

# Influenza Report

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## Latest Developments:

*In the USA, a case of type A/H1N1 influenza was imported from Mexico in Texas, leading to vaccine procurement by Lackland Air Force Base, where the patient is being held. The case was documented in an illegal immigrant living at a shelter of unaccompanied minors, where more than 1000 illegal immigrants are living in close-quarter conditions, raising the potential for disease transmission. This is an opportune moment to review various observations relating to influenza.*

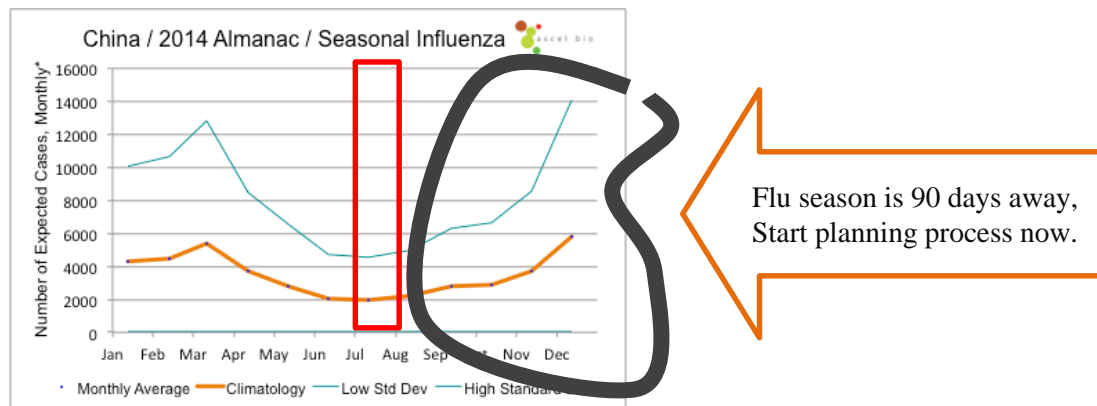
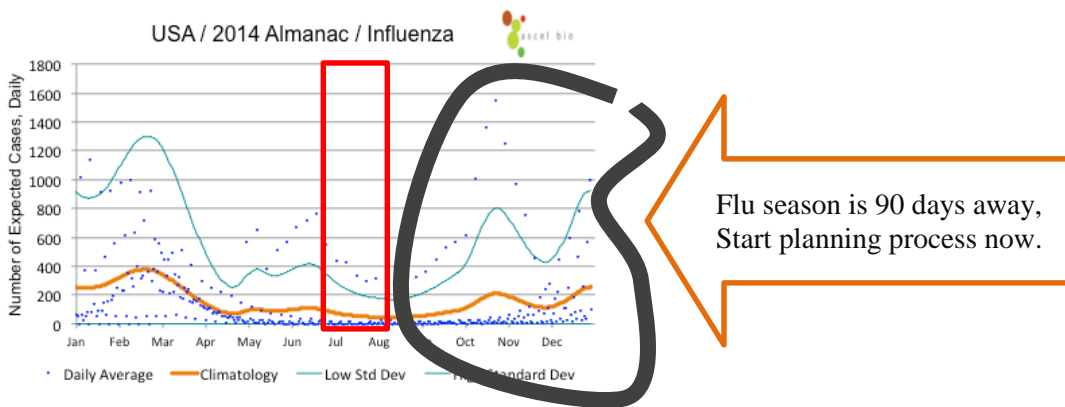
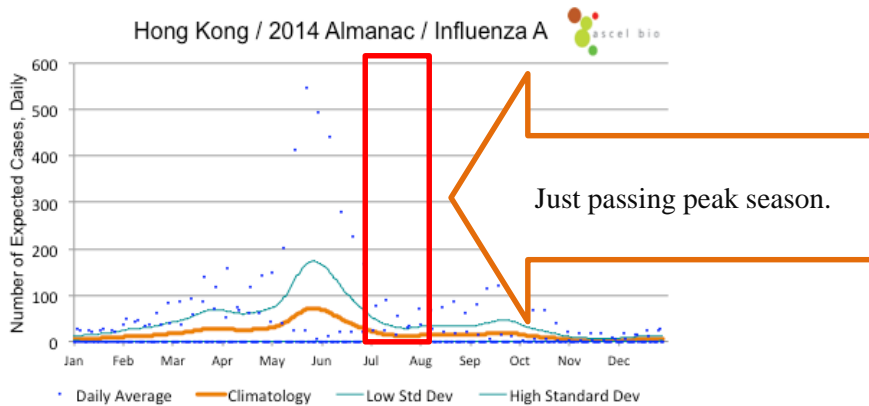
- **CLIENTS SHOULD BE ANTICIPATING A RISE IN INFLUENZA RISK BEGINNING IN OCTOBER FOR THE NORTHERN HEMISPHERE.** Consider availability of vaccines and therapeutics now, when flu activity is low.
- **Hong Kong has a summertime seasonal spike in Influenza A cases.** The risk peak is forecast by Ascel Bio to be passing, and there are no indications at this time of non-routine activity, but vigilance is advised.
- **Flu activity across the Northern Hemisphere is generally low.**
  - China has been experiencing higher influenza case counts than previous years. These are within what our outbreak impact assessment software measures to be manageable levels. It is Ascel Bio's assessment that China's case count increases may be due to an increase in sample testing due to presence of novel bird flu viruses, or an increase in case reporting due to a more transparent and connected Chinese health department.
- **Again, "The international community is unable to predict or prioritize which of several influenza viruses pose the greatest threat (i.e. H5N1, H7N9, or something else), as clearly demonstrated by the 2009 H1N1 influenza pandemic."**<sup>\*</sup>
  - H1N1 was a notable presence in the 2013-14 influenza seasons in the United States and elsewhere around the globe, and is considered a routine seasonal strain of type A influenza. This situation does not represent a point of concern. The US military is taking standard public health precautions to avoid an outbreak among potentially vulnerable children. The United States is currently experiencing routine seasonal flu conditions.
  - H7N9 has not gone away. 2013 and 2014 have been big years for novel bird flu infections in humans and Ascel Bio expects that increased detection capabilities will uncover more, previously unseen human bird flu infections in the years ahead. That said, H7N9 has slowed to a crawl after a fast start to the year; Ascel Bio expects that new cases will begin to emerge in late fall, in accordance with human bird flu seasonality.
    - Outbreaks of human avian influenza have become routine events in Hong Kong and China. New outbreaks of human bird flu are certain to cause disruption, especially in instances such as H7N9, where the infection is fairly widespread in poultry prior to its recognition in humans. The ongoing habituation of Chinese society to these threats has mitigated the degree of social disruption observed with each outbreak.
    - Technological advances in China and Hong Kong and better cooperation between Chinese scientists and the global community have significantly increased the potential for "discovering" novel influenza viruses within humans, swine, and poultry. The active investigation of unknown respiratory illnesses in mammals in China and Hong Kong will continue to unveil reports of "new", previously unidentified respiratory agents; *many of which may have been circulating for years*. Unqualified claims of "pandemic potential" will likely be seen in the media with every new pathogen discovered, and it is important to focus on the known indicators and the historical signature patterns, especially as more of these viruses are brought to light.

<sup>\*</sup> "Hong Kong, China H7N9 Sit Rep.pdf", Ascel Bio 20131211

## Key Forecast Charts:

The following is the key seasonal chart for Influenza A in Hong Kong.

**CLIENTS SHOULD BE ANTICIPATING A RISE IN INFLUENZA RISK BEGINNING IN OCTOBER.**



## Likely Scenarios:

Probability	Scenario
95%	No serious CAT 3 outbreaks before October – including H7N9, other human bird flus, and seasonal influenza viruses.
5%	Full-blown outbreak/pandemic erupts in Northern Hemisphere anytime before Oct. 2014.

## Key Indicators/Points:

- Seasonal flu and human avian flu routinely do not show signs of widespread activity until late fall in the Northern Hemisphere. **H7N9 incidence increased from 2013 to 2014 alongside seasonal flu incidence.**
- Hyperbolic reports from various circles will likely increase with the onset of flu season in the fall. But Ascel Bio clients should be forewarned of the risks.
- It is important to consider the local availability of vaccines and therapeutics now, when flu activity is low. Vaccines for seasonal flu are available while vaccines for novel bird flus are not. Preventing the latter requires vigilance, hand-washing, and avoidance of live poultry markets.

Forecasted Disease	Generic Name Drug	Trade Name	Manufacturer	TCKR?
Influenza	Influenza Vaccine	Afluria	CSL Biotherapies, Inc	PRIVATE
Influenza	Influenza Vaccine	Fluarix	GSK	GSK:US
Influenza	Influenza Vaccine	Flucelvax	Novartis	NOVN:VX
Influenza	Influenza Vaccine	Flulaval	GSK	GSK:US
Influenza	Influenza Vaccine	Fluvirin	Novartis	NOVN:VX
Influenza	Influenza Vaccine	Fluzone	Sanofi-Pasteur US	SNY:US
Influenza	Oseltamivir	Tamiflu	Genentech, Inc	ROG:VX
Influenza	Zanamivir	Relenza	GSK	GSK:US
Influenza / Bacterial Pneumonia Superinfection	Ceftriaxone	Rocephin	Genentech, Inc	ROG:VX
Influenza / Bacterial Pneumonia Superinfection	Cefuroxime	Ceftin	GSK	GSK:US
Influenza / Bacterial Pneumonia Superinfection	Levofloxacin	Levaquin	Janssen Pharmaceuticals	JNJ:US
Influenza / Bacterial Pneumonia Superinfection	Moxifloxacin	Avelox	Bayer HealthCare Pharma	BAY:IM
Influenza / Bacterial Pneumonia Superinfection	Nafcillin	[None- Generic Only]		
Influenza / Bacterial Pneumonia Superinfection	Oxacillin	Bactocill	Baxter HealthCare Corp	BAX:US
Influenza / Bacterial Pneumonia Superinfection	Vancomycin	Vancocin	Shire Pharmaceuticals	SHP:LN
Influenza-Bacterial Pneumonia Superinfection	Cefotaxime	Claforan	Sanofi-Aventis US	SNY:US