

Preventing and controlling the spread of disease is at the heart of much public health work. From influenza and Lyme disease to malaria and Ebola, outbreaks of infectious diseases can have an extraordinary impact on human health.

- From the Nation's Health

This report captures Lincoln County Health Department program and services that focus on the prevent and control of disease and conditions facing our county each and every day. It also covers how as a department we respond to public health emergency.



Lincoln County's 2018 Communicable Disease Prevention and Control Annual Report

In this Annual Report:

- ❖ Program Updates
- ❖ Data Dashboard
- ❖ Performance Objectives
- ❖ Program Evaluation





Program Updates

Changes in Programming

➔ **New STD Clinic** Free chlamydia and gonorrhea testing to community members is now available through clinics held Mondays from 3-4pm. The clinics will be aimed at testing those aged 14-25, which are those most affected by STDs in Lincoln County.

➔ **School Based Flu Clinics in all Public Schools** With funding from grant dollars from CDC Public Health Preparedness Grant, free flu shots were available to all students in Lincoln County during September and October. Flu shot clinics were conducted at Merrill High School, Prairie River Middle School, Washington Elementary School, Jefferson Elementary School, Kate Goodrich Elementary School and the Tomahawk School District. In addition, a clinic was held at the Health Department for parochial school students and for those students that missed a prior clinic. A total of 418 flu shots were administered. These clinics provide an opportunity to practice and test our department's public health preparedness plans and mass clinic capabilities.

➔ **Public Health Emergency Volunteer List** In effort to increase our capacity to respond to public health emergencies, the Lincoln County Health Department recruited local service groups to be part of a Public Health Emergency Volunteer Registry. Forty-two service groups were contacted in Merrill and Tomahawk; 14 agreed to be included on the registry. This list will be updated on an annual basis.

➔ **Communicable Disease Funding** With advocacy by the Wisconsin Association of Local Health Departments and Boards, 2018 marks the first year local health department's received funding from the state of Wisconsin to assist with communicable disease prevention and control. In 2018, Lincoln County received \$3,800.

➔ **New Reportable Diseases** The Wisconsin Department of Health expanded the list of reportable disease and conditions that are required by law to be reported to public health department as of July 2018. The following are diseases and conditions now reportable.

- Blue-Green Algae and Cyanotoxin Poisoning
- Borreliosis (other than Lyme disease)
- Carbon Monoxide Poisoning
- Carbapenem-Resistant Enterobacteriaceae
- Coccidioidomycosis (Valley Fever)
- Environmental and Occupational Lung Diseases
- Free-Living Amebae Infection
- Rickettsiosis (other than spotted fever)
- Influenza- Associated Hospitalizations
- Latent TB
- Viral Hemorrhagic Fever
- Primary Amebic Meningoencephalitis
- Middle Eastern Respiratory Syndrome-Associated Coronavirus (MERS-CoV)
- Zika Virus



Communicable Disease Dashboard 2018



Communicable Disease and Conditions

Enteric

30 | # of foodborne and or waterborne diseases
Lincoln County average: 54

Vectorborne

24 | # of vectorborne disease
Lincoln County average: 39

Disease Outbreaks

5 | # of disease outbreaks
Lincoln County average: 2

Hepatitis C

6 | # of Hepatitis C
Lincoln County average: 16

Sexual Transmitted (STD)

61 | # of STDs
Lincoln County average: 63

STD Testing

11 | # people tested for STDs by LCHD
Lincoln County average: 48



Vaccine Preventable Disease

Two Year Old Immunizations

78 | % of two year old receiving recommended vaccines
Lincoln County average: 73.1%
Wisconsin average: 72.3%

HPV

50 | % of adolescents 13-18 with the completed HPV series
Lincoln County average: 45.9%

Influenza

32 | Number of Confirmed Influenza Associated Hospitalizations for 2017-2018 Seasonal Influenza
Lincoln County average: 19

Pneumonia

66 | % of 67 years to 90 years that have received the pneumococcal vaccine series
Lincoln County average: New data analysis

Student Immunization Compliance

99 | % of all students meeting school immunization requirements.
Wisconsin average: 92.3%
Lincoln County average: 98.7%

School Vaccination Clinics

418 | # Of Lincoln County students receiving the flu vaccine at a school based clinic.
Lincoln County average: New initiative



Emergency Preparedness

Trainings

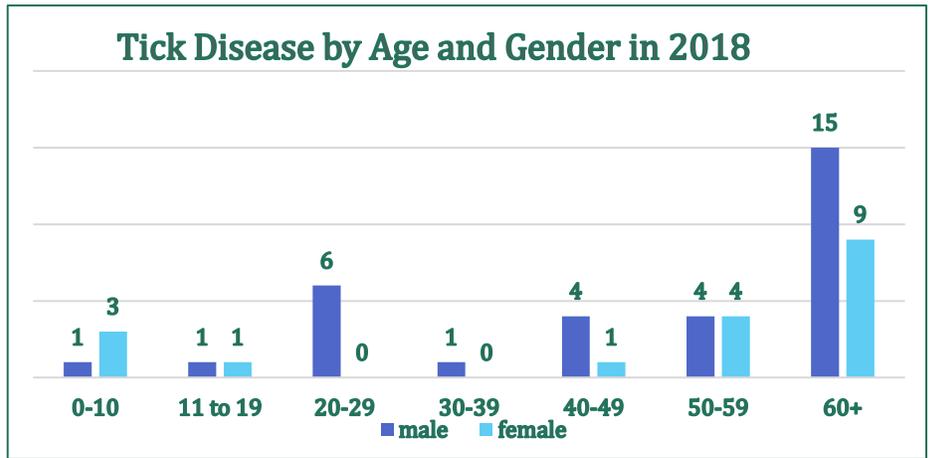
7 | # of public health preparedness trainings and exercises completed by staff and partners
Lincoln County average: 8

Emergencies

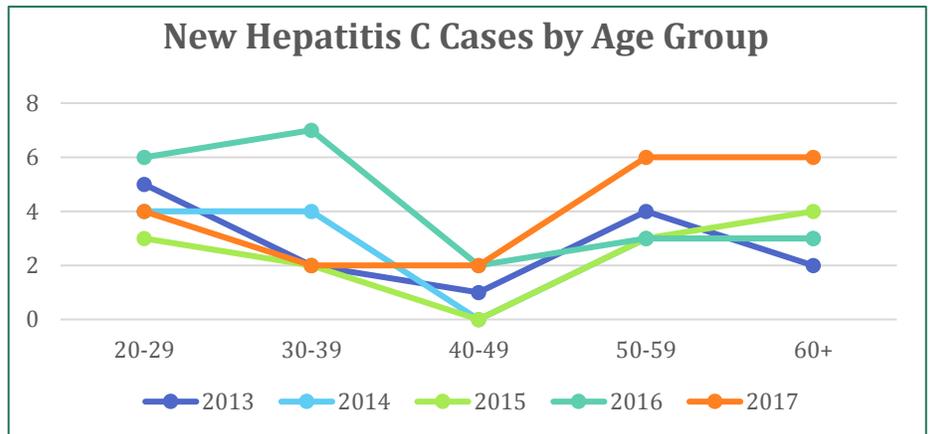
0 | # of public health emergencies in Lincoln County
Lincoln County Average: TBD

Tickborne Disease by Age and Gender

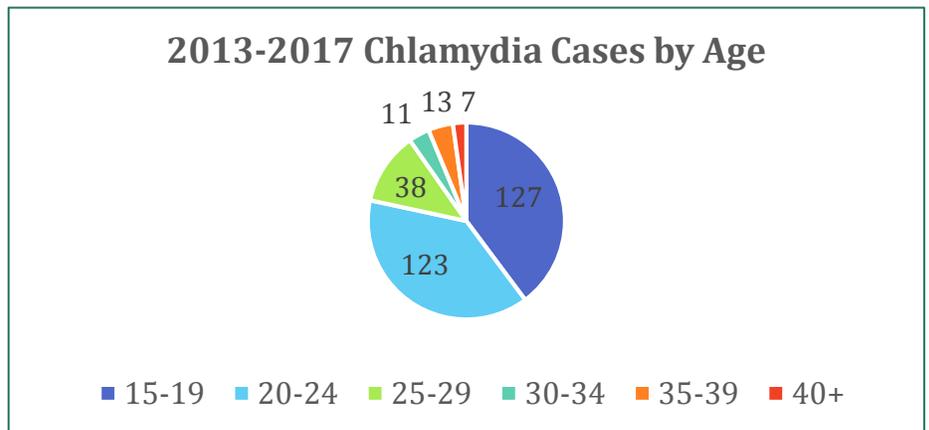
Disease included in this graph are Lyme disease, Anaplasmosis, Babesiosis, and Erlichiosis. During 2013-2017, the average time it took for Lincoln County residents to receive a tick disease diagnosis from time of symptom onset was 13 days. On average men received a diagnosis 8 days earlier than women. Source: WEDSS



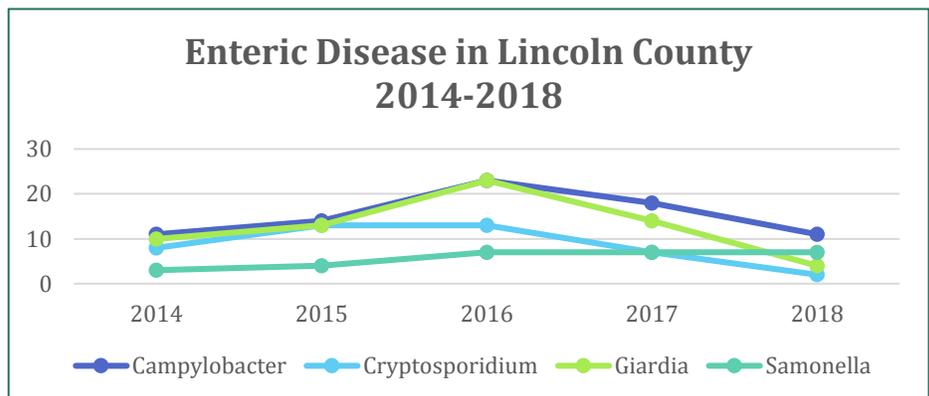
Hepatitis C by Age The numbers have been on the rise nationally both among baby boomers and IV drug users. As we continue to observe the after effects of the opioid epidemic, it is expected to continue to see high number of hepatitis C. Source: WEDSS



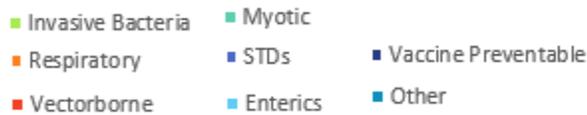
Chlamydia by Age Overall women accounted for 76% of all chlamydia cases. This trend is seen nationally as women are more likely to be seen for regular OBGYN appointments in which those aged 15-24 are recommended STD screening. There are no STD testing recommendations for heterosexual men at this time. Men aged 15-19 only accounted for 15% of chlamydia cases but by the time men reached their 30's men account for 58% of chlamydia cases. Source: WEDSS



Enteric Disease In 2016, the entire state of Wisconsin saw a large increase in giardia with large rainfalls that year being a possible factor. Also starting around 2014, many laboratories began using new tests that were not as specific for many types of enteric disease, thus creating many possible false positives.



2018 Disease Breakdown



Confirmed Cases/Outbreaks	2015	2016	2017	2018
Enteric / Gastrointestinal (also includes suspect cases)				
Campylobacter	14	23	18	11
Cryptosporidium	13	13	7	-
E-Coli (shiga toxin)	-	-	1	-
Giardia	13	23	14	4
Norovirus Outbreaks	1	-	1	-
Listeria	1	-	-	-
Salmonella	4	7	7	7
Shigella	1	-	2	6
Invasive Bacteria				
Meningitis	1	-	-	1
Streptococcus Group A	1	-	2	1
Streptococcus Group B	5	1	3	3
Mycotic				
Blastomycosis	1	4	5	3
Respiratory				
Influenza Hospitalization	7	7	23	29
TB, latent	1	1	1	1
Acute Respiratory Illness Outbreaks	3	-	2	5
Mycobacterial Disease (non TB)	2	2	5	4
Parapertussis	1	-	1	-
Sexually Transmitted				
Chlamydia	62	70	46	50
Gonorrhea	2	2	6	10
Vaccine Preventable				
Pertussis	2	1	-	-
Streptococcus Pneumonia	3	2	8	7
Chickenpox	4	1	-	8
Hepatitis B / Non AB	1	1	-	1
Vectorborne				
Arboviral, Jamestown Canyon	-	-	3	-
Babesiosis	1	2	1	1
Erhlichiosis/Anaplasmosis	3	11	10	11
Lyme Disease	21	31	33	12
Powassan, arboviral	-	-	1	-
Other				
Hepatitis C	10	18	19	6



Dashboard Data Detail

Below are the abbreviated references for the data presented in the dashboard. Note that some measures have more years of data available.



Communicable Disease and Condition

Enteric Diseases: Number of food and or waterborne disease, Lincoln County, includes giardia, salmonella, cryptosporidium, campylobacter, shigella, shiga toxin e-coli and Listeria. Source: WEDSS Year of Data: 2018. Lincoln County Average: 2015-2017

Vectorborne Illnesses: Number of vectorborne illness, Lincoln County; includes Lyme disease, anaplasmosis, erlichiosis, babesiosis, powassan, Jamestown canyon virus. **Source:** WEDSS. **Year of Data:** 2018. **Lincoln County Average:** 2015-2017.

Disease Outbreaks: Number of disease outbreaks, Lincoln County; includes norovirus and influenza outbreaks. **Source:** Lincoln County Records. **Year of Data:** 2018. **Lincoln County Average:** 2015-2017.

Hepatitis C: Number of Hepatitis C disease, Lincoln County. **Source:** WEDSS. **Year of Data:** 2018. **Lincoln County Average:** 2015-2017.

Sexually Transmitted Disease: Number of Sexually Transmitted Disease, Lincoln County; includes gonorrhea, chlamydia, and syphilis. **Source:** WEDSS. **Year of Data:** 2018. **Lincoln County Average:** 2015-2017.

STD Testing: Number of Sexually Transmitted Disease tests completed by LCHD Staff in both the community and among jail inmates. **Source:** Lincoln County Records. **Year of Data:** 2018. **Lincoln County Average:** 2015-2017 (jail only).



Vaccine Preventable Disease

Two Year Old Immunization: Percent of two year old receiving recommended vaccines. Source: WIR Year of Data: 2018 Lincoln County Average: 2015-2017 Wisconsin Average: 2015-2017

HPV: Percent of adolescents with the completed HPV series. Source: WIR Year of Data: 2018 Lincoln County Average: 2015-2017

Influenza: Number of Confirmed Influenza Associated Hospitalizations for 2017-2018 Season. **Source:** WEDSS. Lincoln County Average: 2015-2018

Pneumonia: % of 65 years and older that have received the pneumococcal vaccine. Source: WIR Year of Data: 2018 Lincoln County Average: New data analysis 67-90 year olds in 2018.

Student Immunization Compliance: % of all students meeting school immunization requirements. *Average taken over past 4 years; WI 2017-2018 Results

School Vaccination Clinic: Number of Lincoln County students receiving the flu vaccine at a school. **Source:** LCHD Records **Year of data:** 2018



Emergency Preparedness

Trainings: Number of public health preparedness trainings and exercises completed by staff and partners. **Source:** Lincoln County Health Department **Year of data:** 2018; Lincoln County average 2015-2018

Emergencies: Number of public health emergencies in Lincoln County **Source:** Lincoln County Health Department **Year of data:** 2018; no Lincoln County average available at this time.



Disease Prevention and Control



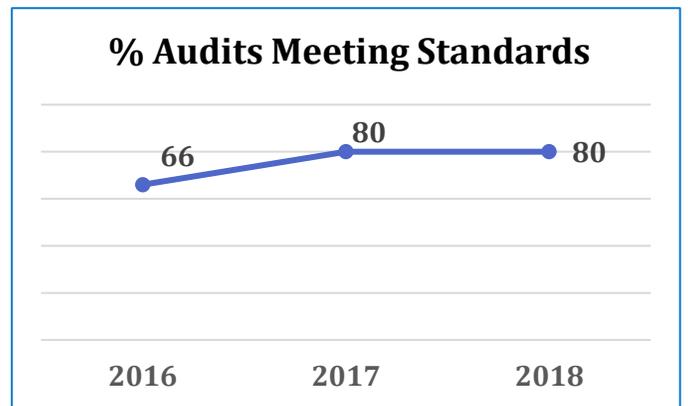
The ability to conduct timely investigations of suspected or identified health problems is necessary for the detection of the source of the problem, the description of those affected, and the prevention of the further spread of the problem. When public health or environmental public health hazards are investigated, problems can be recognized and rectified, thus preventing further spread of disease or illness. -Public Health Accreditation Board

Program Performance Objectives

Assure Disease Investigation Compliance

Goal: By December 31, 2018 100% of disease investigations under peer review by the communicable disease subcommittee will meet all disease required interventions during investigations per WI Department of Health Services (DHS).

Results: 4 of the 5 (80%) audits completed met all DHS standards during investigation. The incident that was not completed correctly contained the information needed for proper investigation but that information was logged in the wrong location.



Health Education and Promotion

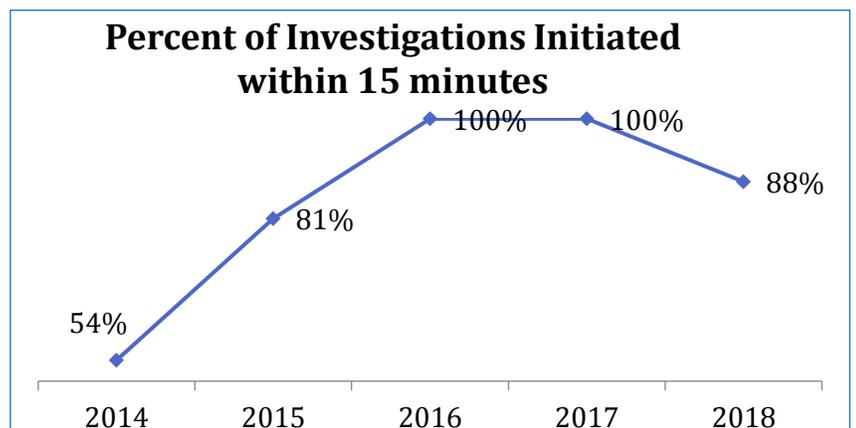
Goal: By December 31, 2018, there will be three communicable disease related educational messages promoted within Lincoln County by the Communicable Disease subcommittee.

Results: 3 educational messages were completed during 2018. Campaigns focused on STD testing, tick disease, and an issue brief analysis of young adult sexual health for local health care providers.

Ensure Timely Category 1 Disease Investigation

Goal: By December 31, 2018, 100% of all category 1 disease or suspected outbreaks, including those reported in WEDSS, will have an investigation initiated within 15 minutes of notification to Lincoln County Health Department.

Results: The addition of new reportable category 1 disease accounted for the investigations not initiated within 15 minutes (2/3) 88%.





Vaccine Disease Prevention



Vaccines are one of the greatest achievements of the 20th century. Prior to the development of immunizations, people routinely died from infectious diseases. Vaccines have eliminated smallpox globally and polio in the U.S., and have drastically reduced measles, diphtheria, rubella, pertussis and other diseases.

Program Performance Objectives

Vaccines received by age 2

Goal: By December 31, 2018, 77% children residing in Lincoln County who turn 24 months of age during the contract year will complete 4 DTaP (Diphtheria, Tetanus, acellular Pertussis), 3 Polio, 1 MMR (Measles, Mumps, Rubella), 3 Hib (Haemophilus Influenza), 3 Hepatitis B, 1 Varicella and 4 Pneumococcal Conjugate (PCV) vaccinations by their second birthday. **Results:** Lincoln County met its goal of 77%, as results were 78% of children completing set vaccination series by December 31, 2018 as per WIR data benchmark report. Compared to 2016 and 2017, the rate did increase to reach the set goal. The outreach provided to not up to date residents assists with reminding local caregivers the importance of timely immunizations for children, increased access to vaccines for children (VFC), and best practices for disease prevention.

Percent of Adolescents that Completed HPV

HPV (Human Papilloma Virus) vaccination prevents 90% of all cancers related to HPV in men and women. The ACIP recommends all 11 to 12 years olds get protected against HPV. The immune response to the vaccine works best at this pre-teen age and the vaccine only works if not exposed to the virus. HPV is a very common virus; nearly 80 million people—about one in four Americans is currently infected (CDC).

Percentage rates for HPV vaccination series completion for 13-18 year olds in Lincoln County



Promoting Pneumococcal Vaccine

Pneumonia is the ninth leading cause of death in Wisconsin for adults 65 years and older (2017, DHS). Older adults above the age of 65 are at higher risk for complications from pneumonia and are recommended to get the pneumococcal series PCV13, PPSV23. Baseline data includes 57% of adults being up to date with the series in 2017. The LCHD collaborated with local agencies to promote the pneumococcal vaccine series through a quality improvement project to promote awareness of the vaccine series and to get eligible citizens to speak with their health care provider or pharmacist for more information. Immunization staff analyzed data monthly to track progress and compare data. By the end of the project, 66% of Lincoln County adults met series completion as of December 31, 2018.



Emergency Preparedness

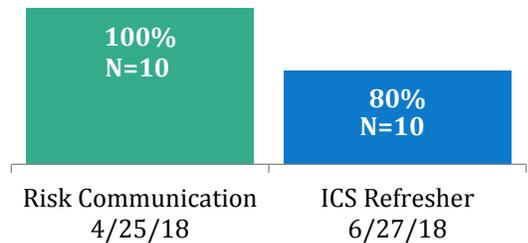
Program Performance Objectives

Public health preparedness is the ability of the public health system, community, and individuals to prevent, protect against, quickly respond to, and recover from health emergencies, particularly those in which scale, timing, or unpredictability threatens to overwhelm routine capabilities. - Centers for Disease Control and Prevention

Staff Preparedness Competencies

Goal: By December 31, 2018, 100% of staff will increase their knowledge in risk communication, the incident command system and the new PHEP structure after completing trainings throughout the year. **Results:** Staff completed a public health preparedness competency assessment in November 2017. The results indicated the need for additional training in concepts of risk communication and the Incident Command System (ICS). Trainings were offered in April and June and appeared to be effective in increasing knowledge for a majority of staff.

LCHD Staff Reporting Increased Knowledge after Training in 2018

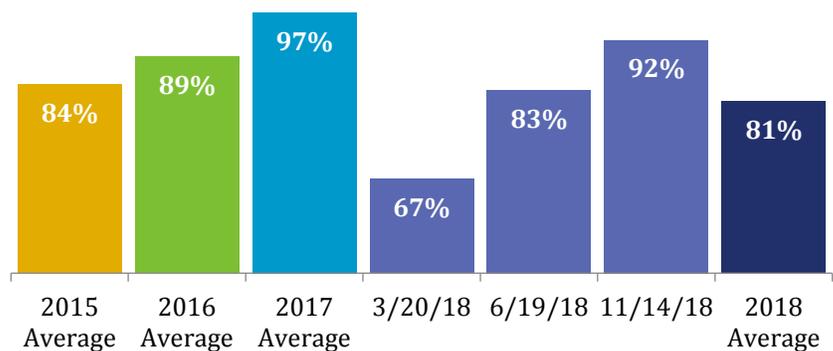


Staff Afterhours Drills

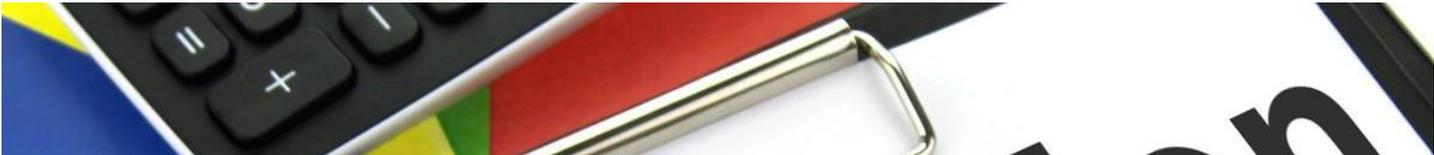
Goal: By December 31, 2018, 100% of staff will confirm receipt of RAVE alerts, during quarterly drills, within 60 minutes of being notified.

Results: RAVE is the 24/7 emergency notification system that is utilized to alert staff after hours. In 2018, the average confirmed response rate for RAVE drills was 81%. This was a decrease from previous years (2017 - 97%, 2016 - 89%, 2015 - 84%). The drill that was conducted on March 20,

Percent of LCHD Staff that Confirmed Receipt of RAVE Alerts within 60 Minutes



2018 had the lowest response rate for the year at 67%. Two staff were late in their response and two other staff did not respond. On average 12-13 staff participate in the drill. Education was provided on the need to respond to drills even if the response is late. The importance of charging phones and making sure they are accessible after hours was also discussed. As a result, the following drills had improved outcomes, however work is still needed to achieve the response goal of 100%.



Program Evaluation

Vaccine for Children State Audit

LCHD completed a Vaccine for Children (VFC) Compliance Site Visit from the State of Wisconsin Immunization Program in February of 2018 and attained approval of proper maintenance of all current VFC program requirements and recommendations. The policies and requirements are essential to participating in the VFC programming. As of January 1, 2018, the requirements for storage and handling changed including the need to purchase digital data logger thermometers (DDLs). The data loggers assist with proper storage/handling of immunizations and assist immunization staff with tracking proper range of vaccine for non-business hours and during offsite clinics.

Lessons Learned from Mass Casualty Exercise

On September 19, 2018, LCHD and its first responder partners participated Regional Mass Casualty Tabletop Exercise with the goal of improving preparedness and response readiness for mass casualty incidents. Specific capabilities that were tested included information sharing, fatality management, medical surge and health care and medical response coordination.

The following were identified as strengths and areas of improvement following the exercise:

Strengths

- Strong county and regional partnerships
- Multiple notification systems
- Awareness of a partners, resources, and plans that would be activated to manage a large medical surge

Areas of Improvement

- Establish a system for tracking patients in large-scale emergencies.
- Research the feasibility of using non-ambulance transportation options in mass casualty incidents.
- Establish additional MOUs to support mass fatality management and family assistance center (FAC).
- Improve county-level medical surge and FAC plans.

Share a Story



The *CDC Childhood Immunization Champion Award* is an annual award that recognizes individuals who make a significant contribution toward improving public health through their work in childhood immunization. In his more than 30 years of practice, Moore has been an outstanding vaccine leader, mentor, advocate, and policy maker in his community. Dr. Moore has championed childhood immunization in his clinic by connecting with parents. He says the “critical issue is communicating complete, and at times frightening, concepts to parents with hope and reassurance.” He was the recipient of a Vaccine Science Fellowship through the American Academy of Family Physicians where he took courses on vaccine-preventable diseases. Because of his dedication, his clinic has the highest immunization rates out of more than 50 Marshfield clinics throughout Wisconsin. For his efforts to educate parents about vaccines in his rural community, Dr. Jeffrey Moore is Wisconsin’s 2018 CDC Childhood Immunization Champion.

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