Results		TP	TN	FP	FN	TP	TN	FP	FN	
Influenza A/H1 2009 pdm Positive	11	2				9				
Influenza A/H3 Positive	4					4				
Influenza A (subtype pending)	1	1								
Influenza B Positive (Yamagata lineage)										
Influenza B Positive (Victoria lineage)	52	5				42			2	3
Influenza B (genotype pending)	2	2								
Influenza Negative	47		1	2			39	2		3
Total # Specimens Tested	**117**	**10**	**1**	**2**	**0**	**55**	**39**	**2**	**2**	**6**

Summary: Alaska influenza virus characterizations by Centers for Disease Control and Prevention (Specimens collected between 6/1/2019 – present)

	Antigenic Characterization		Genetic Characterization		Antiviral resistance	
2019-2020 Northern Hemisphere Vaccine Strain (by virus)	**# tested**	**Strain**	**# tested**	**Clades**	**# tested**	**Resistant/ Susceptible**
Influenza A/H3N2 viruses						
A/KANSAS/14/2017 (H3N2)-LIKE	10 3	A/SINGAPORE/INFIMH-16-0019/2016-LIKE A/KANSAS/14/2017-LIKE (H3N2)	21	3c.2a1	4	Susceptible
Influenza A/H1N1 viruses						
A/BRISBANE/02/2018 (H1N1)pdm09-LIKE	2 3	A/MICHIGAN/45/2015-LIKE (H1N1)pdm09 A/BRISBANE/02/2018-LIKE (H1N1)pdm09	5	6B.1A	2	Susceptible
Influenza B (Victoria lineage) viruses						
B/COLORADO/06/2017-LIKE	1 2	B/COLORADO/06/2017-LIKE B/COLORADO/06/2017-LIKE LOW*	6	V1A.3	3	Susceptible
Influenza B (Yamagata lineage) viruses						
B/PHUKET/3073/2013-LIKE	2	B/PHUKET/3073/2013-LIKE	2	Y3	1	Susceptible

*LOW: Viruses that are not as well inhibited by the vaccine antibody are designated as "LOW" when performing antigenic characterizations. For more information, visit the weekly U.S. influenza surveillance report at https://www.cdc.gov/flu/weekly/index.htm.



For recent specimens collected in week #52 (December 22 - 28, 2019): 9 of 10 respiratory specimens were positive for influenza (90% positive). Additional specimens from this collection date range are pending due to transit delays or further subtyping, thus percent positivity will adjust as specimen results become

2. Hepatitis C virus (HCV)

For recommendations on types of Hepatitis C testing, test interpretation and post-test patient counseling:

- CDC MMWR: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6104a1.htm
- 5/27/15 AK Epidemiology Bulletin: http://www.epi.alaska.gov/bulletins/docs/b2015_11.pdf

HCV Antibody screening	Total Tested	Total Positive (%)
Week #2019-52	68	19 (27.9%)
Last 12 month period	6,186	1,031 (16.7%)
HCV RNA testing		
Week #2019-52	19	13 (68.4%)
Last 12 month period	1,024	700 (68.4%)

HCV Genotyping	Total Tested	Type 1a	Type 1b	Type 2a/c	Type 2b	Type 3	Type 4	Type 6	Unable to Genotype
Week #2019-52	13	8			1	4			
Last 12 month period*	700	448 (64.0%)	15 (2.1%)	3 (0.4%)	74 (10.6%)	145 (20.7%)	4 (0.6%)	0 (0.0%)	11 (1.6%)

*HCV genotyping data includes 7 coinfections (2 specimens with subtypes 1a & 3, 3 specimens with subtypes 1a & 1b, 1 specimen with subtypes 1a and 2b, and 1 specimen with types 1 & 4)

3. Human Immunodeficiency virus (HIV)

HIV antigen/antibody combination screening	Total Tested	Total Confirmed Positive
Week #2019-52	57	0 (0.00%)
Last 12 month period	7,977	14 (0.18%)

4. Norovirus Outbreaks

- No new outbreaks to report.

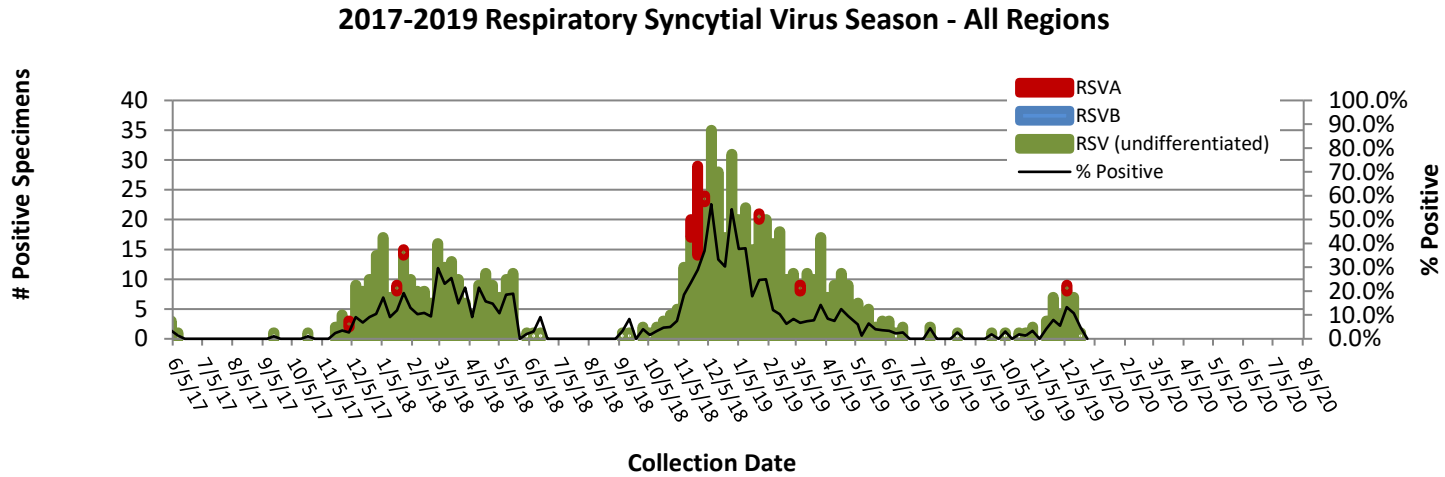
5. Rabies virus - Human Exposures

- No new cases to report.

6. Respiratory Syncytial Virus (RSV)

*Surveillance of RSV using a PCR assay that does not differentiate groups A from B began 2/27/2017. Seasons are calculated from October 1 – September 30.

PCR testing	Total Tested	Total Positives (% pos)	Total Positive RSV A (% of pos)	Total Positive RSV B (% of pos)	Total Positive (RSV undifferentiated)* (% of pos)
Week #2019-52	125	8 (6.4%)	0 (0.0%)	0 (0.0%)	8 (100.0%)
Season 2019-2020 (current)	718	36 (5.0%)	1 (2.8%)	0 (0.0%)	35 (97.2%)
Season 2018-2019	3,973	474 (11.9%)	21 (4.4%)	0 (0.0%)	453 (95.6%)
Season 2017-2018	2,952	256 (8.7%)	3 (1.2%)	0 (0.0%)	253 (98.8%)
Season 2016-2017	5,550	383 (6.9%)	108 (28.2%)	158 (41.3%)	117 (30.5%)



For recent specimens collected in week #52 (December 22 - 28, 2019): 0 of 1 respiratory specimens were positive for RSV (0.0% positive). Additional specimens from this collection date range are pending due to transit delays, thus percent positivity will adjust as specimen results become available.

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7. Respiratory Pathogen Panel Summary – by Region

Numbers reflect the total positives detected within a particular time period. Surveillance for respiratory pathogens was reduced in 2017, hence lower numbers for pathogens other than influenza and RSV after that time. Current respiratory season is 10/1/2018 – 9/30/2019. NT = Not tested

	Influenza A/H3	Influenza A/H1pdm09	Influenza A (subtype pending)	Influenza B (Yamagata)	Influenza B (Victoria)	Influenza B (genotype pending)	RSV A	RSV B	RSV (undifferentiated)	Rhino/Enterovirus	Metapneumovirus	Parainfluenza 1	Parainfluenza 2	Parainfluenza 3	Parainfluenza 4	Adenovirus	Coronavirus 229E	Coronavirus NL63	Coronavirus HKU1	Coronavirus OC43	Human Bocavirus	*Chlamydophila pneumoniae*	*Mycoplasma pneumoniae*	**Total Specimens Tested**
All Regions																								
Week #2019-52	4	11	1		52	2			8															**117**
Season 2019-20 (current)	18	42		0	190		1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	**931**
Season 2018-19	865	698		2	92		21	0	453	15	0	0	1	1	3	0	2	0	0	2	2	0	2	**5,768**
Season 2017-18	647	179		322	60		2	0	245	23	5	1	0	1	1	1	2	3	0	0	3	1	0	**4,442**
Season 2016-17	946	22		262	15		109	158	125	197	77	9	32	136	31	140	79	3	0	175	1	1	0	**5,864**
Anchorage/MatSu Region																								
Week #2019-52	3	5	1		22	1			2															**46**
Season 2019-20 (current)	7	13		0	60		1	0	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	**379**

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Season 2018-19	310	249		1	11		1	0	82	12	0	0	1	1	1	2	0	0	0	2	2	0	2	**2,102**
Season 2017-18	246	82		82	34		1	0	62	9	1	1	0	0	0	2	0	2	0	0	1	0	0	**1,702**
Season 2016-17	317	1		49	2		53	24	35	70	52	0	11	37	14	21	32	1	0	64	1	1	0	**2,178**
Gulf Coast Region																								
Week #2019-52	1				5	1			5															**17**
Season 2019-20 (current)	2	1		0	15		0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**142**
Season 2018-19	66	109		0	6		0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**740**
Season 2017-18	49	28		79	4		0	0	48	3	0	0	0	0	0	0	2	0	0	0	0	0	0	**810**
Season 2016-17	109	2		43	1		12	16	18	9	1	7	5	19	7	2	14	0	0	19	0	0	0	**853**
Interior Region																								
Week #2019-52		4			2																			**15**
Season 2019-20 (current)	3	22		0	23		0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**211**
Season 2018-19	286	123		0	33		19	0	144	2	0	0	0	0	2	1	2	0	0	0	0	0	0	**1,326**

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Season 2017-18	189	27		112	16		0	0	58	9	4	0	0	1	1	0	0	1	0	0	2	0	0	**933**
Season 2016-17	269	1		44	4		19	65	43	51	19	0	8	44	2	36	16	2	0	42	0	0	0	**1,298**
Northern Region																								
Week #2019-52					3																			**4**
Season 2019-20 (current)	0	1		0	58		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**77**
Season 2018-19	49	20		0	0		0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**165**
Season 2017-18	19	0		3	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**35**
Season 2016-17	4	17		4	0		4	1	4	0	0	0	0	0	0	2	0	0	0	1	0	0	0	**32**
Southeast Region																								
Week #2019-52					6																			**10**
Season 2019-20 (current)	6	2		0	20		0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**94**
Season 2018-19	130	134		1	0		0	0	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**950**

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Season 2017-18	120	11		15	1		0	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**648**
Season 2016-17	195	1		114	8		18	49	12	37	2	2	5	17	7	69	11	0	0	33	0	0	0	**1,235**
Southwest Region																								
Week #2019-52		2			14				1															**25**
Season 2019-20 (current)	0	3		0	14		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**28**
Season 2018-19	24	63		0	42		1	0	86	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**485**
Season 2017-18	24	31		31	4		1	0	39	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**314**
Season 2016-17	52	0		8	0		3	3	13	15	3	0	3	19	1	6	6	0	0	16	0	0	0	**268**