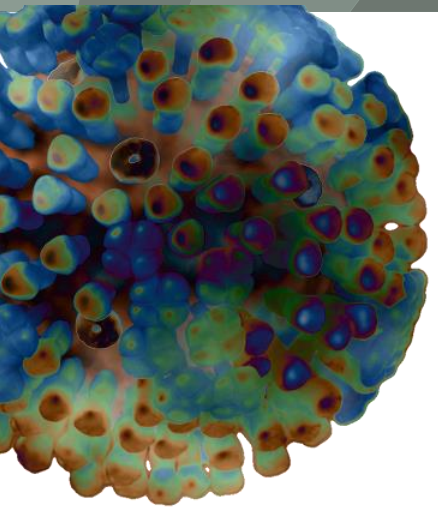
Optional Influenza Surveillance Enhancements

Influenza Surveillance Coordinator Workshop

- National Perspective
- Participating State Perspectives
- Panel Discussion

Q&A Session – June 4, 1-2pm, Convention Center Rm. 205

- Who: Current/Potential Future Participants and CDC
- What: Time for informal discussion/Q&A
- When/Where – Tuesday, June 4, 1-2pm, Convention Center Rm. 205



Optional Influenza Surveillance Enhancements: National Perspective

National Meeting of Influenza Surveillance Coordinators

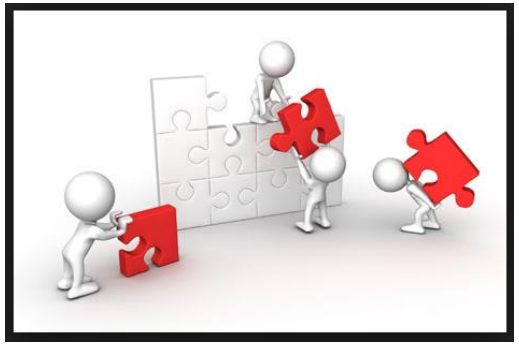
2019 CSTE Annual Conference

June 2, 2019

Priority Surveillance Gaps

- Influenza attributable proportion of influenza-like illness (ILI)
- Ability to identify specimens coming from inpatient or outpatient settings
- Outpatient ILI rates

Effort to Address the Gaps: 2018-2019

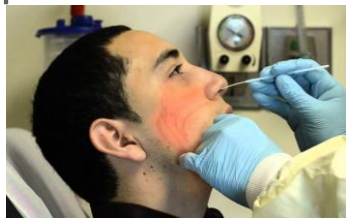


- Optional Influenza Surveillance Enhancements (OISE)
  - CSTE Funding Opportunity Announcement (FOA)
  - Builds on past efforts/lessons learned, but invites new ideas
  - **Incorporates additional data into routine surveillance**

- Funding for 3 activities that address the priority surveillance gaps
  - Sites may apply for any one or more of the activities

Activity A: Systematic Sampling of ILI Patients

- Objective: determine the proportion of ILI patients that are positive for influenza
- Activity
  - Subset of ILINet providers (existing or new)
    - Collect specimens from a sample of patients meeting the ILI case definition.
    - Submit weekly reports of number of ILI and total patients seen **by age group**.
  - Test for influenza at the public health laboratory (PHL).
  - Identify specimens as belonging to this activity and report this information to CDC.
    - Can be done via PHLIP or upload spreadsheet via SAMS.
  - Consider prioritizing these specimens for submission to the National Influenza Reference Center (NIRC).



Activity B: Level of Care Associated with Patients Tested for Influenza

- Objective: analyze differences in severity of illness associated with different virus characteristics
- Activity
  - Report to CDC the level of care (outpatient, inpatient) associated with specimens tested at the PHL.

    - Level of care is proxy for illness severity – report level itself or program with a single level of care.
    - Does not have to be for all specimens.
    - Source of specimens is up to the state.
    - Level of care at the time of specimen collection (follow-up not required).
  - Prioritize these specimens for submission to the NIRC.

Activity A & B: Specimen Level Data Reporting

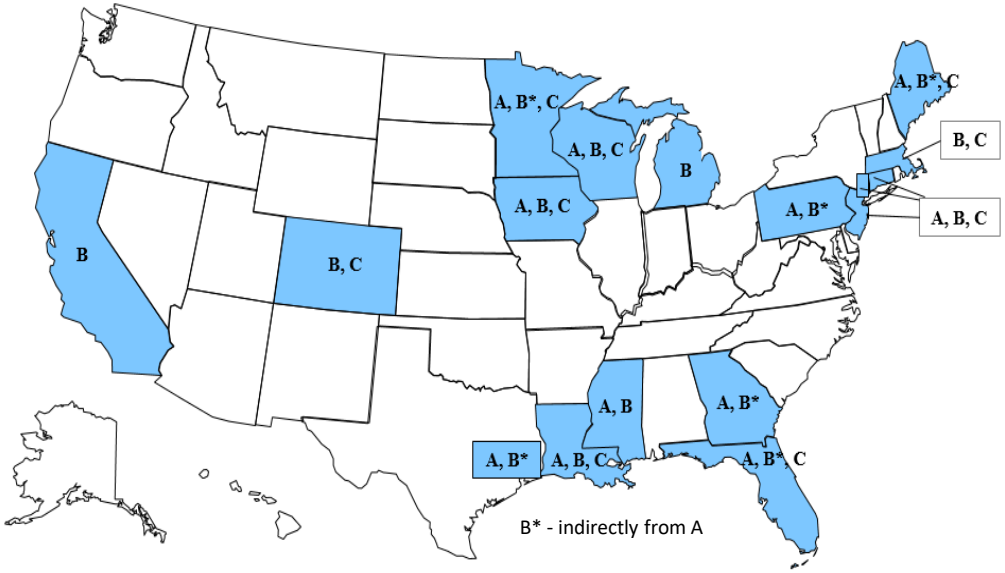
- PHLIP or SAMS
- Required
  - ILINet study indicator and provider ID (A only)
  - Patient location (inpt/outpt) or identification of program with known level of care (B only)
  - Specimen ID
  - Specimen collection date
  - Patient date of birth (preferred, age is acceptable)
  - Influenza test results
- Optional
  - Non-influenza respiratory virus test results
  - Specimen type
  - Onset date
  - Influenza vaccination status
  - Pregnancy status

Activity C: Enumerate Population Served

- Objective: estimate population based rates of ILI
- Activity
  - Estimate the population served (by age group) by ILINet providers.
    - Subset ILINet providers (existing or new).
    - Must report weekly ILI and total patient visits by age group.
  - Methods
    - Total number of patients registered with the provider.
    - Average number of unique persons who saw the provider in a given year (using 3 years of data).
    - Other alternatives welcomed
  - Conducted once a season (maybe less)

Funded Sites, 2018-2019

- 17 jurisdictions funded
  - 9 participated in at least one season of a precursor program



Activity	Funded	Currently Reporting Usable Data
Activity A (Systematic Sampling)	13	9 (PHLIP - 6, SAMS - 3)
Activity B Inpatient/Outpatient)	17*	13 (PHLIP - 10, SAMS - 3)
Activity C (Population Served)	11	9

* 10 directly funded for Activity B; getting data indirectly from Activity A for 7

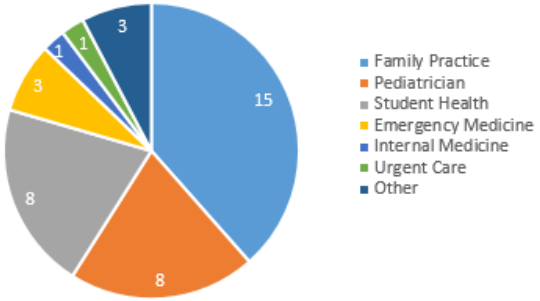
2018-2019 - Preliminary Data*

* Data through week ending 5/11/19, received as of 5/15/19

Activity A – Systematic Sampling to Determine Influenza Attributable ILI

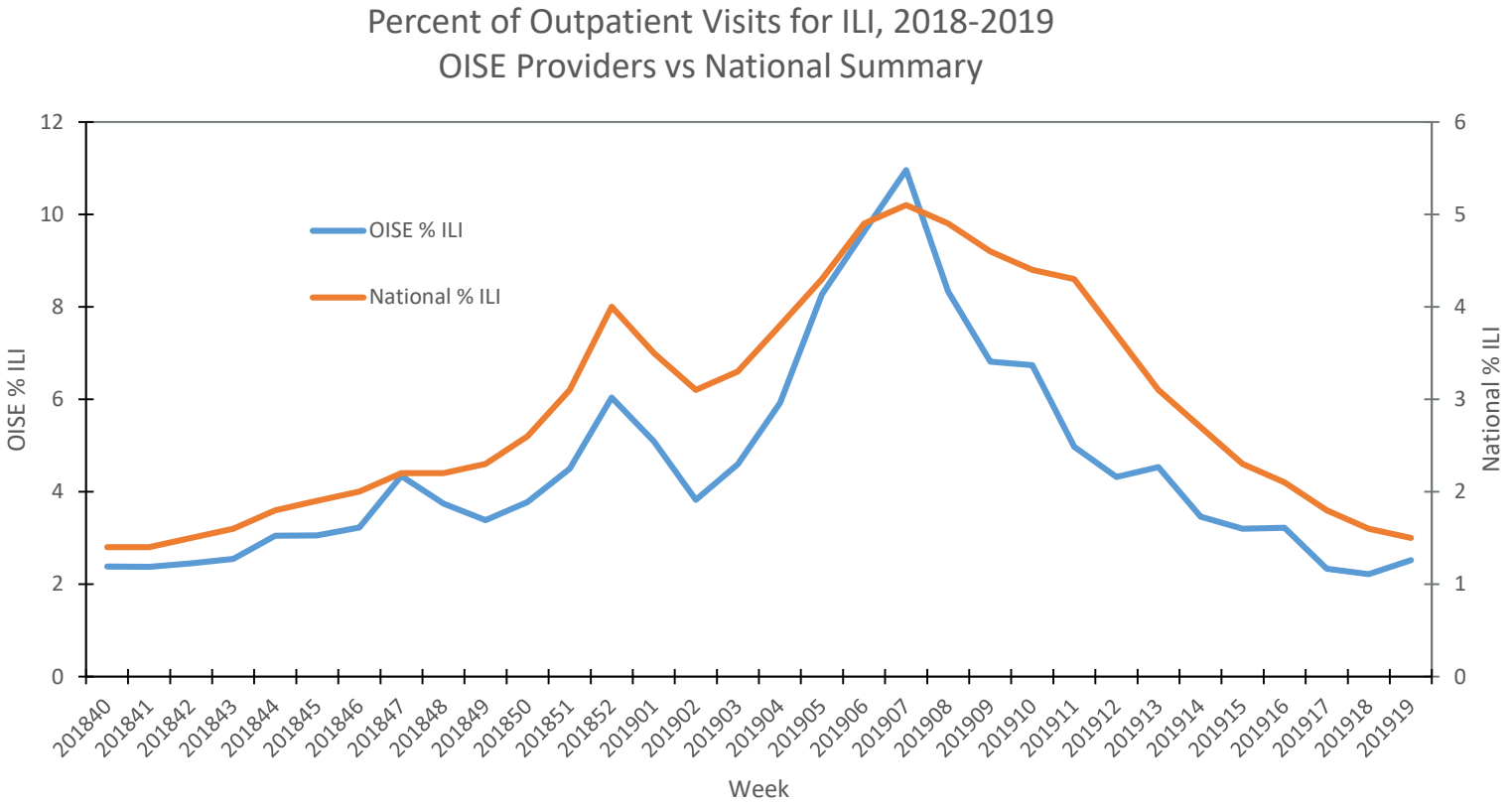
Activity A – Systematic Sampling

- 9 jurisdictions currently reporting usable data
- Providers
  - 39 enrolled
    - Per jurisdiction: 3 - 7 (most commonly 4)
  - 28 (72%) reported ILI at least 30 of 32 weeks
    - 35 (90%) reported at least half the possible weeks
- Specimens
  - CDC received data on 3,816 specimens
    - Per jurisdiction: 156 – 1,327 (average: 424)
    - Age distribution



	0-4 yrs	5-24 yrs	25-49 yrs	50-64 yrs	65+ yrs
No. of specimens (%)	643 (17%)	2356 (62%)	504 (13%)	199 (5%)	114 (3%)

Activity A – Systematic Sampling



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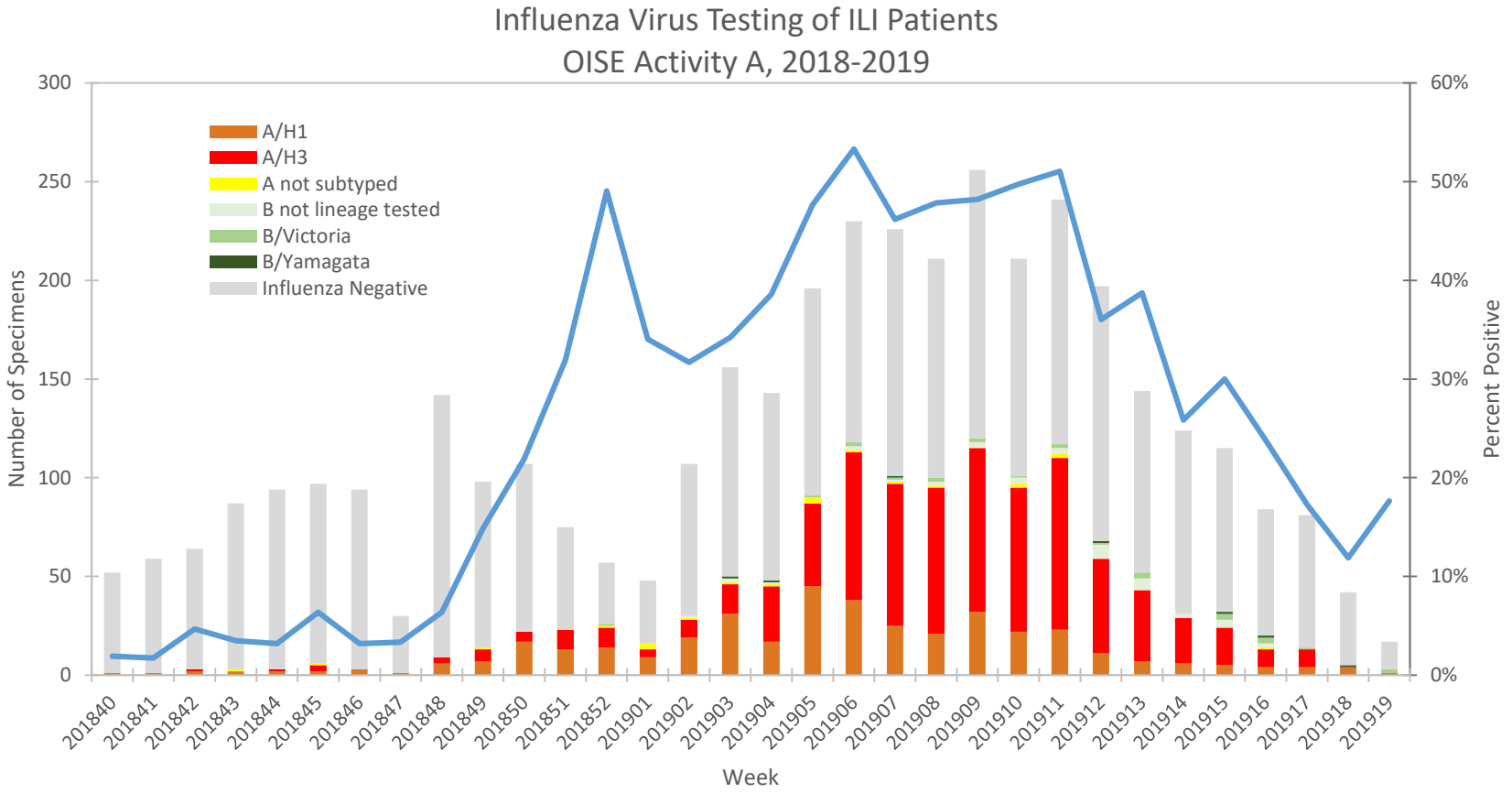

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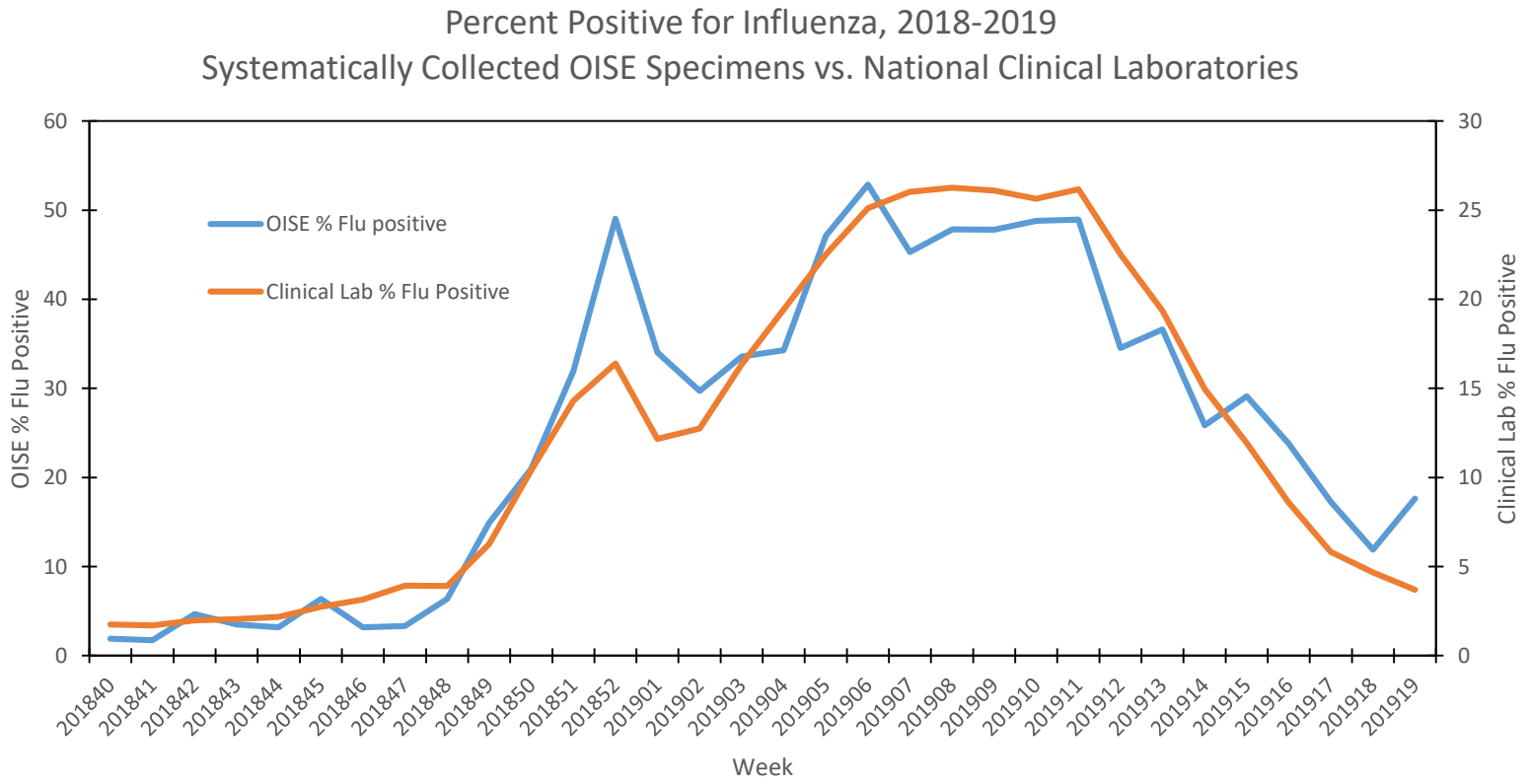

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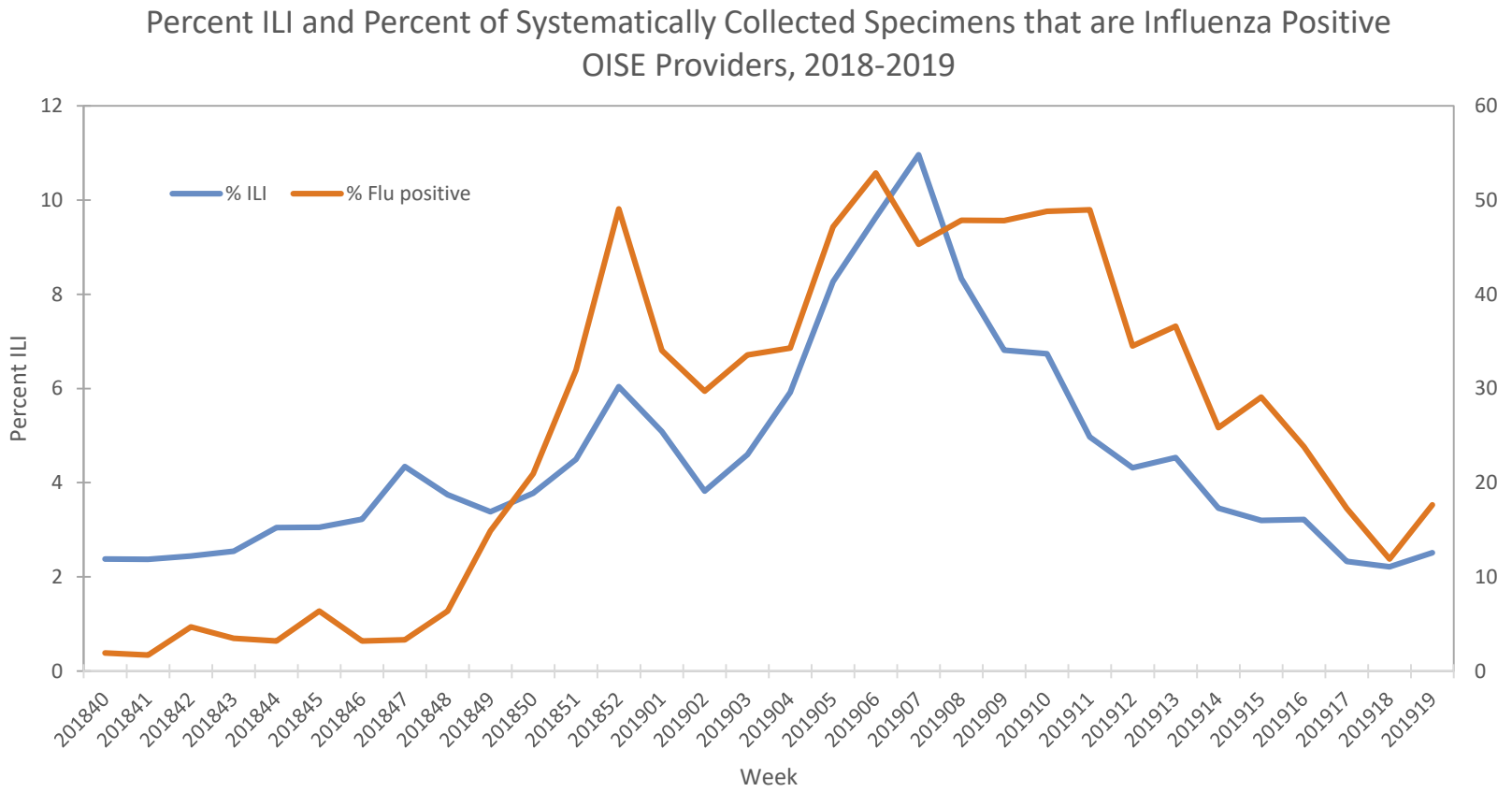

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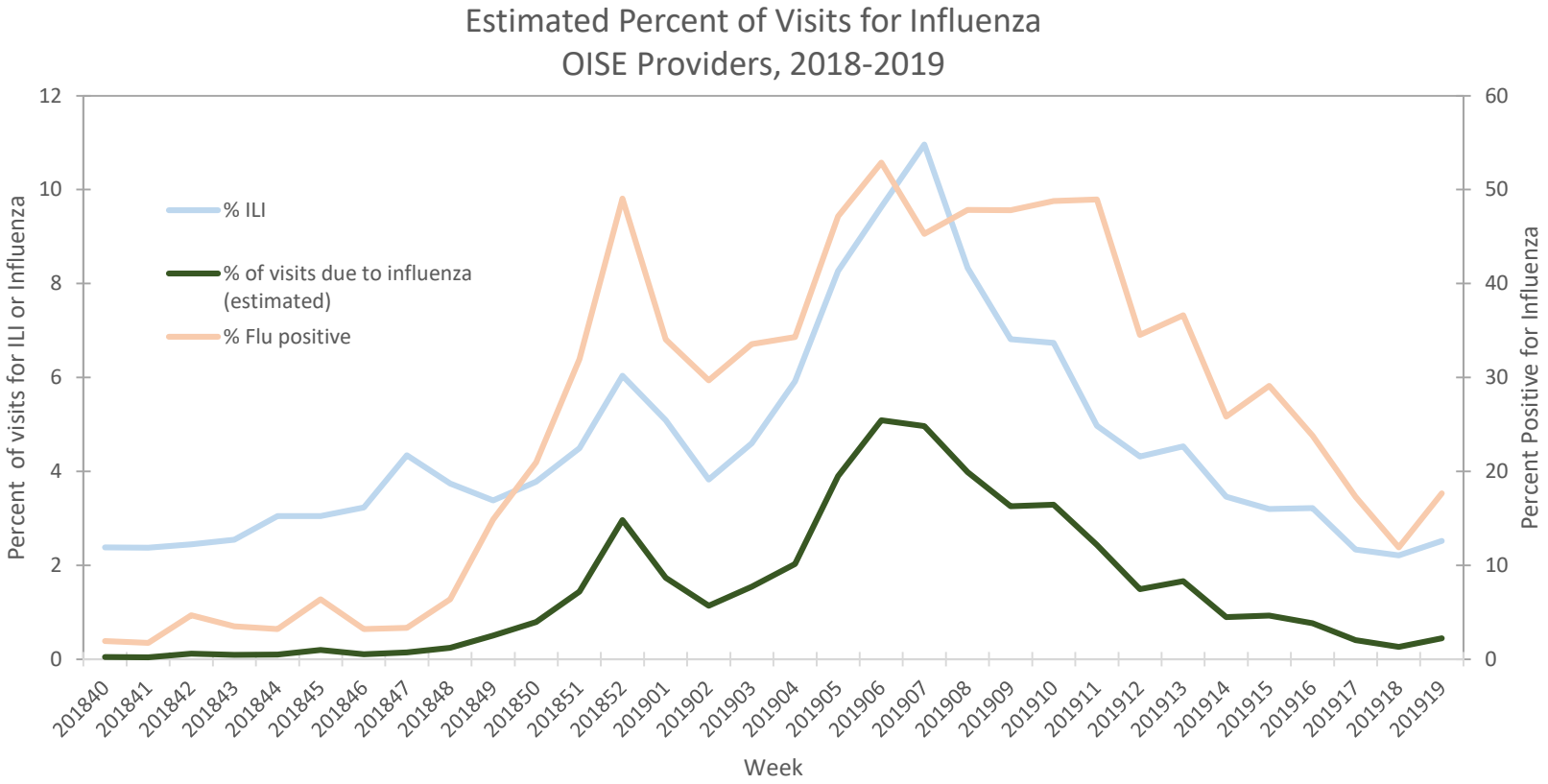
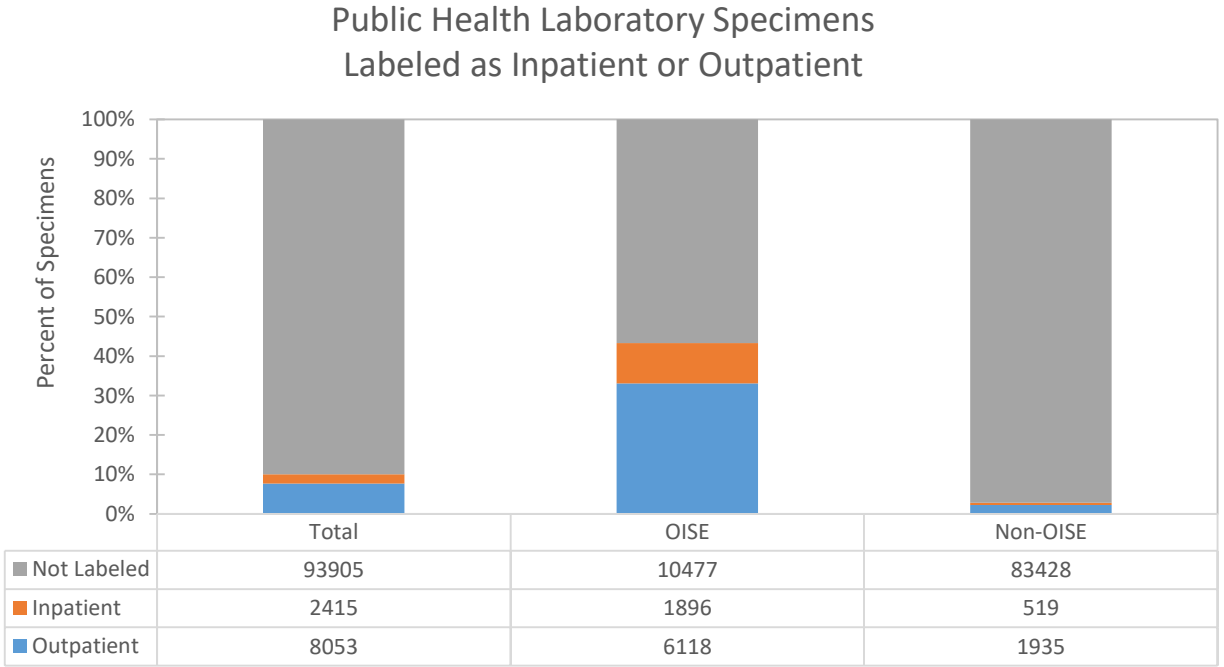


Activity B – Patient Setting as a Proxy for Influenza Severity

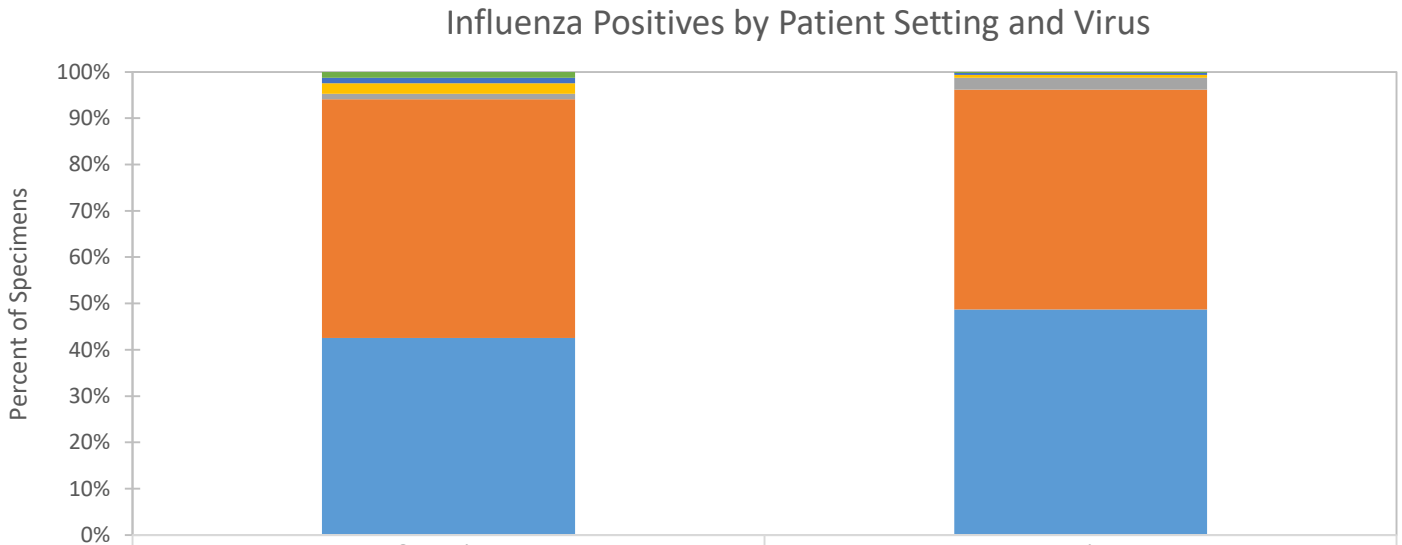
Activity B – Inpatient/Outpatient

- 13 funded jurisdictions currently reporting usable data
  - 13 additional jurisdictions with some labeled specimens



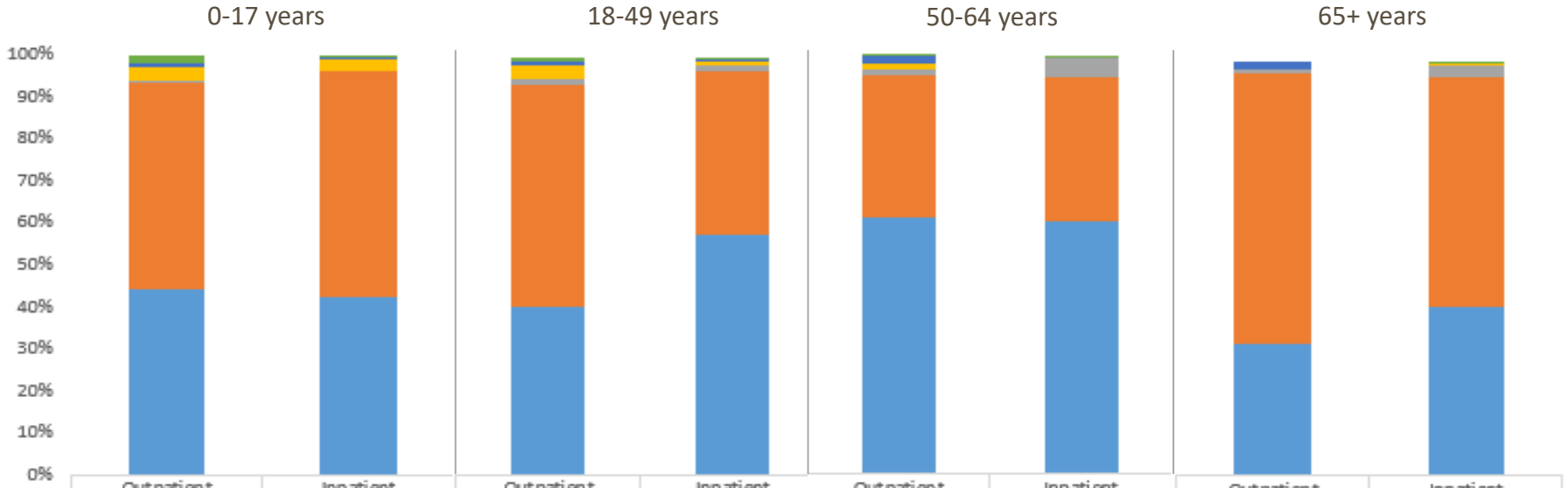
	Total	OISE	Non-OISE
Not Labeled	93905	10477	83428
Inpatient	2415	1896	519
Outpatient	8053	6118	1935

Activity B – Inpatient/Outpatient



	Outpatient	Inpatient
B not lineaged	49	3
B/Yam	43	5
B/Vic	88	8
A not subtyped	46	32
A/H3	1960	593
A/H1pdm09	1621	608

Activity B – Inpatient/Outpatient



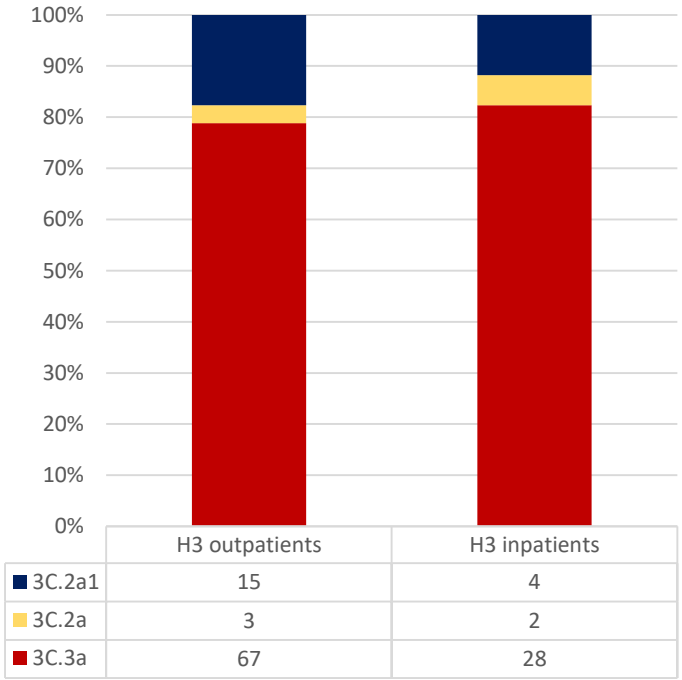
	0-17		18-49		50-64		65+	
	Outpatient	Inpatient	Outpatient	Inpatient	Outpatient	Inpatient	Outpatient	Inpatient
B not lineaged	32	1	15	1	1	1	0	1
B/Yam	16	1	13	1	6	1	7	2
B/Vic	45	5	47	2	5	0	1	1
A not subtyped	12	0	25	3	4	13	5	16
A/H3	762	95	789	84	120	100	302	323
A/H1pdm09	682	75	601	123	217	174	148	235

Activity B – Inpatient/Outpatient

- Linking specimens with location data (proxy for severity) and antigenic/genetic characterization data
  - Genetic: 269 specimens (201 outpatient, 68 inpatient)
  - Antigenic: 121 specimens (91 outpatient, 30 inpatient)

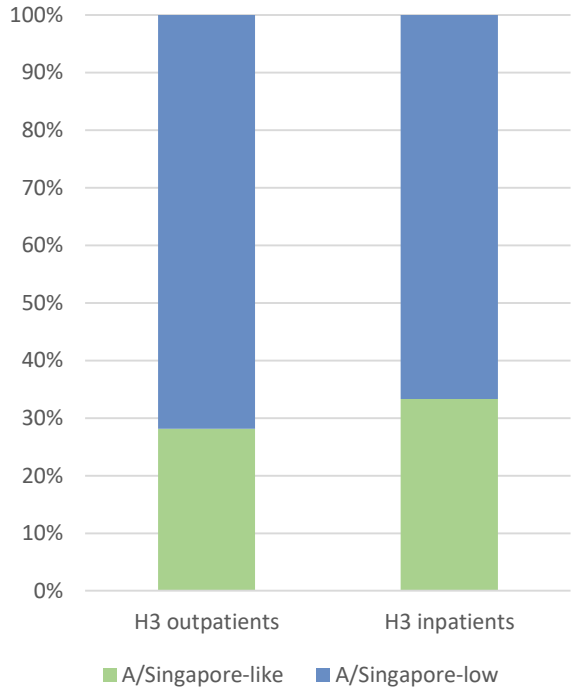
Activity B – Inpatient/Outpatient, Genetic Data

	Outpatient	Inpatient
A/H1 - 6B.1	69	31
A/H3 - 3C.2a	3	2
A/H3 - 3C.2a1	15	4
A/H3 - 3C.3	67	28
B/Victoria - V1A.1	18	1
B/Victoria - V1A-3del	14	0
B/Yamagata - Y3	15	2



Activity B – Inpatient/Outpatient, Antigenic Data

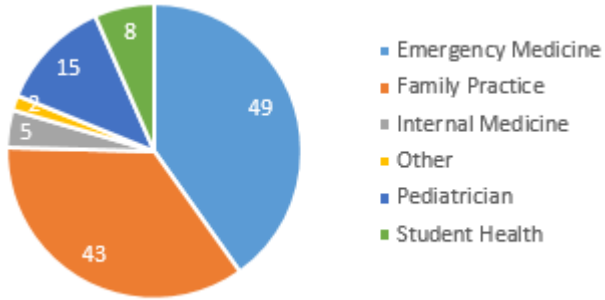
	Outpatient	Inpatient
A/MICHIGAN/45/2015-**LIKE** (H1N1)pdm09	19	9
A/MICHIGAN/45/2015-**LOW** (H1N1)pdm09	0	1
A/SINGAPORE/INFIMH-16-0019/2016-**LIKE** (H3N2) BY FRA	9	6
A/SINGAPORE/INFIMH-16-0019/2016-**LOW** (H3N2) BY FRA	23	12
B/COLORADO/06/2017-**LIKE**	19	0
B/COLORADO/06/2017-**LOW**	7	0
B/PHUKET/3073/2013-**LIKE**	14	2
B/PHUKET/3073/2013-**LOW**	0	0



Activity C – ILI Rates

Activity C – Population Served

- 9 jurisdictions currently reporting usable data
- Providers
  - 122 providers with population data
    - Per jurisdiction: 3 - 48 (2 jurisdictions 40+, rest between 3 and 8)
  - 113 (93%) reported ILI at least 30 of 32 weeks
    - 116 (95%) reported at least half the possible weeks



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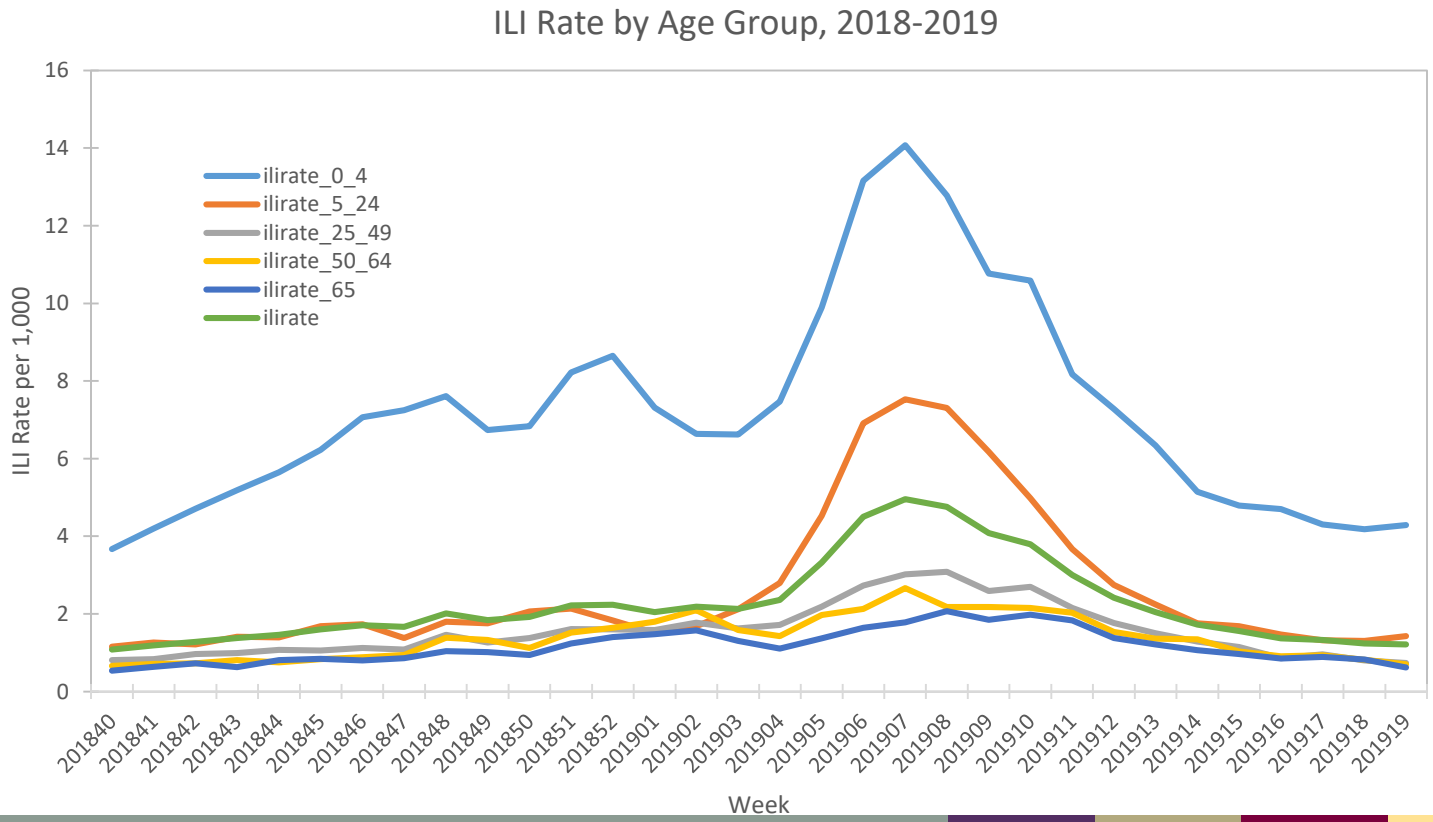

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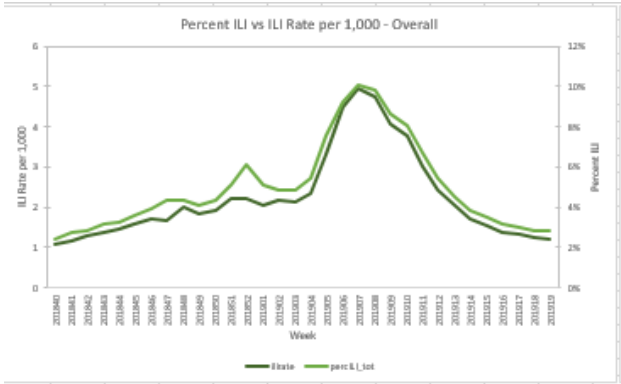
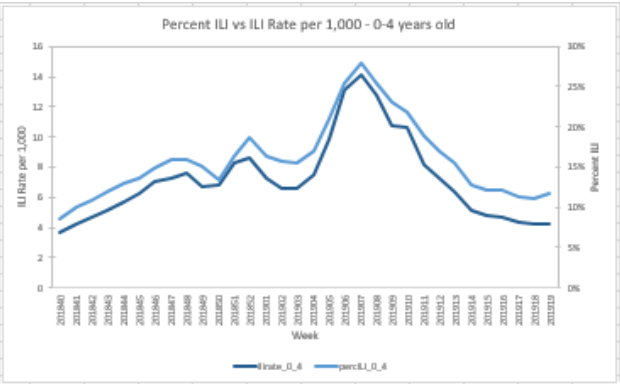
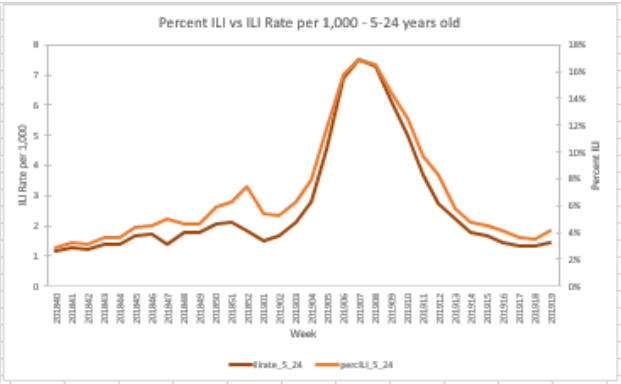
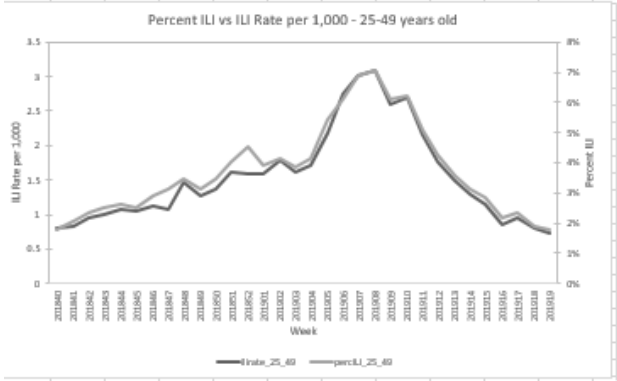
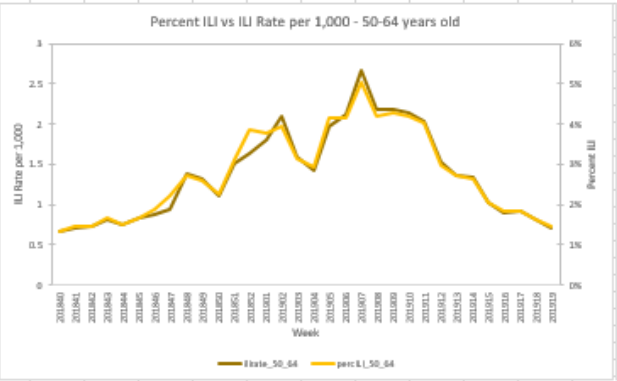
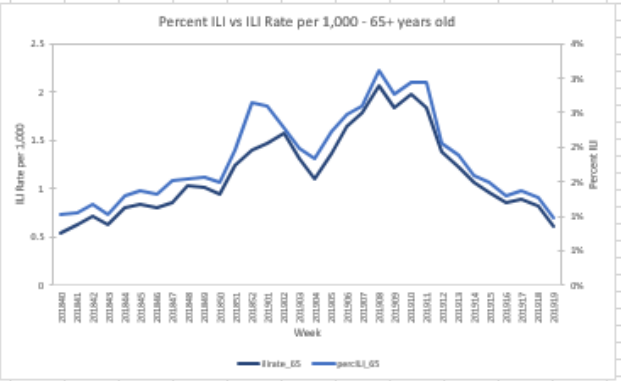












Next Steps

Next Steps

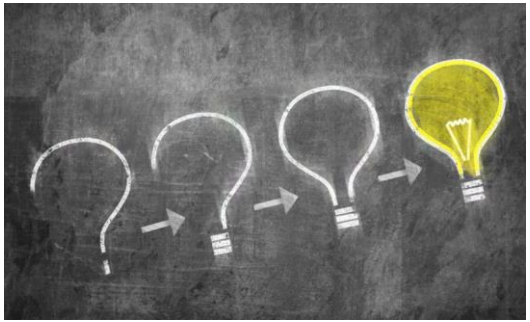
- 2018-2019 data analysis
  - Include data from remaining 2018-19 funded jurisdictions
  - Complete linking with virus characterization data
  - Explore respiratory virus panel data
  - Analyze data by smaller age groups and/or birth cohorts
- 2019-2020
  - Kick-off – earlier than last season thanks to ELC timelines
  - Update our data processing to allow weekly analysis of data
    - Share with participating sites and internally
  - Pilot use of data in burden estimates

Questions?

- Clarifying – now
- Broader/Conceptual – panel
- Informal discussion/Q&A

Tuesday, June 4, 1pm

Convention Center, Rm 205



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov