

Influenza Update

April 15, 2009

Current Situation

In Clark County, the proportion of patient visits to sentinel providers during week 12 (ending March 28, 2009) for influenza-like-illness (ILI), characterized by temperature of 100°F or greater and sore throat or cough, was 0.8%. The peak in influenza season was during week 1 (week ending January 3, 2009) with predominance of influenza A seen in the first half of influenza season and influenza B circulating the last half of the season. Since the beginning of the flu season (week 20) until present (week 14) the proportion of influenza A is 68%, influenza B is 27%, and influenza not differentiated between A&B is 5%.

Influenza trends seen locally are being reflected nationally. For week 12, the national ILI was at 2.1% which is below the national baseline of 2.4% (1).

Table 1: Rapid Test Type	Sensitivity	Specificity
BinaxNOW Influenza A&B	100% (A); 93%B	96%(A); 97%(B)
BioStar OIA FLU	62-88% (A/B)	52-80% (A/B)
Directigen Flu A	91% (A)	95% (A)
Directigen Flu A+B	86% (A); 81% (B)	91% (A); 99.5% (B)
Directigen EZ Flu A+B	77-86% (A); 81% (B)	69-80 % (A); 99-100% (B)
Meridian Tru-Flu	85-87% (A); 50-64% (B)	69-80% (A); 99-100% (B)
OSOM Influenza A&B	74% (A); 60% (B)	96% (A); 96% (B)
QuickVue Influenza	73-81% (A/B)	96-99% (A/B)
QuickVue Influenza A+B	77-94% (A); 67-82% (B)	89-99% (A); 97-99% (B)
SAS FluAlert	76% (A); 91% (B)	98% (A); >99% (B)
3M Rapid Detection Influenza A+B	80% (A); 58-100 (B)	94-97% (A); 98-99% (B)
Xpect Flu A&B	92% (A); 98% (B)	100% (A); 100% (B)
ZstatFlu	58-65% (A/B)	98-100% (A/B)

Influenza Testing: Rapid versus PCR

Rapid test kits are fast and efficient; however, they may not always be accurate in their results. Table 1 is a list of commonly used influenza rapid test kits with their corresponding sensitivity and specificity. Healthcare providers should consider influenza PCR testing for patients with a severe respiratory infection that have tested negative for influenza from rapid test kits. Table 2 is the sensitivity and specificity for influenza PCR testing (2).

Table 2: PCR	Sensitivity	Specificity
Influenza A	99%	92%
Influenza A (H1)	93%	<99%
Influenza A (H3)	100%	91%
Influenza B	98%	98%

Locally, the number of influenza reports from PCR testing is low. From Clark County's one local sentinel testing site, there were 20 specimens submitted and tested using both the rapid influenza test kit and PCR. Of these, nine were positive by PCR for influenza. However, rapid testing only detected two cases. There were no tests that were positive by rapid test and negative by PCR testing.

PCR testing allows for virus characterization, which ultimately leads to better information on which to base the vaccine formulations for upcoming influenza seasons. It also enables local public health to provide feedback to the health care community about what influenza viruses are circulating in the community. Health care providers can then make informed decisions on how to best treat their patients for influenza. Influenza PCR testing is available locally thru Quest and LabCorp.

- (1) Centers for Disease Control and Prevention. National Influenza Week. Accessed at: <http://www.cdc.gov/flu/NIVW/index.htm>
- (2) Shult, Pete. Laboratory Links Teleconference Series: Influenza Update 2008. Association of Public Health Laboratories.