



# 2017-2018 Local Influenza Surveillance Report

---

Cowley County, Kansas - Flu Activity

**Thomas Langer, MPA**  
**Cowley County Public Health Officer**

3/31/2018

This report is a summary of observations and test result analysis compiled during the local 2017-18 influenza season (November – March) in Cowley County, Kansas to document the effect on the health of the local population.

## **Background:**

Influenza (flu) is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Influenza infections will generally last from 7 to 21 days. Serious outcomes of flu infection can result in hospitalization or death. Some people, such as older people, young children, and people with certain health conditions, are at high risk of serious flu complications.

The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) annually monitor influenza activity globally and specifically track the most virulent strains of the virus in the Southern Hemisphere in order to predict which influenza viruses are “most likely” to infect the population of the Northern Hemisphere (including North America) during the “influenza season” (October - April). This information is used by vaccine manufacturers to prepare the annual flu vaccine which generally is made available near the end of summer and throughout the fall seasons in the United States.

The effectiveness rate for influenza vaccine is a measure of how well the vaccine protects the population during a flu outbreak. During 2017-18 the CDC announced a 36% effective rate for the most recently available flu vaccine. Evidence indicates that of the population who received the flu vaccine as a prophylaxis this year 36% (better than 1 in 3) of the vaccinated people received 100% protection from the flu strains in circulation. The remaining 64% would have received some level of benefit from the vaccine (milder symptoms and shorter duration of illness) if infected by the flu virus strains in circulation.

This report is a summary of observations and test result analysis compiled during the local 2017-18 influenza season (November – March) in Cowley County, Kansas to document the effect on the health of the local population.

## **Local Observations:**

Influenza vaccination is available annually to the population of Cowley County. The City Cowley County Health Department (HD) and other local providers offer numerous opportunities to the population for vaccination through widespread dispensing sites however it is estimated (2016 BRFSS Data) that 62% of the population in Cowley County DOES NOT receive an annual flu vaccination.

The HD received reports during November and December 2017 from area physicians about people being diagnosed with cases of gastroenteritis (Norovirus). This condition, often referred to as “Stomach Flu” was in no way related to influenza. During that same time span (Nov-Dec) the HD received several reports of upper respiratory infections, some of which were severe, being reported in the local population of citizens over age 60; however none of the cases tested positive for influenza. (Initial reports of positive test results for flu were isolated to a discrete

population of residents in a Cowley County convalescent center during mid to late November however at that time influenza was not yet being reported in the greater population).

### **Local Influenza Tracking:**

During 2017-2018 Influenza reached epidemic status in Kansas and in Cowley County. An epidemic is the widespread occurrence of an infectious disease in a community during a specific time. The Cowley County Health Department tracked 355 confirmed flu cases during the surveillance period (SP) which began during December 2017 and continued through March 2018. Confirmed flu cases are defined as those in which medical laboratory testing was conducted and whose test results were positive for any strain of influenza. In Cowley County two hospital laboratories provided test results to the HD during the SP. Not all test results performed in the county during the SP were reported to the HD, not all people who became ill with influenza during the SP were tested, not all people who became ill with the flu during the SP sought professional medical attention.

During the SP Influenza type AH3 appeared to be the most prevalent strain of flu confirmed in Cowley County as 242 (68%) type A cases were reported. AH3 was the first flu strain confirmed in Cowley County in mid-December 2017. Influenza Type B (two subtypes) cases began appearing in Cowley County during January 2018 and 114 (32%) cases were confirmed through the end of the surveillance period.

The 2017-2018 flu epidemic effected all segments of the local population, however the pediatric cohort (ages 0 through 17) appeared to be effected at a higher rate when compared to the population as a whole (186 cases = 53%). A subset of the pediatric cohort (ages 0-10) suffered the highest rates of infection (159 cases = 44.7%) compared to the entire population.

During the surveillance period the number of people verified as receiving the current flu vaccine who subsequently were confirmed by testing as ill with the flu is considered low; (11%) when compared to non-vaccinated people who contracted the flu (89%). In Cowley County it is estimated that the HD provided flu vaccinations for approximately 14% of the local population receiving the flu vaccine. A review of HD data indicates that of the people vaccinated against the flu by the HD that only 0.68% was confirmed ill by testing positive for influenza (13/1906) during the surveillance period.

### **Local Surveillance Limitations:**

- The total number of flu immunizations provided to Cowley County residents is unknown. Estimates are based upon Behavioral Risk Factor Surveillance System (BRFSS) data

collected by the Kansas Department of Health and Environment (KDHE). BRFSS data indicates that 13,528 Cowley County residents were likely to receive the flu vaccine for the surveillance period.

- Not all people in Cowley County who became ill with the flu sought medical attention and were medically tested.
- Mortality rates associated with influenza are not tracked by the HD as that is a function of KDHE.
- The local influenza tracking project undertaken by the HD for the 2017-18 surveillance period was the initial time that statistical data of this type was compiled and tracked to provide a reflection of the health of the community, therefore no historical comparisons can be made to gauge severity of the epidemic.

#### **Surveillance Data Strengths:**

- There are only two hospital facilities in Cowley County with laboratory capacity. Both provided electronic health records data as allowed by HIPAA to the HD during the surveillance period.
- The sample size of 355 test results as a percentage of the overall local population (35,600) provides a significant result for determining the overall health impact that influenza had on the population at a confidence level of +/- 5.

#### **Conclusions:**

- The 2017-2018 Cowley County influenza outbreak reached epidemic proportions and seriously affected the local pediatric population especially children age 10 and younger.
- Of the population confirmed through medical testing to have been afflicted with the flu only 11% had received a current vaccination.
- The epidemic began in December, although localized cases of AH3 were confirmed in November 2017, peaked during January and February and has lasted through March 2018.
- The flu vaccine while not 100% effective offered health protection benefits to the population that was immunized. Based upon the evidence the best option for the ongoing protection for the local population will be to continue to promote disease prevention through vaccination in subsequent years.

- Barriers to the population receiving an annual flu vaccine remain unknown; however widespread availability of the vaccine eliminates the barrier of lack of access. Personal predispositions toward vaccine acceptance in the population resulting in low vaccination rates remain anecdotal and may rest in areas such as; fear, prior bad experience, lack of qualified health information, lack of health insurance, anti-vaccine bias or religious objections.
- Cowley County residents are less likely to be vaccinated against influenza than residents in other areas of the United States (32% vs 38%).
- In Kansas during the 2017-18 influenza tracking season 1,337 people died as a result of influenza related illness as of the date of this report.

**Local data is presented graphically in the following pages:**

# 2018 Influenza cases by age groups









