

The importance of influenza prevention for public health (12-11-2020)

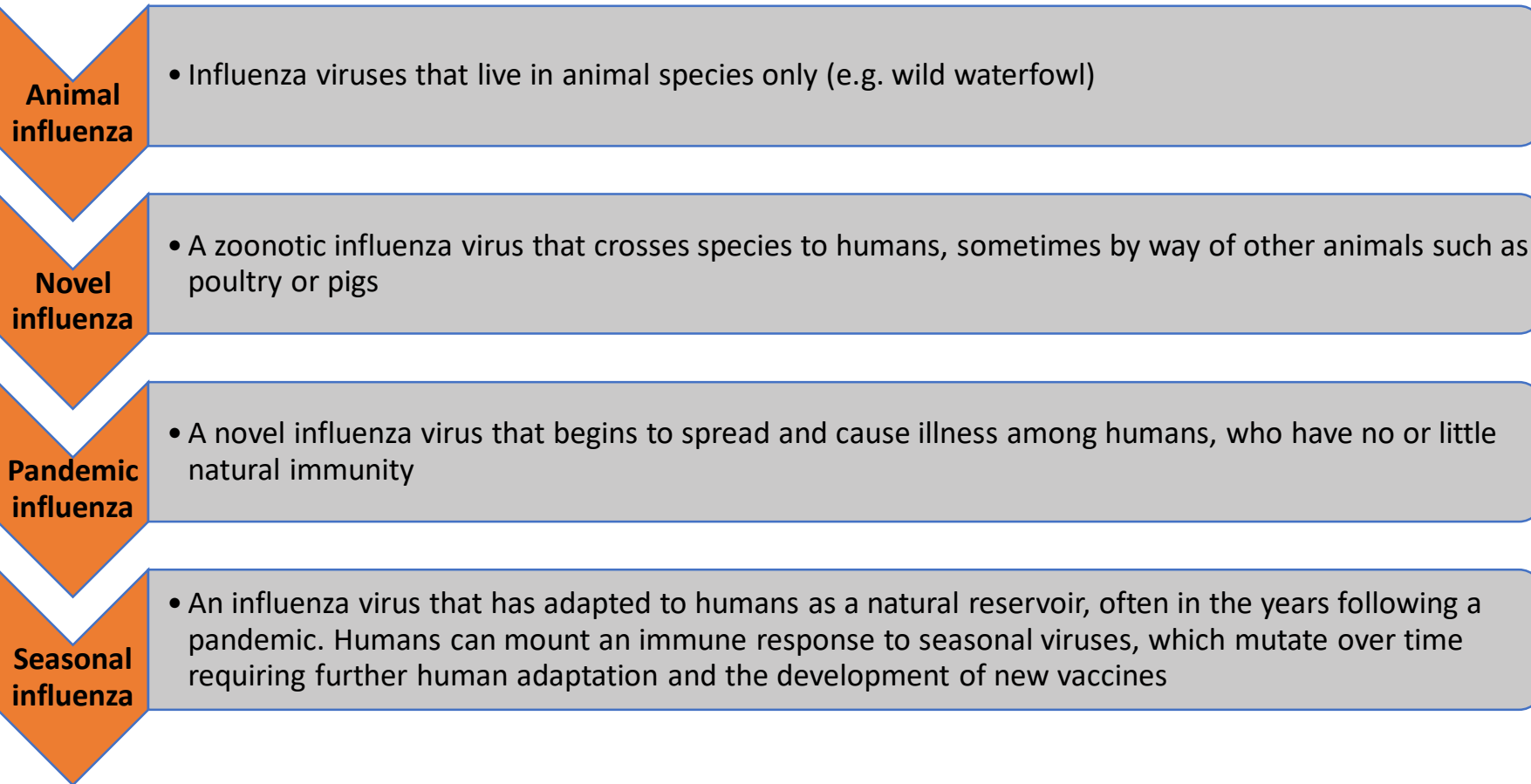
Dr. Khin Khin Gyi
Director
Central Epidemiology Unit



Influenza

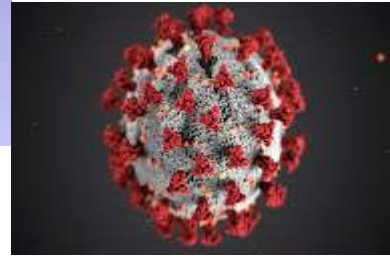
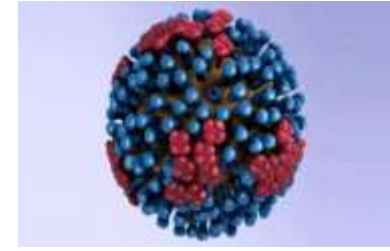


Influenza comes in many forms...



- Capacities that support the monitoring, prevention, and control of seasonal and novel influenza enhance pandemic influenza response capacities

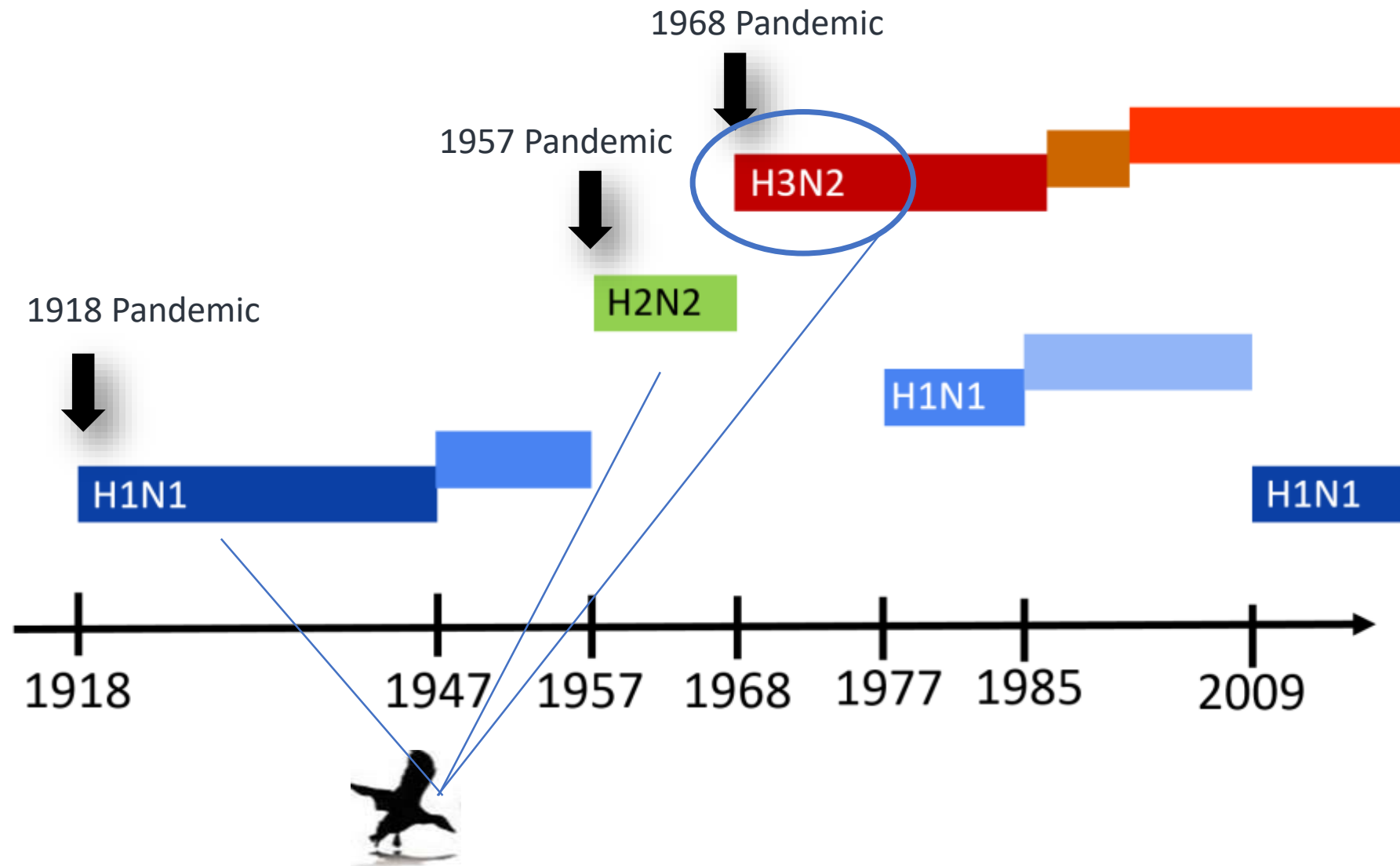
Background of Influenza and SARS-CoV-2



- Influenza and SARS-CoV-2 are respiratory pathogens with similar modes of transmission.
- The two infections often have similar clinical presentation, with the exception of loss of taste and smell, which seems more specific to, although not exclusively associated with, COVID-19.
- WHO said that dramatic reduction in influenza detections during the 2020 Southern Hemisphere influenza season, as compared to previous years, may have resulted from public health and social measures (PHSM) and travel restrictions put in place for COVID-19.
- But, still risk (+) if PHSM are lifted, influenza transmission could increase, leading to potential co-circulation of influenza and SARS-CoV-2 creating an additional burden on vulnerable populations and health system



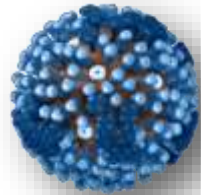
Influenza A Viruses Since 1918



All three have hemagglutinin genes of avian origin

Influenza Rapid Risk Assessments – What data are needed?

- *Ten elements of the virus, population, and animal/human ecology are evaluated to develop a score*



Virus

1. **Genomic variation**
2. **Receptor binding**
3. **Transmission in Laboratory animals**
4. **Antivirals and Treatment Options**



Population

5. **Existing Population Immunity**
6. **Disease Severity and Pathogenesis**
7. **Antigenic Relationship to Vaccine Candidates**

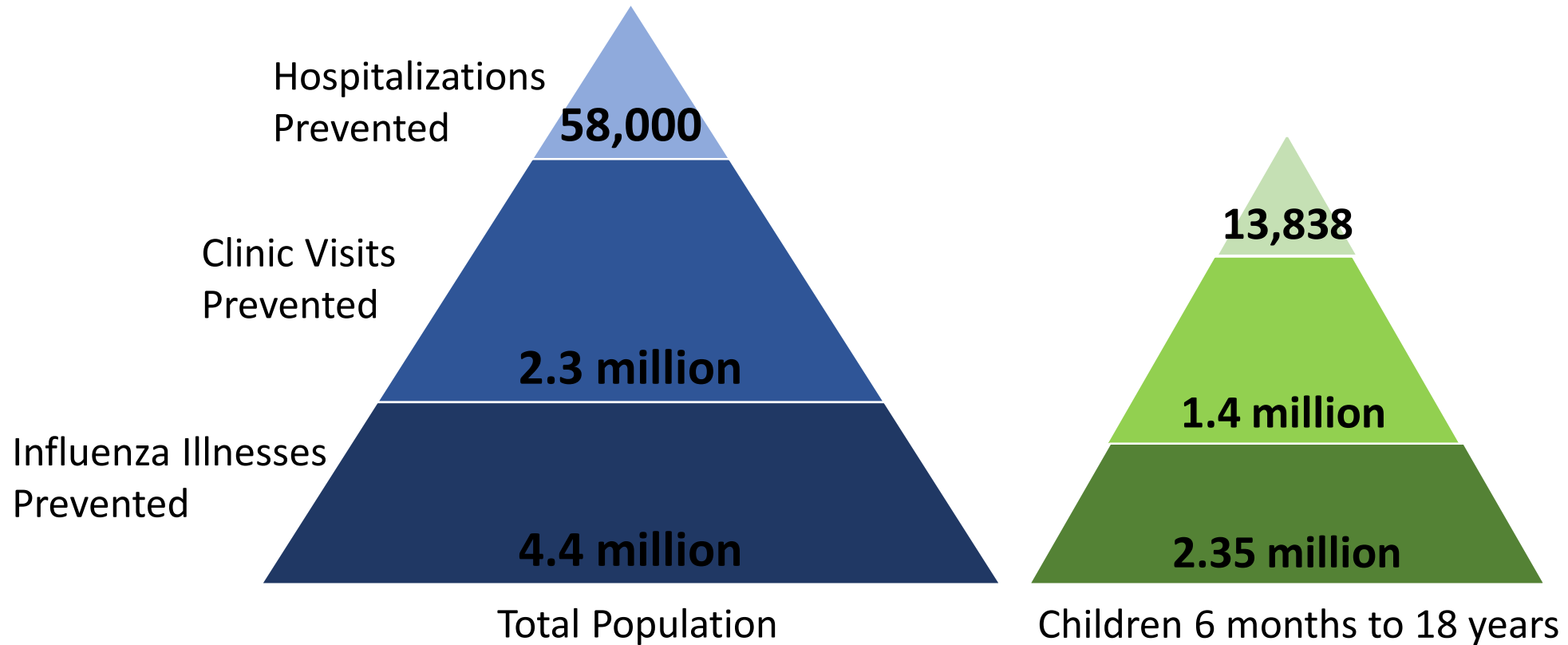


Ecology

8. **Global Geographic Distribution**
9. **Infection in Animals, Human Risk of Infection**
10. **Human Infections and Transmission**

Vaccine programs can save lives every year and in pandemics

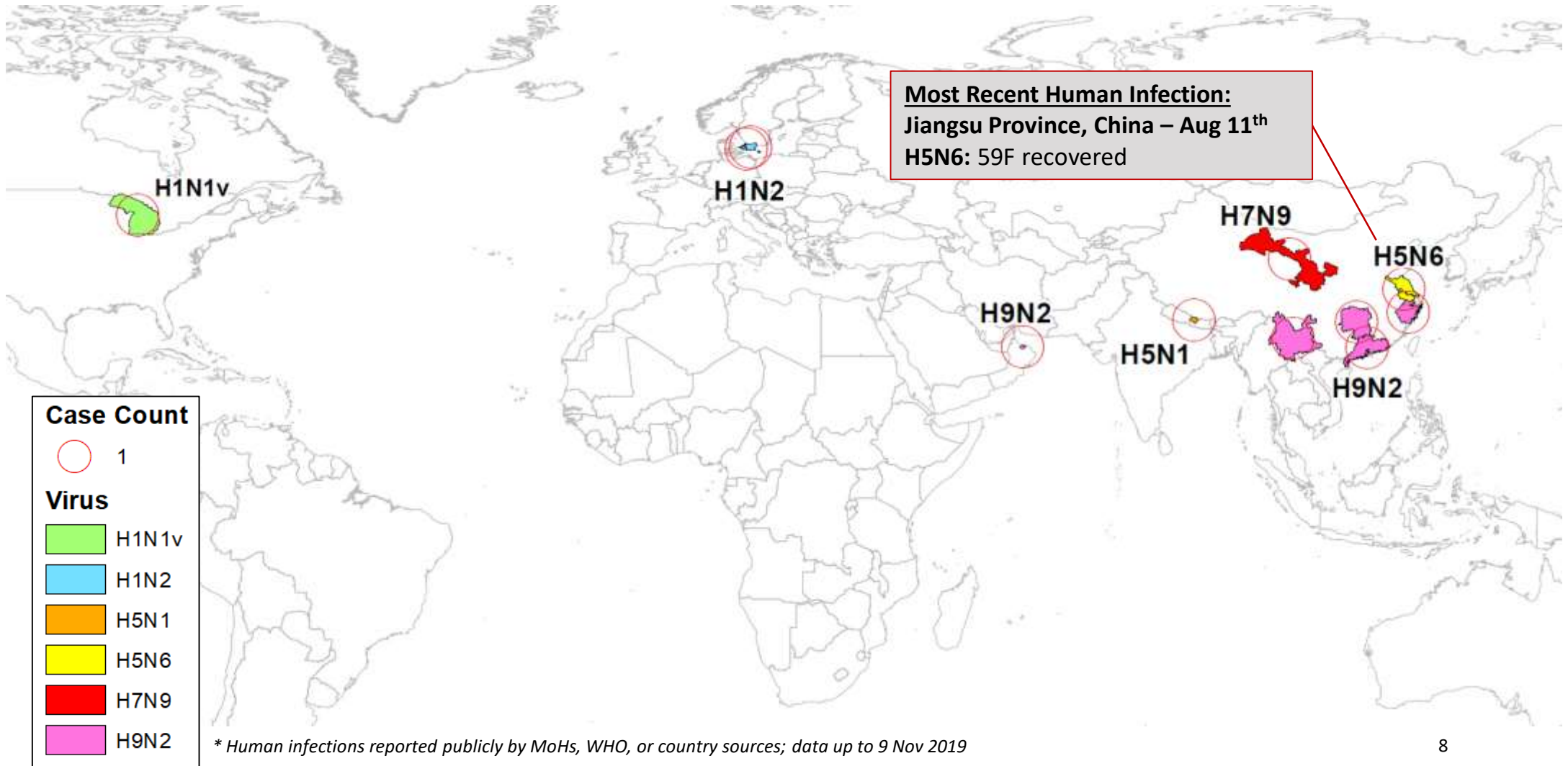
Influenza Vaccine Reduces the Burden of Illnesses in the U.S., 2018-19



<https://www.cdc.gov/flu/about/burden-averted/2018-2019.htm>

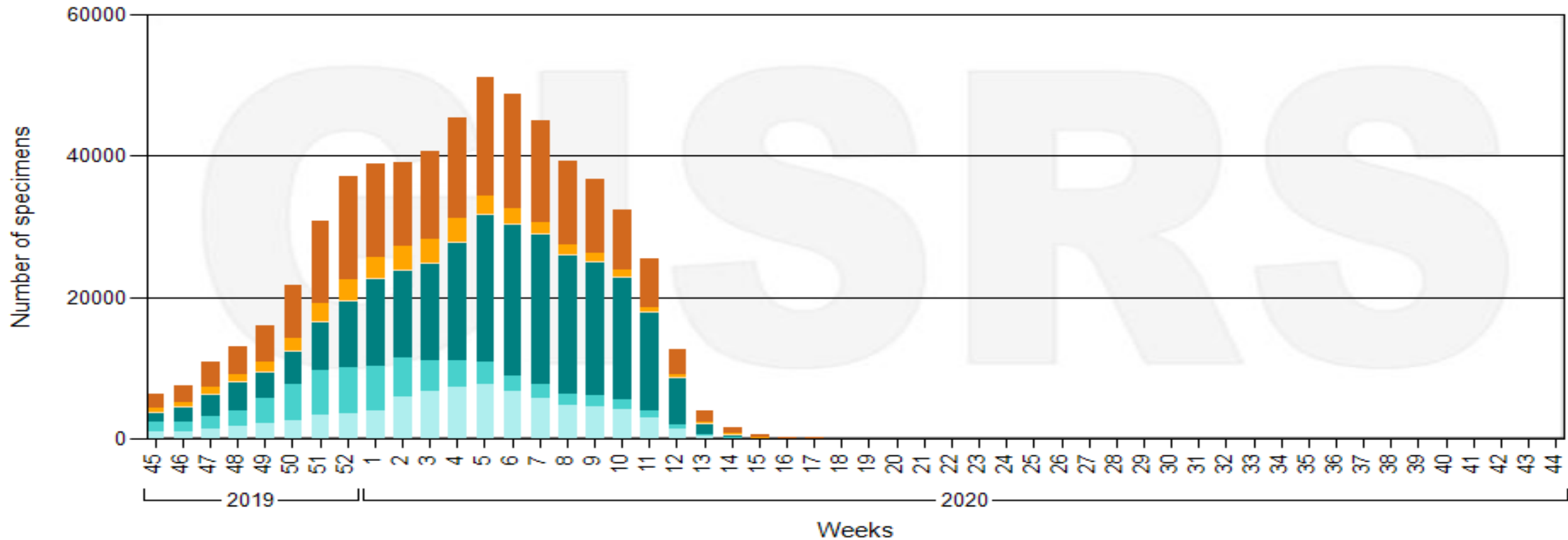


Novel Human Infections in 2019



Influenza Global Circulation

Number of specimens positive for influenza by subtype

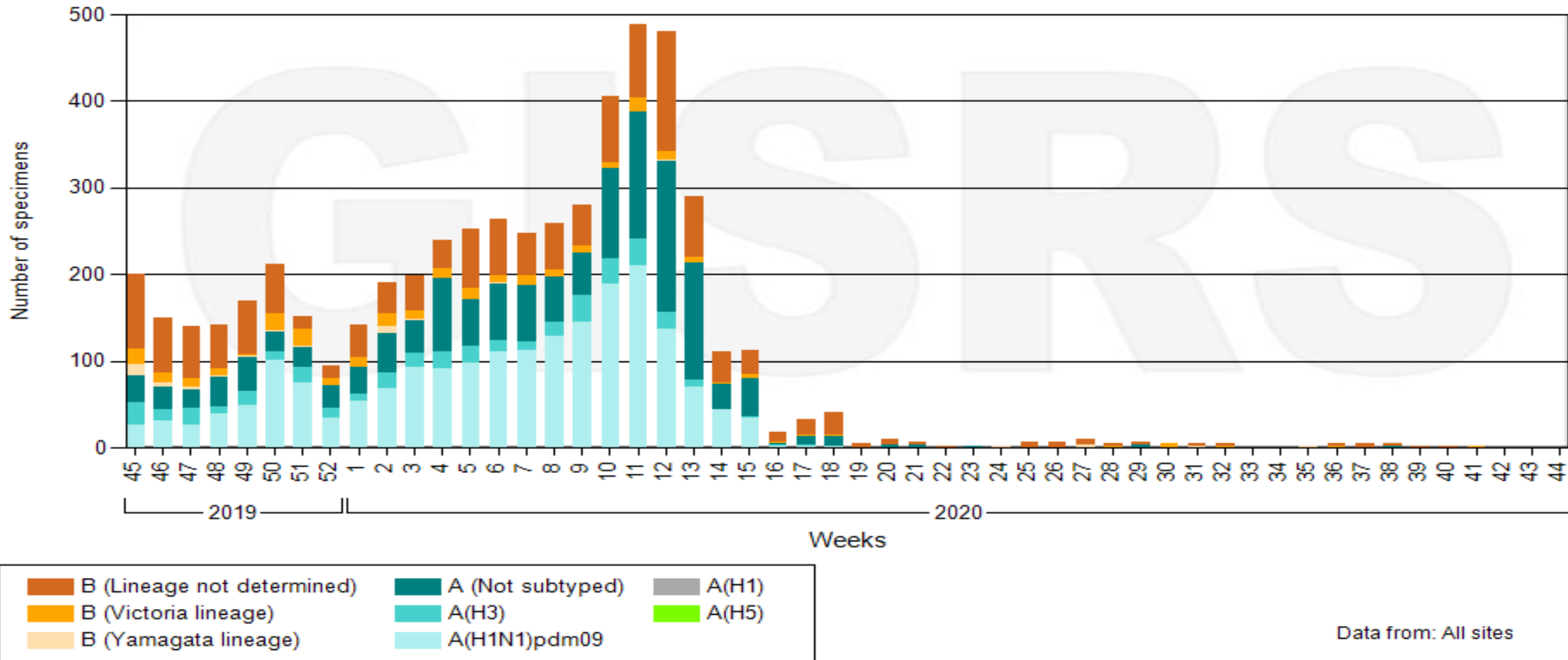


Data from: All sites



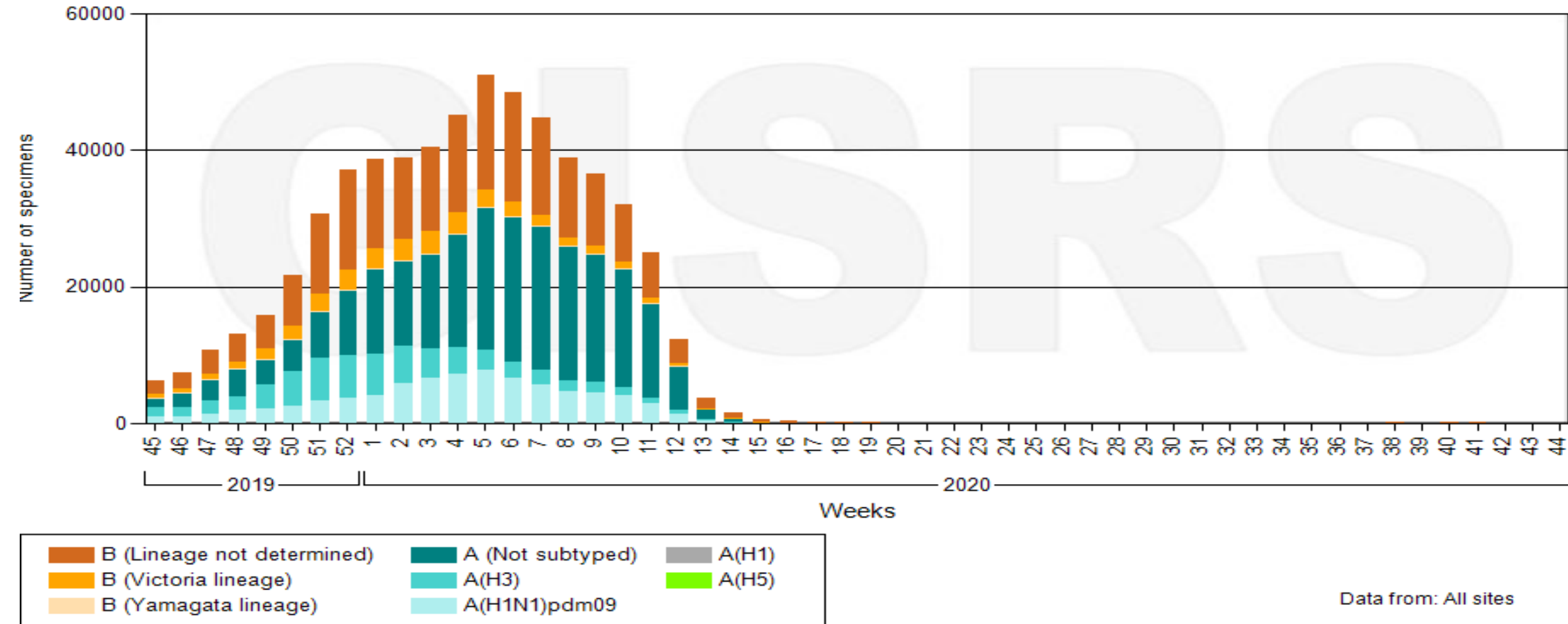
Southern hemisphere

Number of specimens positive for influenza by subtype

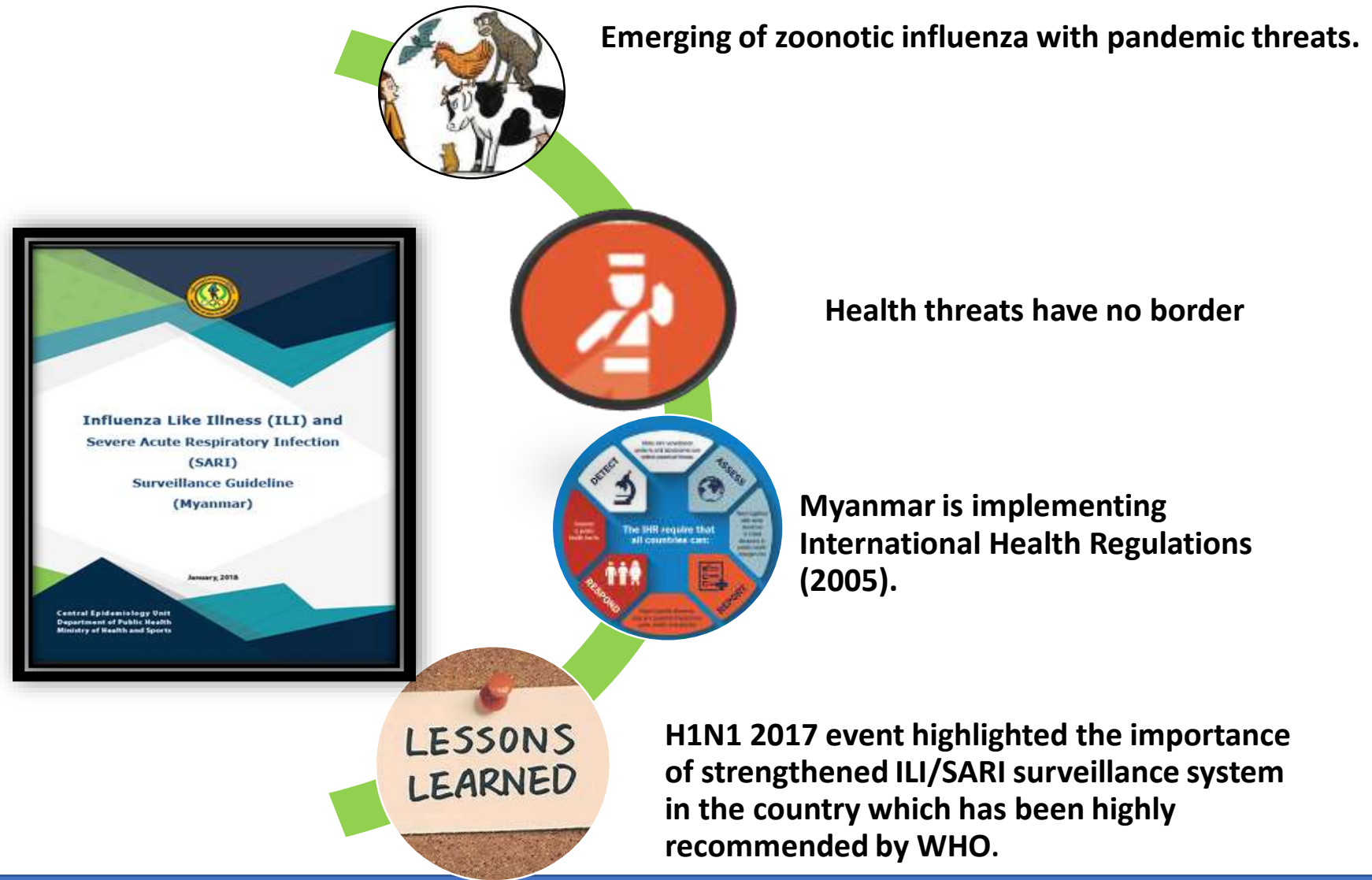


Northern hemisphere

Number of specimens positive for influenza by subtype



Why ILI/SARI surveillance needs to be strengthened?



Overarching goal of influenza surveillance

- To minimize the impact of the disease by providing useful information to public health authorities so they may better plan appropriate control and intervention measures, allocate health resources, and make case management recommendations.

Specific goal of influenza surveillance

- Describe the seasonality of influenza where feasible
- Provide candidate viruses for vaccine production
- Describe the antigenic character and genetic makeup of circulating viruses
- Identify and monitor groups at high risk of severe disease and mortality
- Establish baseline levels of activity for influenza and severe influenza-related disease
- Generate influenza data to estimate influenza burden and help decision-makers prioritize resources and plan public health interventions.
- Identify locally circulating virus types and subtypes and their relationship to global and regional patterns.
- Monitor antiviral sensitivity
- Detect unusual and unexpected events such as outbreaks of influenza outside the typical season, severe influenza among healthcare workers, or clusters of vaccine failure that may herald novel influenza virus



National Influenza Centre

- (၂၉-၁၁-၂၀၀၇) မှစတင်၍ အမျိုးသားဓါတ်ခွဲခန်းဆိုင်ရာ ကျန်းမာရေးဌာနအား National Influenza Center အဖြစ် ကျန်းမာရေးနှင့် အားကစားဝန်ကြီးဌာနမှ တရားဝင်သတ်မှတ်။
- (၂၆-၁-၂၀၀၈) မှစတင်၍ ကမ္ဘာကျန်းမာရေးအဖွဲ့မှ National Influenza Center အဖြစ် တရားဝင် သတ်မှတ်။
- နိုဝင်ဘာ ၂၀၀၇ ခုနှစ်တွင် Human Avian Influenza (H5N1) ပထမဦးဆုံးလူနာအား ဓါတ်ခွဲအတည်ပြုပေးနိုင်ခဲ့ပြီး ၎င်းဓါတ်ခွဲခန်းမှနာအား NIH, Thailand နှင့် WHO H5N1 Reference Laboratory at NID, Tokyo သို့ ပို့ဆောင်ပြီး အတည်ပြုချက်ထပ်မံ ရယူခဲ့သည်။
- ဇွန်လ ၂၀၀၉ ခုနှစ်တွင် ပထမဦးဆုံး Pandemic H1N1 2009 ဓါတ်ခွဲအတည်ပြုလူနာအား ရှာဖွေဖော်ထုတ်နိုင်ခဲ့ပါသည်။



Seasonal Influenza in Myanmar (2019-2020)



Case definition

Influenza Like Illness

- An acute respiratory infection with:
 - measured fever of $\geq 38\text{ C}^\circ$;
 - and cough;
 - with onset within the last 10 days.

Severe Acute Respiratory Infection

- An acute respiratory infection with:
 - history of fever or measured fever of $\geq 38\text{ C}^\circ$;
 - and cough;
 - with onset within the last 10 days;
 - and requires hospitalization.

Annex 5. CIF

Influenza-like Illness (ILI) and Severe Acute Respiratory Infection (SARI)
Case Investigation & Laboratory Report Form
Please complete this form carefully and attach the responses.

Case Identification Number: **MM/YY/NNNNNN**

1. Report/Investigation Information: Name of Investigator(s) _____			
Name of Hospital: _____		Specimen Sent from: OPD/Field	
Date Case Reported: ____/____/____		Date Case Investigated: ____/____/____	
2. Case Identification: Patient's Name: _____ Date of Birth: ____/____/____			
Age: years ____ months ____		Sex: ____ Occupation: _____	
Father's Name (Guardian's name): _____			
Full Permanent Address: State/Region: _____ Township: _____ Village/Vard: _____		House No. & Thana No: _____ Phone No: _____	
3. Hospitalization: Yes / No _____ Date of Hospitalization: ____/____/____			
Name of Hospital: _____		Hospital Registration Number: _____	
Clinical Diagnosis: _____			
Outcome: Recovered completely / Death/Unknown: _____			
4. Immunization History: Vaccinated against Flu? Yes / No / Unknown _____			
Date of last Flu shot: ____/____/____			
5. Travel History within last 2 weeks: Yes/No/Unknown: _____ If present: _____			
6. Possible contact history within two weeks: Yes / No / Unknown: _____			
Contact with other animals: Yes/No/Unknown: _____			
7. Signs and Symptoms: Date of onset of first symptoms: ____/____/____			
Fever ($\geq 38\text{ C}^\circ$): Yes / No _____		Cough: Yes / No _____	
Lower respiratory tract involvement: dyspnea: Yes / No _____ or difficulty breathing: Yes / No _____			
Upper respiratory tract symptoms: sore throat: Yes / No _____ or coryza: Yes / No _____			
Other symptoms such as diarrhea, vomiting, abdominal pain, bleeding from the nose or gums, myalgia, and chest pain			
Complications of infection, if present: _____			
8. Co-morbid conditions: Heart Disease () Asthma () Chronic Lung Disease () Liver Disease ()			
Diabetes mellitus () Pregnancy () Other (Specify): _____			
9. Specimen Collection:			
Date Collected: ____/____/____		Date Sent to Lab: ____/____/____	
Date of Result: ____/____/____		Laboratory Results:	
Nasopharyngeal Swab: ____/____/____		Positive / Negative	
Throat Swab: ____/____/____		Positive / Negative	
10. Case Classification: Lab confirmed Seasonal Influenza / Lab confirmed Avian Influenza / Discard			
11. Signature of responsible person filling the form: _____			

ILI Case Definition: An acute respiratory infection with: (1) measured fever of $\geq 38\text{ C}^\circ$, (2) and cough, (3) with onset within the last 10 days.

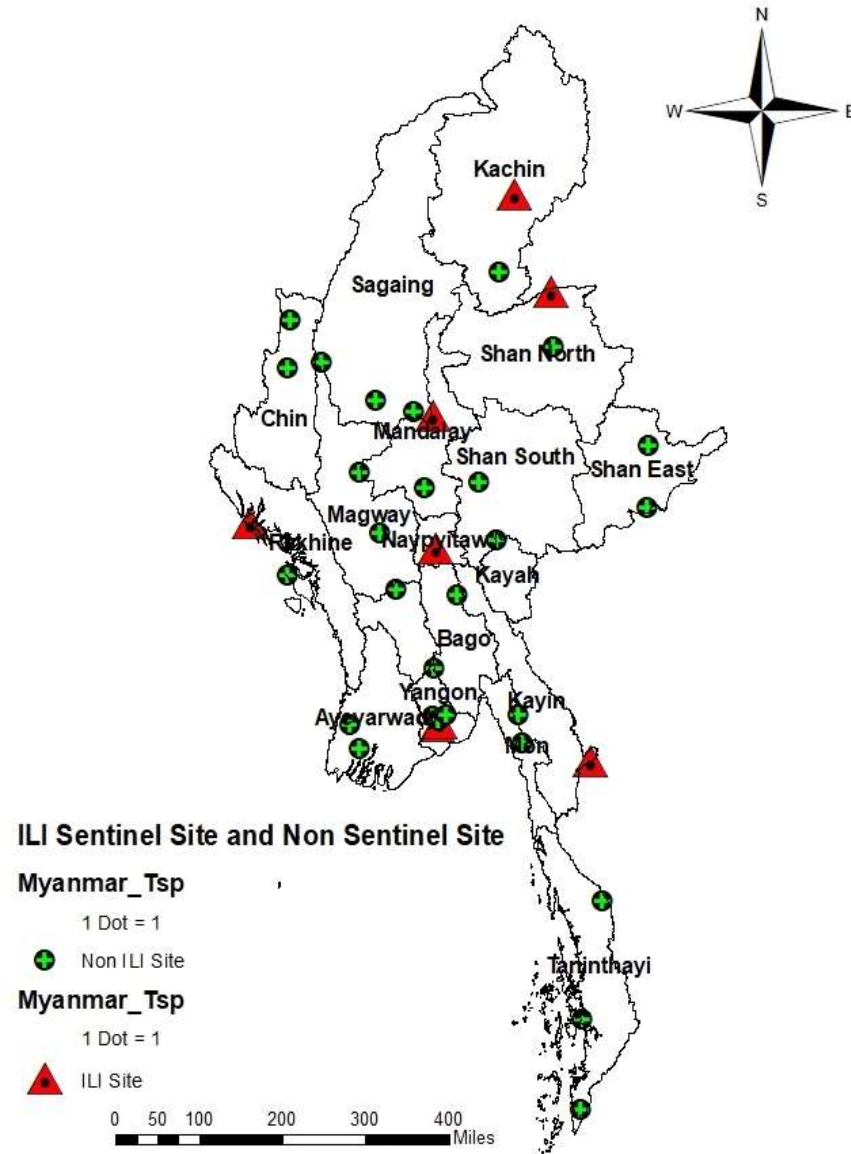
SARI Case Definition: An acute respiratory infection with: (1) history of fever or measured fever of $\geq 38\text{ C}^\circ$, (2) and cough, (3) with onset within the last 10 days, (4) and requires hospitalization.

ILI/SARI sentinel surveillance sites and Non Sentinel Sites

ပြည်နယ်တိုင်း (၇)ခုတွင်
Sentinel Site ဆေးရုံ (၈)ရုံ ထားရှိ
ပြီးဆောင်ရွက်လျက်ရှိပါသည်။

ILI/SARI GP Site (၂)ခု အဖြစ်
-ရန်ကုန်တိုင်း- သာကေတ မြို့နယ်
-မန္တလေးတိုင်း-ချမ်းအေးသာဇံမြို့နယ်
တွင်တည်ရှိပါသည်။

Non Sentinel sites အဖြစ်
တိုင်/ပြည်နယ်
များရှိ ဆေးရုံကြီး (၂၇)ရုံတွင် ILI/SARI
Surveillance လုပ်ငန်းများဆောင်
ရွက်လျက်ရှိပါသည်။



•Naypyidaw 1000 Bedded Hospital

•Yangon General Hospital

•Yangon Thingangyun Hospital

•Mandalay General Hospital

•Myitkyina General Hospital

•Sittwe General Hospital

•Myawaddy Township Hospital

•Muse Township Hospital

Influenza lab confirmed result and Death cases in 2019

No	Result	Postive	Death
1	A/H1N1	583	118
2	B not determined	148	4
3	A/H3	75	6
	Total	806	128

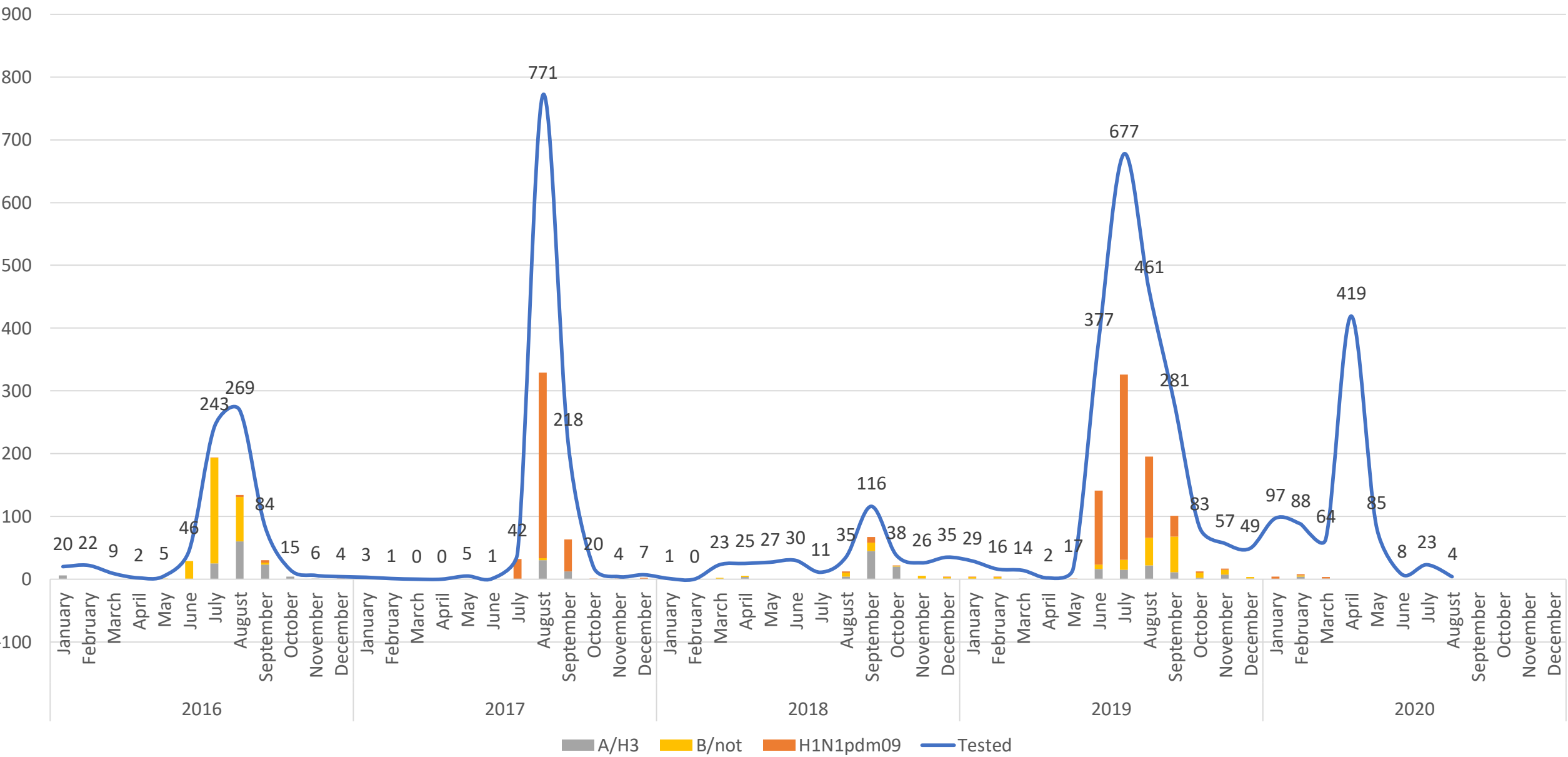


Seasonal Influenza Death in 2019

Seasonal influenza with co-morbid conditions	94	79.66%
High risk group for seasonal influenza	15	12.93%
Seasonal influenza A (H1N1)pdm09 without obvious co-morbid conditions	9	7.76 %
Total	118	

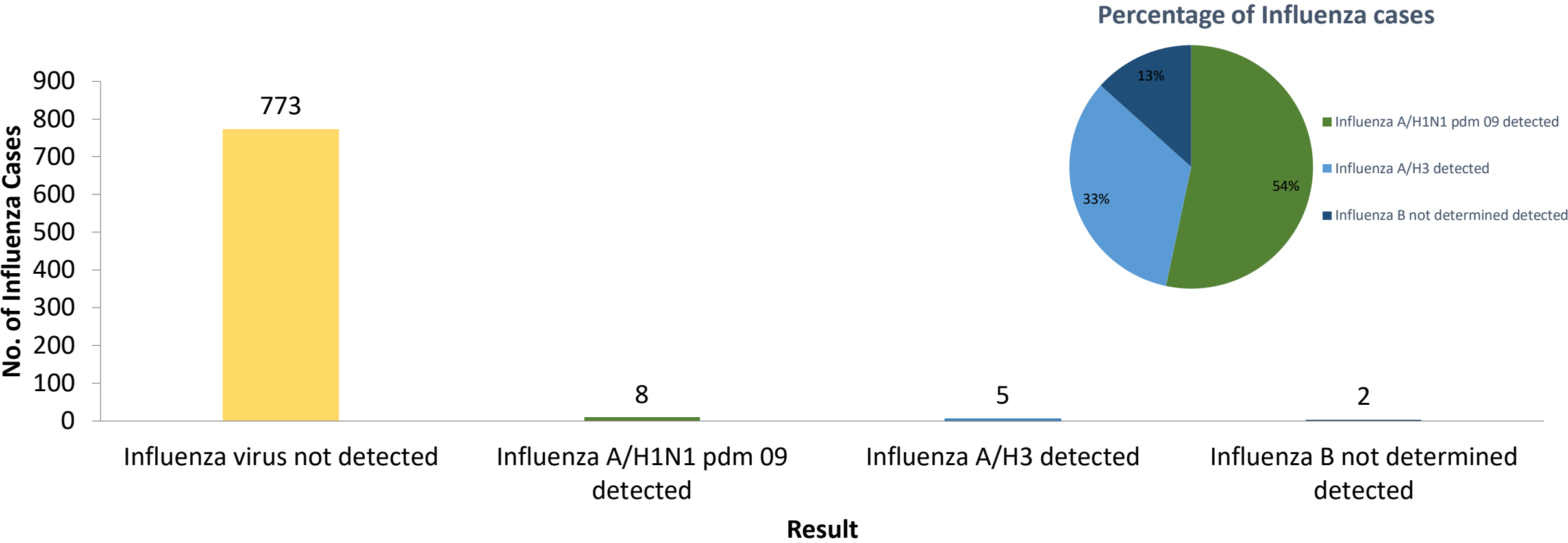


Influenza Lab Confirmed Cases in Myanmar (2016 to 2020)



ILI/SARI Lab Confirmed Result 2020

(Total Test=788),(Positive=15)

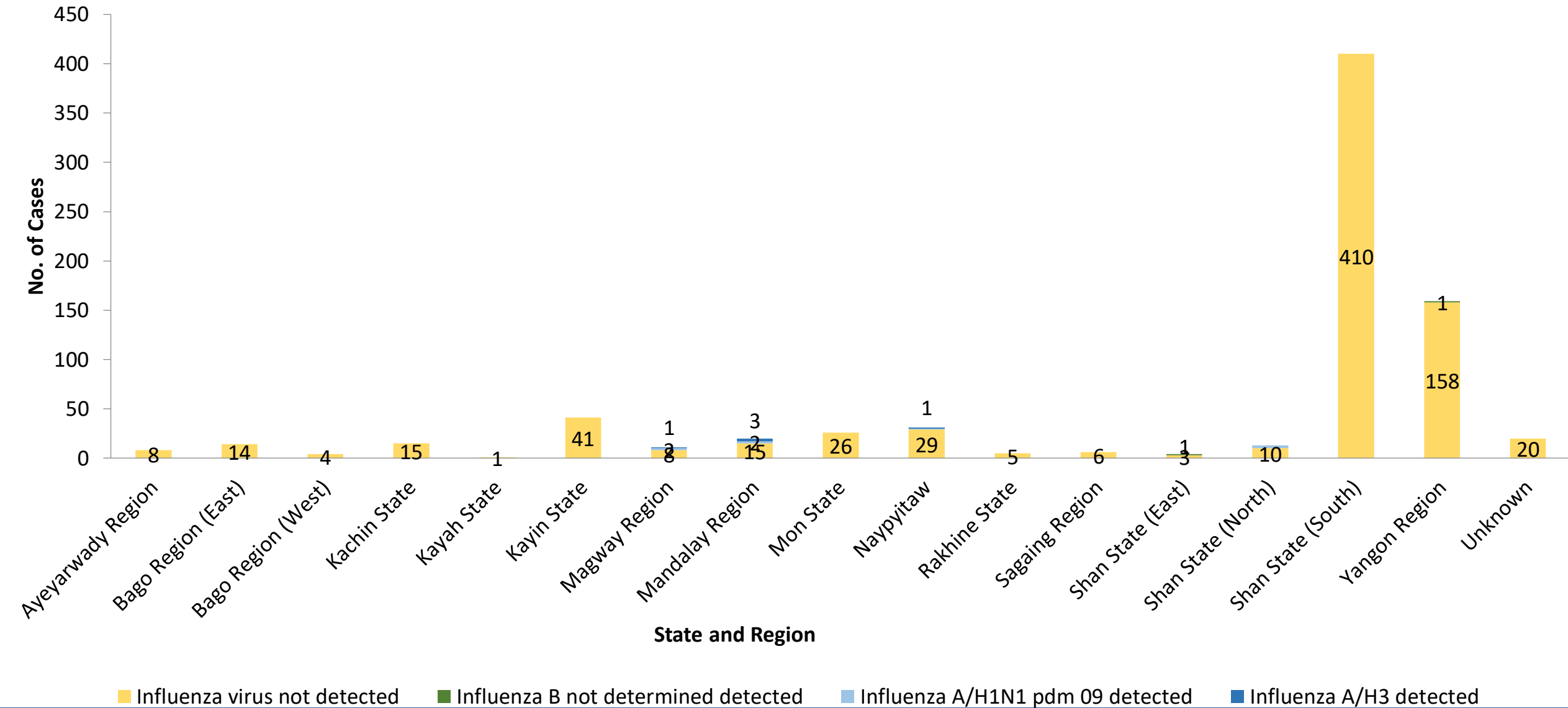


■ Influenza virus not detected ■ Influenza A/H1N1 pdm 09 detected ■ Influenza A/H3 detected ■ Influenza B not determined detected

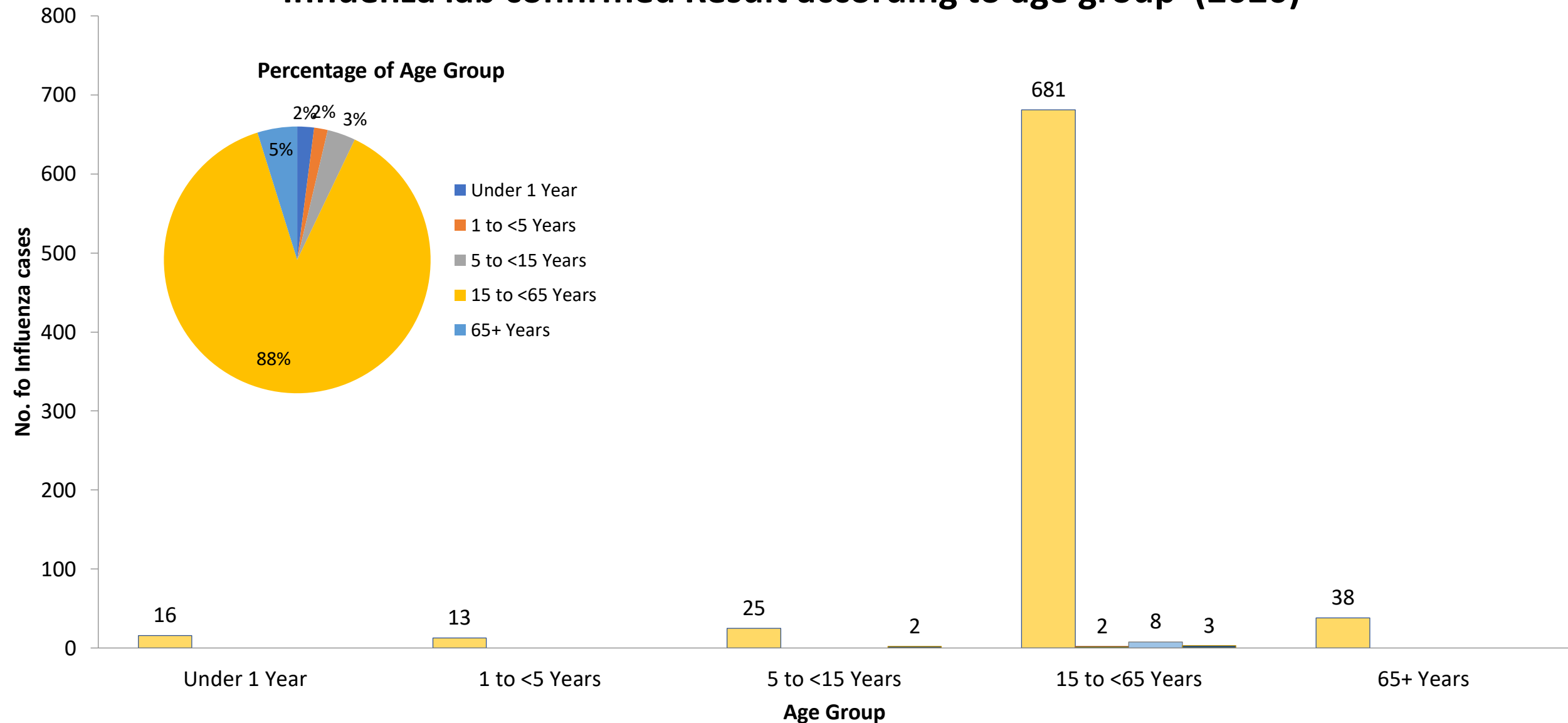


Influenza lab confirmed Result according to State & Region (2020)

(Total Test=788),(Positive =15)



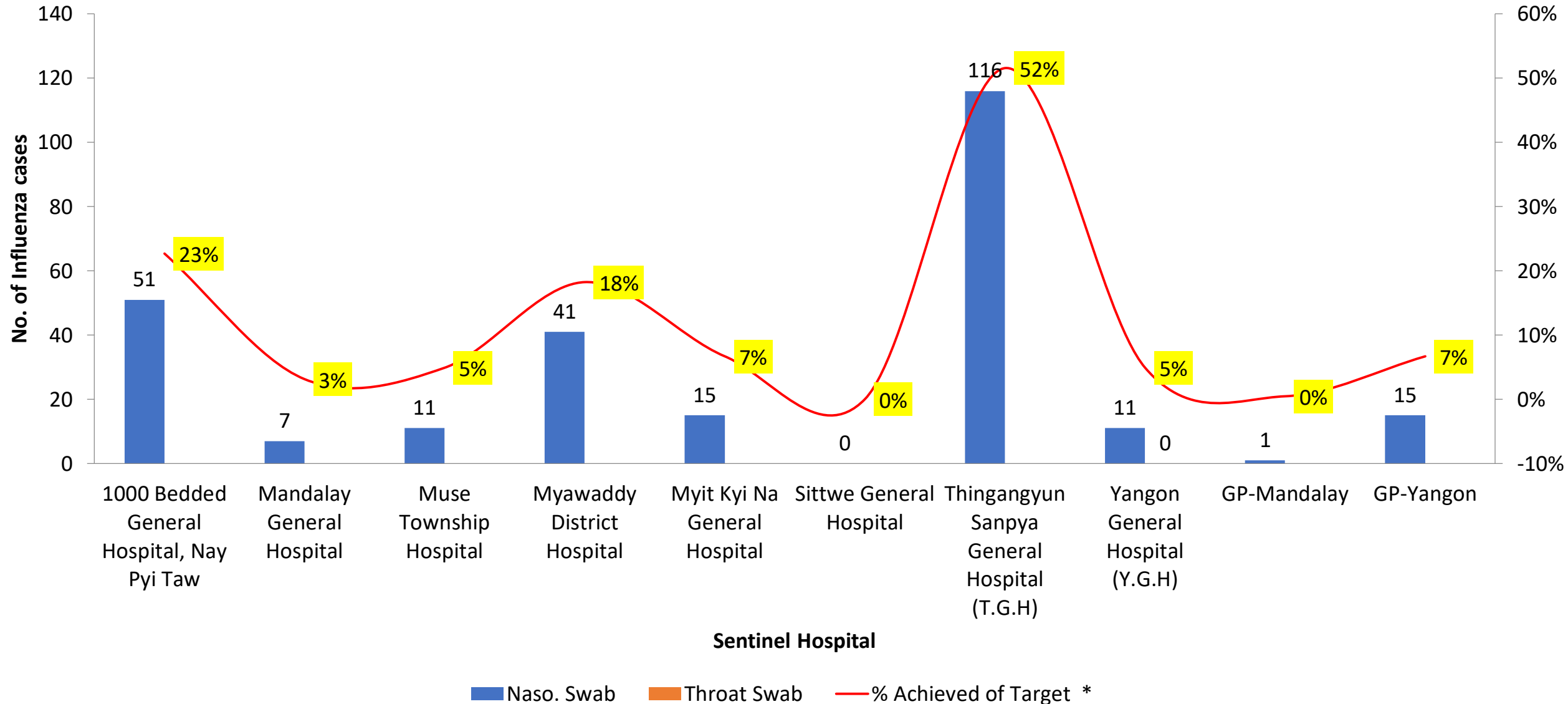
Influenza lab confirmed Result according to age group (2020)



■ Influenza virus not detected
 ■ Influenza B not determined detected
 ■ Influenza A/H1N1 pdm 09 detected
 ■ Influenza A/H3 detected



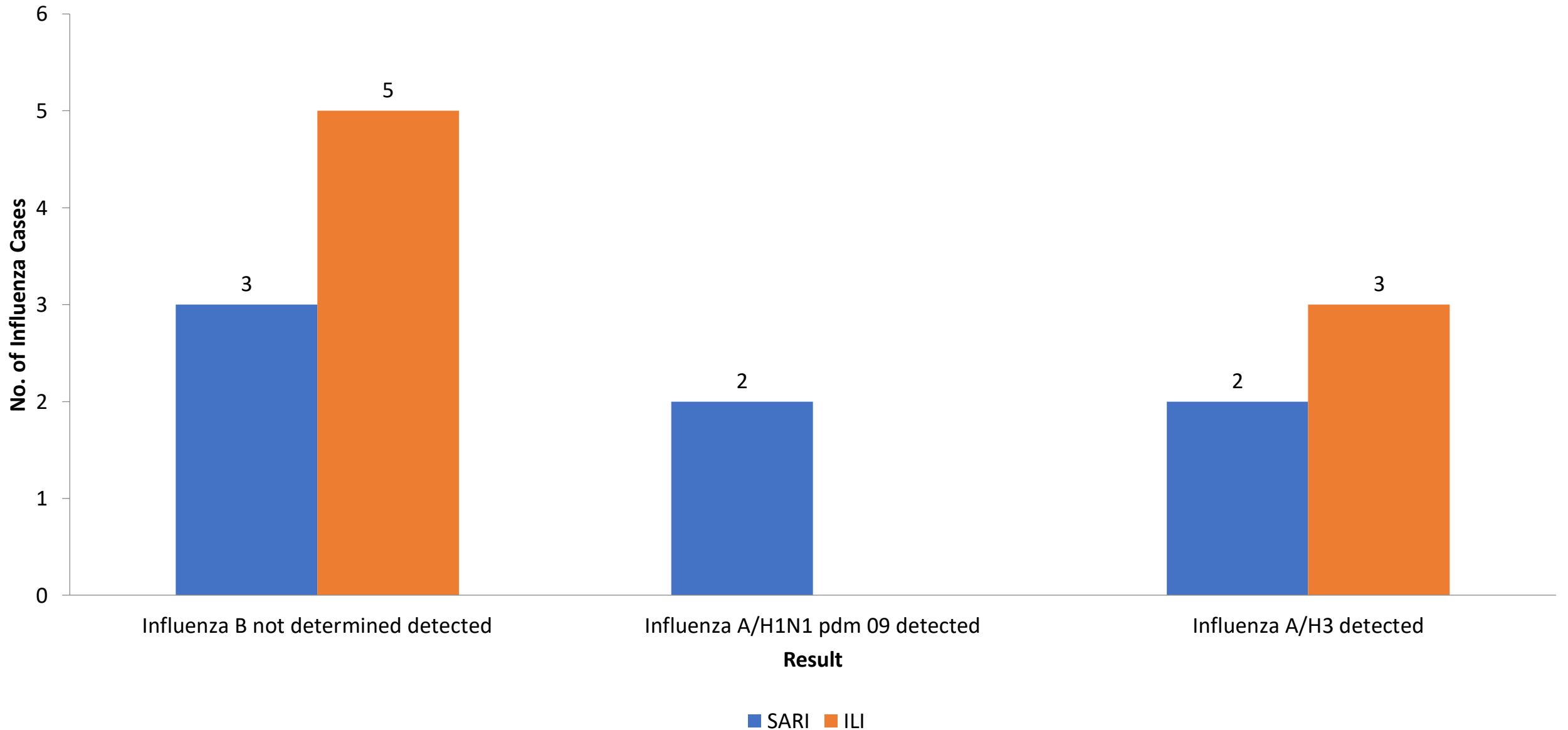
Sentinel Site Hospital Sample send to NHL during 2020 N=(268)



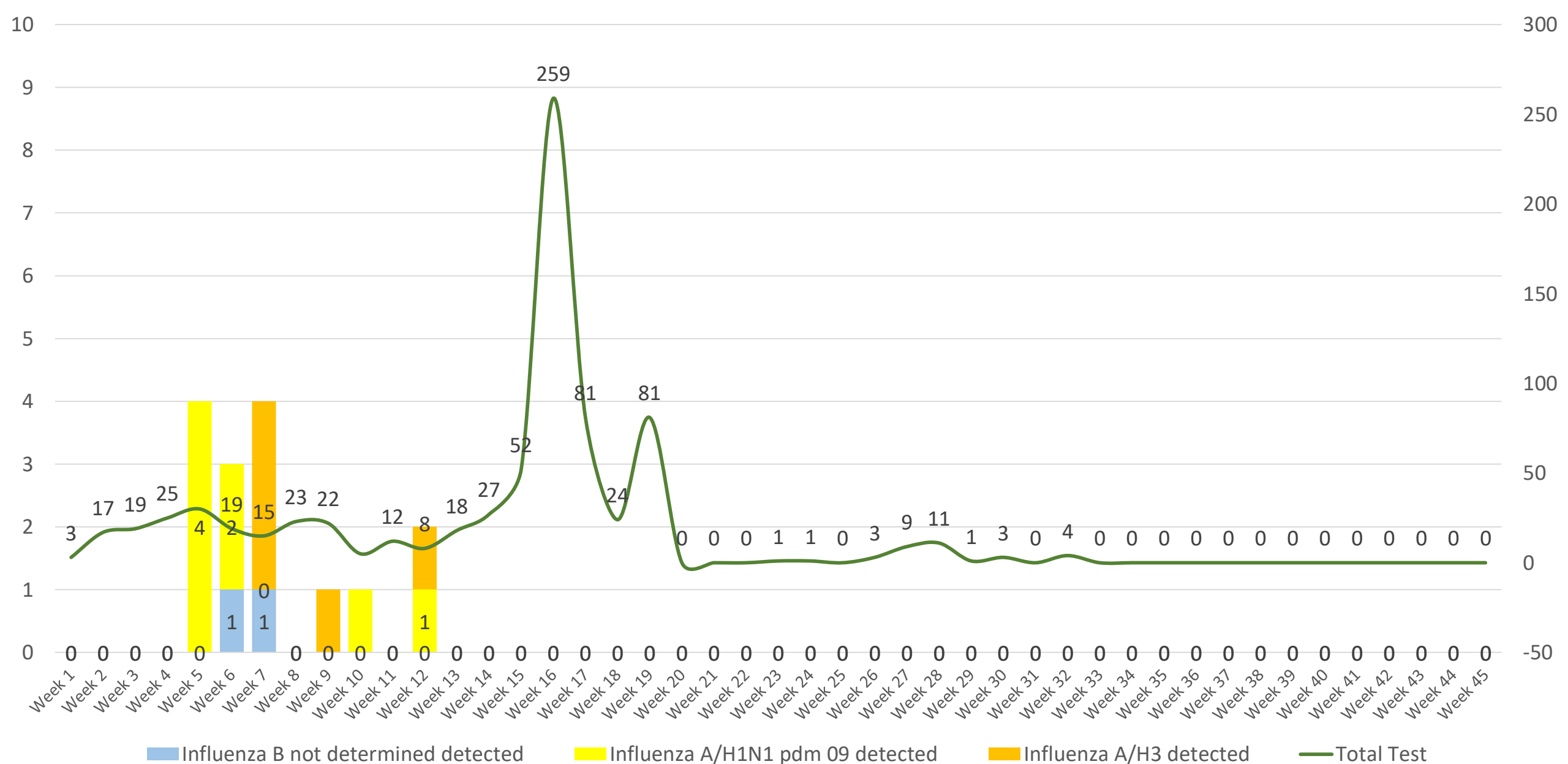
*(Target=1 week 5 specimens per site)
 (45 weeks * 5 specimens=225)

Central Epidemiology Unit

ILI & SARI by Lab Result (2020)



Influenza confirmed cases by EPID Week 2020



Thursday, November 7th, 1918

CORPORATION OF THE CITY OF KELOWNA

PUBLIC NOTICE

Notice is hereby given that, in order to prevent the spread of Spanish Influenza, all Schools, public and private, Churches, Theatres, Moving Picture Halls, Pool Rooms and other places of amusement, and Lodge meetings, are to be closed until further notice.

All public gatherings consisting of ten or more are prohibited.

D. W. SUTHERLAND,
Mayor.

Kelowna, B.C.,
19th October, 1918.





A close-up photograph of a fountain pen. The nib is made of polished gold and features a small, circular logo. The barrel of the pen is black with a textured, possibly carbon fiber, pattern. A gold-colored band is visible where the nib meets the barrel.