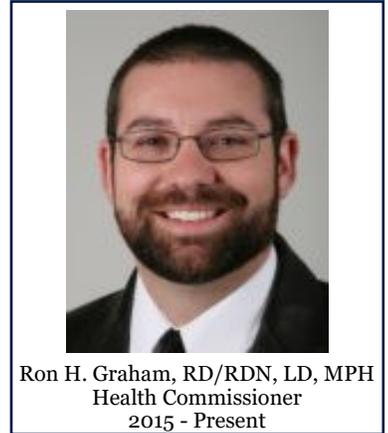


Lake County General Health District 2018 Annual Report

A Message from the Health Commissioner



100 Years of Protecting Your Health

The beginning of 2019 marks a historic centennial landmark for public health and local health districts. Established in 1919 by the Hughes-Griswold Act, municipal and general health districts were created across the state of Ohio, in order to ensure timely and effective response to public health crises following a statewide smallpox epidemic in 1917 and national influenza epidemic in 1918. Representative Hughes, who introduced the bill in April of 1919, advocated for the establishment of both municipal health districts for populations in excess of 25,000, and general health districts for villages and townships. Agency personnel prompted by the bill included a full-time health commissioner, and a minimum of one full-time public health nurse and clerical staff person, respectively. Following the addition of the Griswold Amendment, which primarily outlined the establishment of city health districts, the Hughes-Griswold Act was passed in December of 1919.

An Evolving Approach to Public Health

In the early 19th century, public health practice was characterized by advancements in vaccines, antibiotics, epidemiological concepts and methodologies, and food and water sanitation practices, an era also known as Public Health 1.0. Since the field’s formalized inception in 1919, public health has slowly evolved to address the ever-changing health needs of its constituents.

Public Health 2.0, an era ushered in with the 1988 Institute of Medicine report *The Future of Public Health*, identified the misalignment between safety-net clinical care and the largely untouched burden of chronic disease care, and called for attenuation of the global HIV/AIDS epidemic. Nearly thirty years later, the core tenets exemplified by both the Public Health 1.0 and Public Health 2.0 periods remain essential today.

In recent years, however, the United States public health infrastructure has experienced considerable strain. The Great Recession of 2008 brought large cuts to public health funding, while concurrent workforce reductions occurring between 2008 and 2011 reduced the availability of qualified public health staff. As such, local public health departments experienced losses in both funding and clinical revenue, thus impacting the availability of preventive and safety-net services. The consequences of a crumbling public health infrastructure, however, are often felt most intensely in the communities with the greatest need.

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BOARD OF HEALTH		
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**Mission of the Lake County General Health District:
Working to prevent disease, promote health, and protect our community.**

A Message from the Health Commissioner (continued)

The link between socioeconomic status, health, and life expectancy have been well documented, and events such as the 2014 lead crisis in Flint, Michigan, serve as a painful reminder of the consequences incurred when a community's decisions are misaligned with public health interest.

Given the need for an enhanced public health infrastructure, the Lake County General Health District has strategically aligned itself to embrace Public Health 3.0 with innovative and efficient solutions to systematic problems. Utilizing best practices, emerging technology, policy advocacy, and the leveraging of both state and federal relationships, the agency looks to increase the availability of timely, actionable data, provide clear metrics for public health efficiency, advocate for enhanced state and federal funding mechanisms based upon current public health systems approaches and activities, and assess the impact of prevention initiatives, especially those addressing the social determinants of health and health equity.

On behalf of the Board of Health, I would like to thank Lake County residents for their unwavering support, and I look forward to shaping the next 100 years of public health practice.



Ron H Graham MPH, RD, LD

Health Commissioner

In Remembrance of Tim Brennan

Tim was a dedicated member of the Board of Health for 17 years. He was faithful to the public health principles, and to the community he represented, displaying passion, loyalty, and a clever charm with those around him. His presence will be greatly missed.

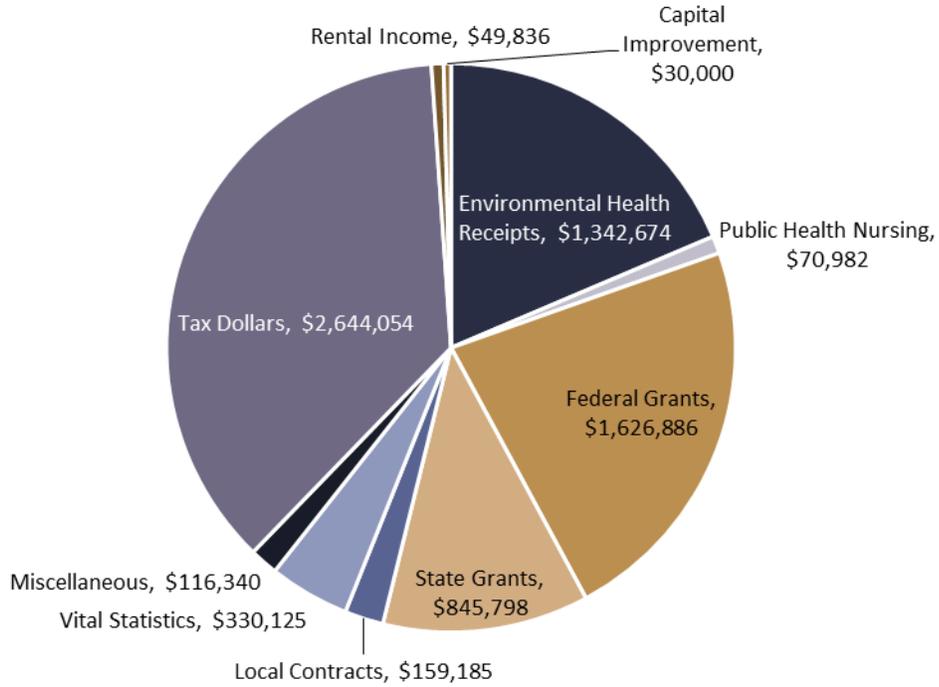
Community Health Assessment Update (2019)

Despite several differences between the community health needs assessment (CHNA) process required by the Internal Revenue Service for nonprofit hospitals, and the community health assessment (CHA) process required by the Public Health Accreditation Board for local public health departments, both assessments aim to establish a clear documentation of local health needs. As such, the Lake County General Health District's Office of Health Policy and Performance Improvement, in conjunction with Lake Health, will be conducting a joint Lake County CHNA/CHA in 2019. In addition to a considerable cost savings and efficient utilization of both community and hospital resources, anticipated benefits of a joint assessment include enhanced organizational collaboration, as well as a more comprehensive focus on the community's greatest health needs.

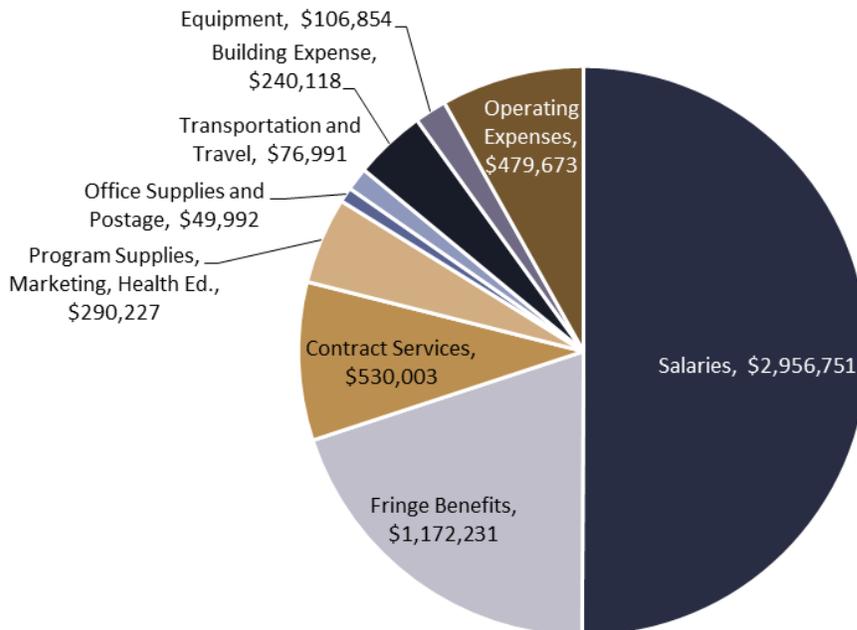
Beginning in January of 2019, the Office of Health Policy and Performance Improvement will begin compiling more than 300 secondary epidemiological data measures, from which it will construct a community survey, and inform both community leader interview and community resident focus group content. The joint CHA/CHNA process is scheduled for completion in early August of 2019, at which time a community health improvement plan (CHIP) will be constructed based upon the community health needs identified by way of the CHA/CHNA process.

Agency Financial Report

Total Revenue - \$7,215,880



Total Expense - \$6,157,571



Office of Health Policy and Performance Improvement

Public Health Shared Services

In light of mandated public health accreditation, local health department consolidation, and several financial constraints surrounding unfunded mandates, limited per capita funding, and daily public health operations in Ohio, local public health shared service arrangements have become increasingly employed to ensure a greater breadth of services while simultaneously reducing local costs. As such, the Lake County General Health District's Office of Health Policy and Performance Improvement currently manages grant writing shared service contracts with both Trumbull and Geauga County health departments, respectively. These arrangements allow for both of the aforementioned counties to remain competitive in state and federal grant cycles, while eliminating the need to hire full- or part-time grant writing staff. Furthermore, the arrangement helps to fund a full-time Office of Health Policy and Performance Improvement staff member, who currently handles grant writing duties for Lake, Geauga, and Trumbull Counties, respectively.

In 2018 alone, this arrangement resulted in roughly \$500,000 in grant funding between Lake and Trumbull Counties, as well as expanded grant dialogue between Lake County General Health District and the Geauga County Health District. Moving forward, the Office of Health Policy and Performance Improvement aims to broaden its regional shared service arrangements to include additional services in supplement to grant writing, as well as expanding shared service opportunities with other neighboring counties.

Five-Year Lake County Drug Overdose Analysis

On October 11, 2018, Lake County General Health District's Office of Health Policy and Performance Improvement released a report outlining a five-year analysis of Lake County overdose deaths. The respective report, which utilized vital statistics data provided by the Ohio Department of Health, identified a number of demographic relationships between the 329 Lake County resident drug-related overdose deaths that occurred between 2013 and 2017. Characterized by sex, age, marital status, and occupation, this demographic profile identified unmarried and/or divorced Caucasian males, between the ages of 25 and 54, and currently employed in a labor, maintenance, or trade occupation, as disproportionately prone to drug-related overdose deaths. Moreover, the aforesaid individuals were most heavily impacted by substances containing the illicit opioid fentanyl, and/or fentanyl analogues.

Moving forward, the Office of Health Policy and Performance Improvement aims to utilize this demographic profiling methodology to inform targeted community-based overdose prevention initiatives, as well as constructing similar neighboring county comparisons, in order to identify overdose death commonalities and community-specific dynamics, both of which could further inform state and local overdose prevention activities, initiatives, and policies. Moreover, the subsequent methodology could be tailored to address a variety of other health behaviors, representing a novel public health prevention mechanism.

Women, Infants, and Children (WIC)

The 2018 WIC Farmers Market Nutrition Program

Established in 1992, the WIC Farmers Market Nutrition Program provides state-sponsored vouchers to current WIC participants for redemption at local participating farmers markets, a convenient access point for locally grown produce. The Lake-Geauga WIC Farmers Market Nutrition Program, which benefits both Lake and Geauga County WIC participants and farmers, respectively, generated a total of 1,508 vouchers for Lake County WIC participants, and 1,336 vouchers for Geauga County WIC participants in 2018 (Table 1). WIC participants in both counties are eligible for four \$5 vouchers, to be used towards the purchase of fruits, vegetables, and herbs at participating county farmers markets. Of the \$7,540 in vouchers distributed to Lake County WIC participants, \$6,015 was redeemed in 2018, while \$3,750 of the \$6,680 distributed to Geauga County WIC participants was likewise redeemed (Table 1). Overall, the program continues to successfully increase access to fresh foods among WIC participants, while spurring a positive economic impact for local farmers.

Table 1. *Lake and Geauga Farmers Market Vouchers (2018)*

	Vouchers Issued	Vouchers Redeemed	Percentage of Vouchers Redeemed	Redeemed Amount
Lake	1,508	1,203	79.77%	\$6,015
Geauga	1,336	750	56.14%	\$3,750



Community Health Services

Lake County Disease Investigation

Table 2. Reportable Communicable Diseases

Communicable Disease	2017	2018
Campylobacter	46	32
Chlamydia	695	801
Coccidioidomycosis	0	0
Cryptosporidiosis	0	6
Cyclosporiasis	0	0
E. coli 0157:H7	2	8
Giardia	10	10
Gonorrhea	134	181
Haemophilus Influenza	1	4
Hepatitis B	20	15
Hepatitis C	252	251
Influenza-Hospitalized	136	281
Legionnaires Disease	16	18
Listeriosis	2	0
Lyme Disease	16	16
Malaria	1	0
Meningitis-Aseptic/Viral	4	3
Meningitis, Bacterial not Neisseria	7	5
Mumps	1	0
Mycobacterium Tuberculosis	0	0
Pertussis	18	8
Q-Fever	1	0
Rocky Mountain Spotted Fever	1	0
Salmonella	25	26
Shigellosis	2	1
Staph Aureus VRSA	0	0
Streptococcal Group A	9	15
Streptococcal Group B Newborn	0	0
Streptococcus Pneumoniae	24	19
Syphilis	12	10
Varicella	5	5
West Nile Virus	1	3
Yersinia	3	0
Totals	1,444	1,718

In accordance with Communicable Disease Rules 3703-3-01 through 3701-3-31 of the Ohio Administrative Code (OAC), hospitals, laboratories, and healthcare providers in Ohio are required to report new diagnoses of Ohio's Class A, B, and C infectious disease to their local health jurisdiction. Public health nurses track this information, analyze trends, and investigate when appropriate.

In 2018, 1,727 communicable diseases were reported to LCGHD, representing a 19.6% increase from 2017. All required investigations were completed on cases reported. Upwards of 197 cases were reported to LCGHD and transferred to other jurisdictions for investigation, while an additional 83 investigations did not meet Ohio Department of Health case definition criteria, and were therefore not classified as actual cases.

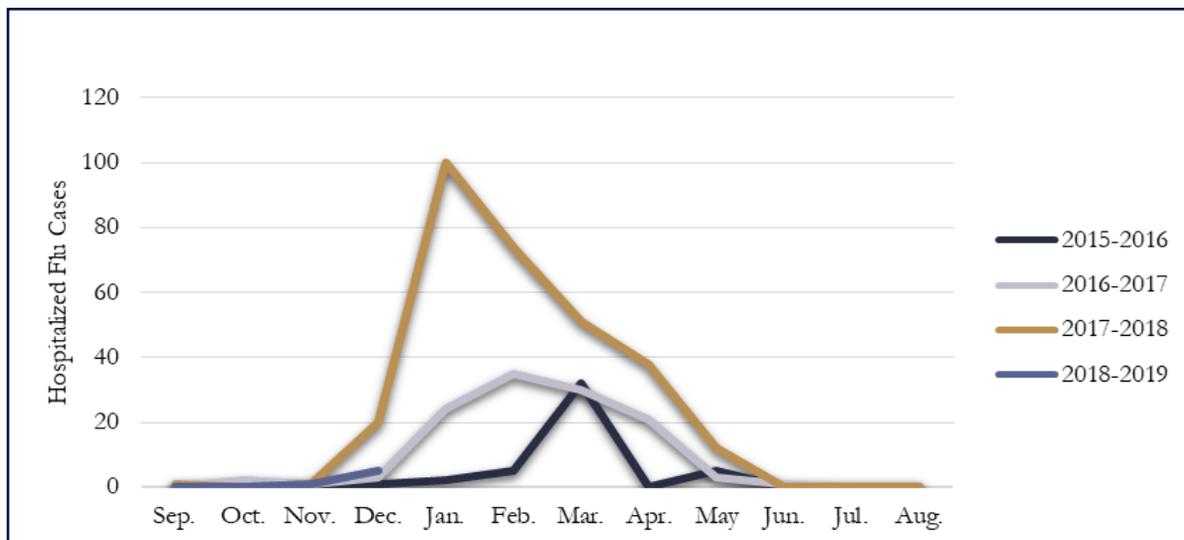
A total of four disease outbreak investigations were conducted in 2018, two of which involved influenza, and two involving Norovirus.

Public health nurses also utilize the EpiCenter Surveillance System to monitor regional hospital emergency department registrations. The respective community health surveillance program monitors surges in respiratory, gastrointestinal, and neurologic conditions. In 2018, 63 EpiCenter investigations were conducted.

Lake County Influenza Caseload

Influenza prevalence in Lake County increased 107% from 2017 to 2018, representing the first high severity influenza season across all county age groups, especially among those 50 years of age and older, the latter of which accounted for 81% of 2018 influenza hospitalizations. Beginning in November of 2017, influenza contraction began to increase, and subsequently peaked between January and February of 2018 with 146 influenza hospitalizations, resulting in both outpatient and emergency department admission surges. Influenza incidence levels remained elevated throughout the months of March and April, with 42 and 34 hospitalizations, respectively. Confirmed influenza cases were largely concentrated in the Mentor (23%), Willoughby (20%), Painesville (18%), and Wickliffe (11%) areas, and the majority of cases involved females (52%). The 2017-2018 influenza season represented one of the longest seasons in recent memory, ultimately resulting in 281 influenza hospitalizations in 2018. A comparison of the current and previous seasons is available below (Figure 1).

Figure 1. Hospitalized Flu Cases by Season



In response to the severity of the 2017-2018 flu season, Lake County General Health District has expanded vaccination efforts among the county’s child and elderly populations, both of which represent high risk influenza populations. From September to December of 2018, the LCGHD nursing team reached out to a

Table 3. LCGHD Vaccinations: September to December, 2018

Clinic Type	Adult Flu Vaccines Administered	Child/Adolescent Flu Vaccines Administered
Senior Centers	307	0
Community Partners	231	20
Contract Clinics	46	0
LCGHD Clinics	85	49
Total	669	69

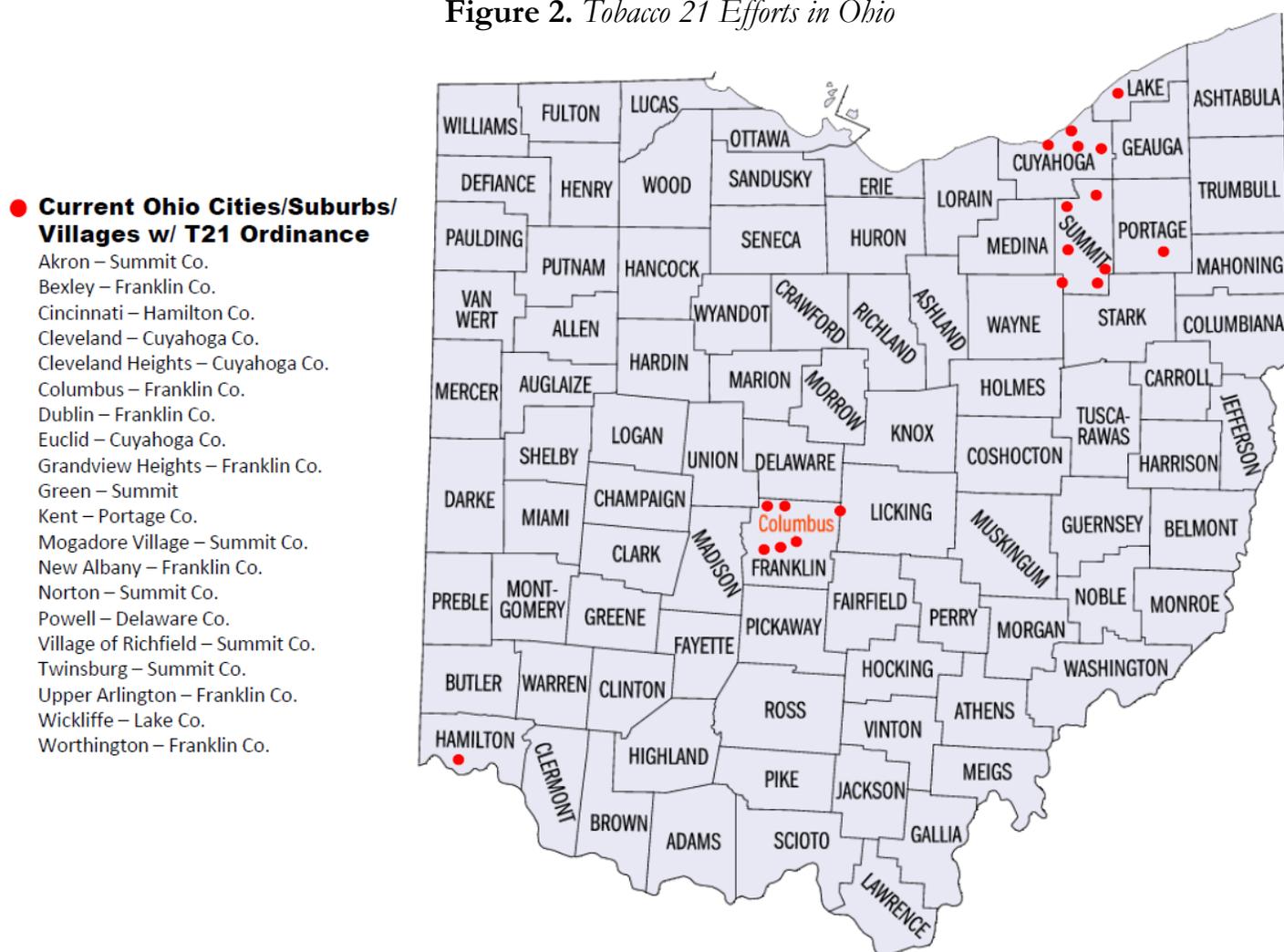
Health Promotion and Planning

Wickliffe Passes Tobacco 21 Legislation

Tobacco 21, a national campaign aimed at raising the minimum legal sale age for tobacco and nicotine product sales in the United States to 21 years of age, represents an opportunity for public health law to attenuate a stark national health risk. Roughly 90% of those who purchase tobacco products for minors are between the ages of 18 and 20 and, as such, increasing the minimum legal sale age to 21 years of age may hamper minors' ability to access tobacco and nicotine products. By way of the Ohio Department of Health's 2017-2018 Community Tobacco Free Survey, residents of Lake, Geauga, and Ashtabula counties weighed in on Tobacco 21 legislation, and results indicated that 55% strongly supported the passage of Tobacco 21 legislation.

The City of Wickliffe, which joins 19 other Ohio cities who have successfully passed Tobacco 21 legislation, is the first in Lake County to pass a Tobacco 21 ordinance (Figure 2).

Figure 2. Tobacco 21 Efforts in Ohio



Revised February 2019

Naloxone Distribution

Project DAWN (Deaths Avoided With Naloxone)

In January of 2018, Lake County General Health District received an expansion grant from the Ohio Department of Health to add four additional Project DAWN locations, for a total of five, within Lake, Geauga, and Ashtabula counties. As a result, 424 naloxone kits were distributed to community members in 2018, 64% of which were distributed in Lake County, 19% in Ashtabula County, and 17% in Geauga County. Moreover, a total of eight lives were reportedly saved with naloxone kits provided by a Project DAWN location in 2018.



Law Enforcement

Ohio Mental Health and Addiction Services (OhioMAS) provides funding for Lake County General Health District to supply naloxone to local law enforcement who are not able to bill or be reimbursed for naloxone disbursement. Currently, Lake County General Health District distributes naloxone to 15 law enforcement agencies on a quarterly basis. In 2018, a total of 173 naloxone kits were distributed, and 24 lives were reportedly saved with the law enforcement administration of their naloxone kit (s).

Emergency Preparedness

Lake County General Health District participated in many activities in 2018 that tested its new and existing emergency response plans. During this process, emergency preparedness staff identified areas for improvement, strengthened stakeholder relationships, and coauthored, coordinated, and/or participated in several preparedness exercises, including the (1) Northeast Ohio Functional Exercise *Ebola Strikes Back, Operation Health Education And Training*, (2) *Anthraxrockin'* Functional Exercise, (3) *Botched Up* Full-Scale Exercise, (4) the Federal Emergency Management Agency-evaluated Perry Nuclear Power Plant Exercise, (5) the Northeast Ohio Coalition Surge Exercise, and (6) the Lake County Hazardous Intervention Team's State Emergency Response Commission-graded Exercise. Emergency preparedness staff were also asked to lead public information efforts during the 2018 Lake County hydrogen sulfide incident.

Emergency public information and warning is a critical public health emergency preparedness and response capability, as it is imperative to continue providing information to the public during an emergency. As such, Lake County General Health District emergency preparedness staff engaged its Health Promotion and Planning, Community Health Services, and Environmental Health divisions to coordinate messaging for the following campaigns: (1) National Public Health Week, (2) HIV testing programs, and (3) National Distracted Driving Month. Lake County General Health District emergency preparedness staff currently chair the Northeast Ohio Metropolitan Medical Response System Meta-Coalition Public Information Officer (PIO) Workgroup, and author *PIO Highlights*, a monthly newsletter to PIO's around the state.



Environmental Health Programs

Hydrogen Sulfide (H₂S) gas release in North Mentor

On October 10, 2018, the Lake County General Health District, in conjunction with Lake County Utilities and Mentor Fire Department, received a call from the City of Mentor to assist in the investigation of a strong odor originating in the North Mentor area. The odor, emitting from a sanitary sewer, was identified as Hydrogen Sulfide, a colorless, flammable, and hazardous gas characterized by a rotten egg smell. While low levels of hydrogen sulfide has been linked to a variety of health effects, higher concentrations are increasingly dangerous, and may result in death. As such, Lake County General Health District and the aforementioned agencies activated a local incident command structure to coordinate response, investigation, and distribute public messaging, while environmental health staff were dispatched on foot to inform area residents of the potential danger of the gas, answer questions, and notify the fire department if the smell was detected in the interior of their home. At this time, the utility department backtracked the sewer line to identify a potential industrial location and correct the sewer discharge issue, which was ultimately resolved on October 18. This event reinforced the value of positive working relationships by all of the local agencies involved, and helped to ensure no incident-related injuries or illness.

Increased Mosquito Trapping and Surveillance

Lake County General Health District continuously monitors the adult mosquito population in Lake County. Mosquito trapping, which is utilized for species identification and disease testing, is an integral component of the monitoring process, and is used to determine when and where adult mosquito control may be necessary.

In 2018, LCGHD doubled its mosquito surveillance capabilities with the addition of six trapping locations, all of which were housed at local fire departments. In previous years, Gravid traps, which are designed to catch *Culex* mosquitoes, capable of transmitting West Nile virus, St. Louis Encephalitis, and both Western and Eastern Equine Encephalitis, have been placed at five locations throughout the county. In order to supplement surveillance efforts, both Center for Disease Control and Prevention (CDC) light traps and Gravid traps were placed at each of the six new trapping locations. CDC light traps represent an industry standard for adult mosquito surveillance, while also trapping *Aedes albopictus* mosquitoes, which are commonly associated with Zika virus.

In total, LCGHD trapped and sent 20,396 mosquitoes to the Ohio Department of Health for species identification and disease testing in 2018. As a result, the Ohio Department of Health identified 98 West Nile virus-positive pools (groups of no more than 50 mosquitoes), as well as 15 *Aedes albopictus* mosquitoes obtained from the CDC light traps.



Gravid trap (left) and CDC Light Trap (right)

Food Safety Ninja Program

The Food Safety Ninja program (www.foodsafetyninja.org) was created by the Lake County General Health District and funded by a grant from the Food and Drug Administration (FDA). The program website, which provides food safety education via video animations, educational information, and content quizzes, is part of a five-year FDA grant targeting food safety risk factors identified by the Centers for Disease Control and Prevention. The website was designed as an intervention strategy to improve food safety and prevent foodborne illness in Lake County. During standard food inspections, Lake County General Health District food sanitarians distribute corrective action post cards (Figure 3) to establishment operators with critical violations in any of six violation categories. The postcards and website link corrective actions to the program’s website-based educational content, to provide further education to the operators, and failure to complete corresponding corrective action assignments result in an administrative hearing. As part of the FDA grant, a foodborne illness risk factor study was completed in 2016 to identify the areas of concern in Lake County. Upon completion of the grant, an additional foodborne illness risk assessment will be conducted to determine program efficacy and improved food safety in Lake County food establishments. Currently, national organizations, such as the National Association of County and City Health Officials, as well as the National Environmental Health Association, have added the program’s publically-available website to their respective food safety resources. A compilation of 2018 statistics regarding the use of the website, as well as violations issued, is available below (Table 4).

Figure 3. Food Safety Ninja Corrective Action Postcard



Table 4. 2018 Food Ninja Program Statistics

Program Indicator	Total
Post cards issued	387
Handwashing violations	102
Hot and cold holding violations	208
Improper date marking violations	100
Employee illness policy violations	44
Improper chemical violations	132
Improper cooling or reheating violations	19
Administrative hearings issued	78
Administrative hearings held	8

Table 5. Statistics at a Glance (2018)

Food Permits	1511	Beach Samples	98
Plumbing Residential Permits	638	Beach Advisory Days	37
Plumbing Commercial Permits	108	Drug Disposal in Pounds	6820
Private Water Permits	37	Animal Bites	422
Nuisance Complaints	506	Sewage Permits	146

This Is Public Health

A Snapshot of Some of the Services Provided by Your Health Department in 2018



Issued:

5,936

Birth Certificates

8,332

Death Certificates

Naloxone Kits



424

Distributed

20,396



**Mosquitoes
trapped and
tested**

**6,820
lbs**

**Pharmaceuticals
collected**



**3,868
WIC
Clients
Served**

1,511



**Food Permits
Issued**

If you would like to learn more about the services offered, please contact the Lake County Health District.



**Lake County
General Health District**

Public Health
Prevent. Promote. Protect.

