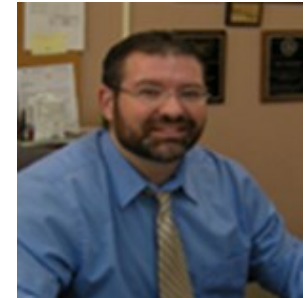


Lake County General Health District 2017 Annual Report

A Message from the Health Commissioner

Population-based health can be challenging in today’s environment of changing healthcare, and the difficulty encountered when trying to change personal behaviors. Successful, lasting health outcome impacts require a focus not just on patient care, but on community-wide approaches aimed at improving population health¹⁻⁶. Interventions that address the conditions in which individuals live, learn, work, and play have the greatest potential impact on their health⁷⁻¹¹. By focusing on these “social determinants of health” (SDOH) and on “changing the context to make healthy choices easier,” the public health system can help improve the health of everyone living in a community⁷.

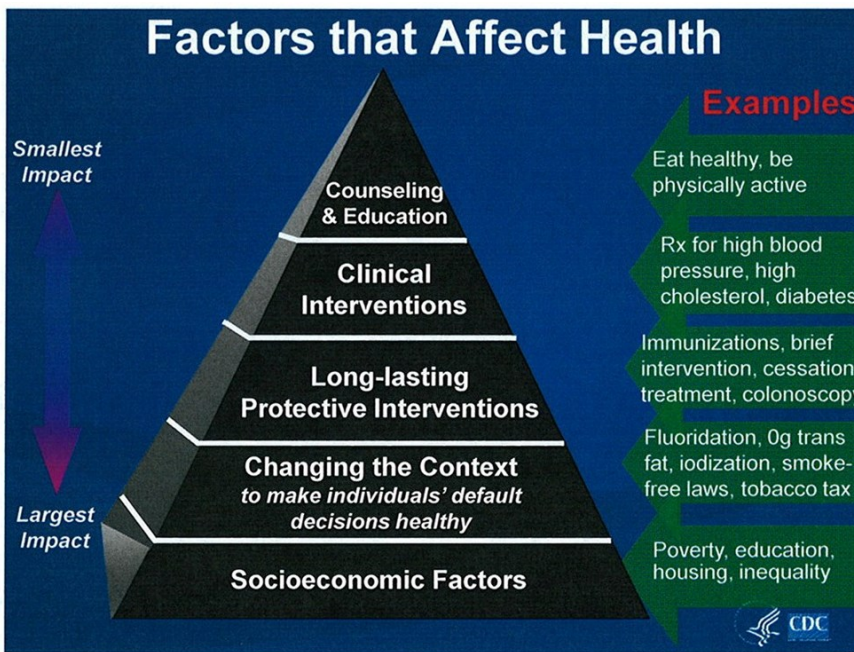
One such model is the Health Impact in 5 Years (HI-5) initiative, which highlights non-clinical, community-wide approaches that incorporate evidence-based reporting: 1) positive health impacts, 2) results within five years, and 3) cost effectiveness and/or cost savings over the lifetime of the population (or earlier). This model utilizes the public health impact pyramid, which visually depicts the potential



Ron H. Graham, RD/RDN, LD, MPH
Health Commissioner
2015 - Present

impact of different public health intervention types⁷. The base of the pyramid consists of interventions that have the greatest potential impact on health because they reach entire populations of people at once, and require a more holistic, concerted effort.

In 2018, the Health District will be implementing a framework known as Health in All Policies. Health in All Policies (HiAP) is a collaborative approach for integrating and articulating health considerations into policymaking, and programming these policies across the public health system and throughout levels of government, with the goal of improving the health of the community.



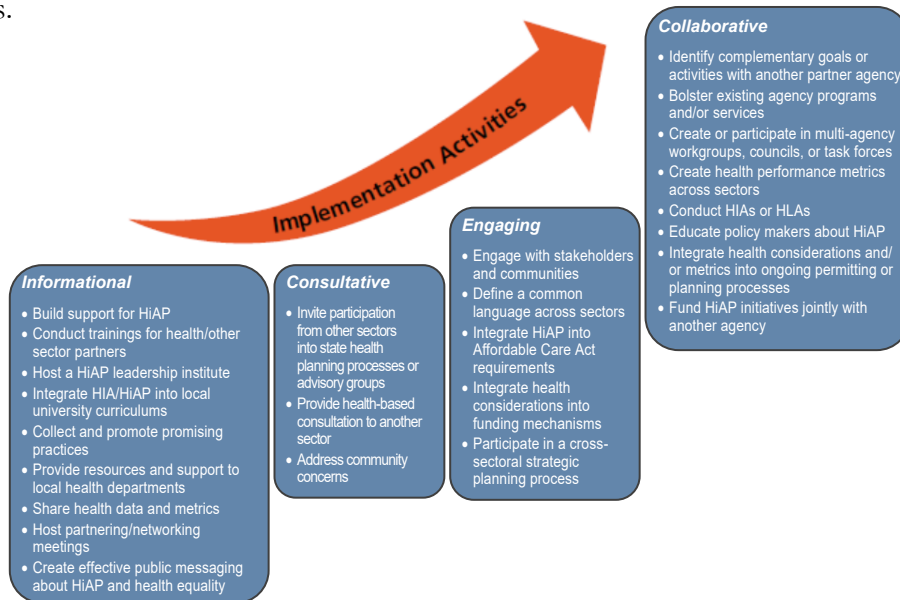
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BOARD OF HEALTH

Brian Katz President	Roger Anderson Tim Brennan Alvin J. Brown Marc Garland Richard Harvey Nicole Jelovic	Steve Karns Patricia Murphy Randy Owoc Jerry Ribelli Lynn A. Smith Anthony Vitolo
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**Mission of the Lake County General Health District:
Working to prevent disease, promote health, and protect our community.**

It is a state-level model that has recently been implemented at the local level with success. Good health is a universally shared value, and addressing determinants of health is a shared responsibility. HiAP serves to strengthen the accountability of policymakers in all sectors, and at all levels. New HiAP initiatives begin with activities that result in basic information exchange between partners to initiate the engagement, build relationships, and increase awareness of public health linkages. These activities can be used to accomplish early successes with limited resources. Agencies that are current partners, or work on topics with clear links to health, are also likely allies.



1. Robert Wood Johnson Foundation. (2015). County Health Rankings & Roadmaps: Housing Rehabilitation Loan & Grant Programs. Retrieved on November 30, 2017, from <http://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/housing-rehabilitation-loan-grant-programs>
2. Maryland Department of Housing and Community Development. (2016). EmPOWER Maryland Low Income Energy Efficiency Program. Retrieved on June 14, 2017, from <http://dhcd.maryland.gov/Residents/Pages/lieep/default.aspx>.
3. Minnesota Housing Finance Agency. (2016). Rehabilitation Loan/Emergency and Accessibility Loan Program. Retrieved on June 14, 2017, from <http://www.mnhousing.gov/wcs/Satellite?c=Page&cid=1358904992980&pagename=External%2FPage%2FEXTStandardLayout>.
4. U.S. Department of Agriculture. (2016). Rural Development. Single Family Housing Repair Loans & Grants. Retrieved on June 14, 2017, from <https://www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants>.
5. U.S. Department of Housing and Urban Development. (2016). 203(k) Rehabilitation Mortgage Insurance. Retrieved on June 14, 2017, from https://www.hud.gov/program_offices/housing/sfh/203k/203k-df.
6. Gibson, M., Petticrew, M., Bamba, C., Sowden, A. J., Wright, K. E., & Whitehead, M. (2011). Housing and health inequalities: a synthesis of systematic reviews of interventions aimed at different pathways linking housing and health. *Health & place*, 17(1), 175-184.
7. Pollack, C., Sadeh-Nobari, T., Dekker, M., Egerter, S., & Braveman, P. (2008). Where we live matters for our health: the links between housing and health.
8. Klepeis, N. E., Nelson, W. C., Ott, W. R., Robinson, J. P., Tsang, A. M., Switzer, P., & Engelmann, W. H. (2001). The National Human Activity Pattern Survey (NHAPS): a resource for assessing exposure to environmental pollutants. *Journal of Exposure Science and Environmental Epidemiology*, 11(3), 231.
9. Shaw, M. (2004). Housing and public health. *Annu. Rev. Public Health*, 25, 397-418.
10. Clark, N. M., Ammann, H. M., Brunekreef, B., Eggleston, P., Fisk, W., Fullilove, R., ... & Von Essen, S. G. (2004). Damp indoor spaces and health. *Washington, DC: Institute of Medicine of the National Academies*.
11. Thomson, H., & Thomas, S. (2015). Developing empirically supported theories of change for housing investment and health. *Social Science & Medicine*, 124, 205-214.

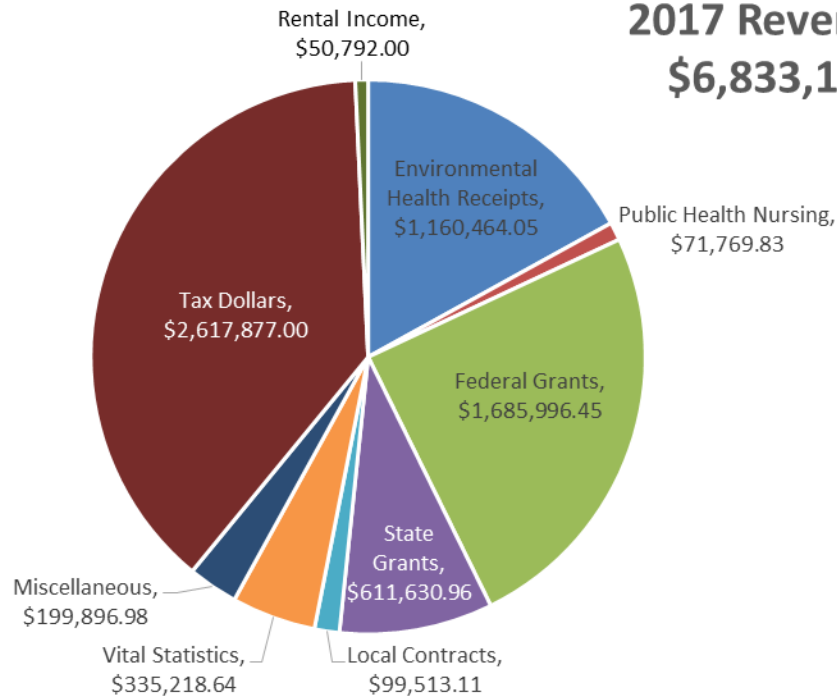
LCGHD Leads Local Public Health Accreditation Efforts

Strengthening the local public system leads to improved health outcomes for all. While LCGHD became an accredited health department in August 2016, neighboring health departments continue to prepare their accreditation applications. In 2017, LCGHD began the **Northeast Ohio Accreditation Support System**, a collaborative consisting of both accredited and non-accredited health departments who meet regularly to share best practices, sample documentation, and accreditation process experiences.

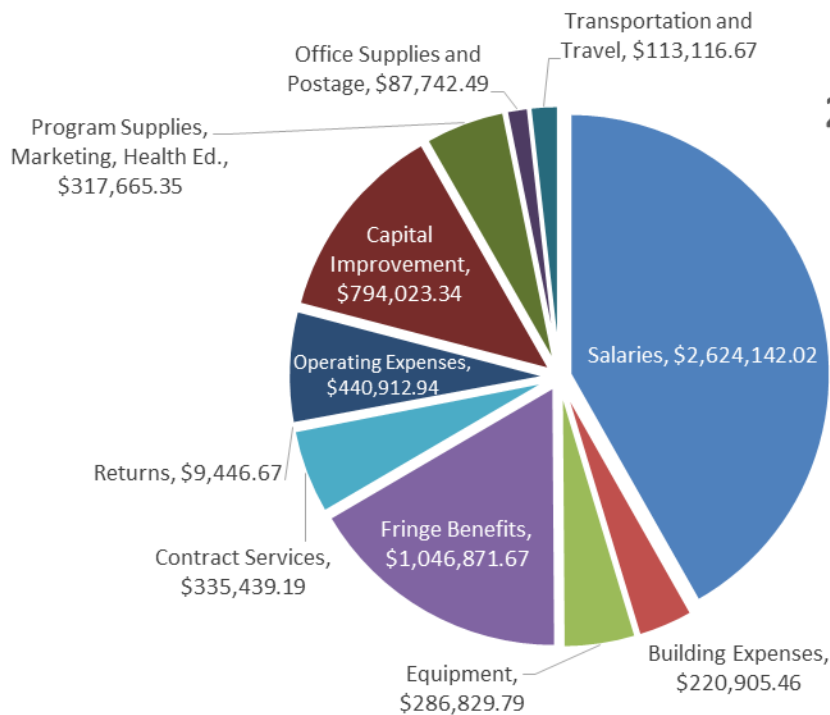
Effectively training the public health workforce can prove challenging when budgets are tight. As such, and on behalf of the region, LCGHD applied for two training opportunities through the Ohio Department of Health and Ohio State University's Center for Public Health Practice, respectively. As a result, more than 80 local public health professionals were able to attend performance management and quality improvement trainings, hosted at regional locations, at no cost to their organizations.

Financial Report

2017 Revenues \$6,833,159



2017 Expenses \$6,277,096



Community Health Services

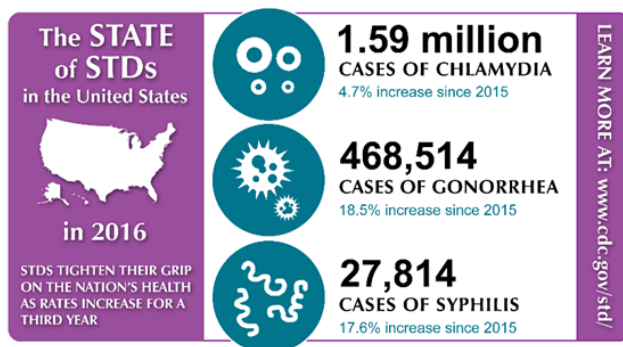
Communicable Disease Surveillance Report

Communicable Diseases	2016 YTD	2017 YTD
Campylobacter	63	46
Chlamydia	565	695
Coccidioidomycosis	2	0
Cryptosporidiosis	3	0
Cyclosporiasis	0	0
E. Coli 0157:H7	1	2
Giardia	7	10
Gonorrhea	107	134
Haemophilus Influenza	2	1
Hepatitis B	21	20
Hepatitis C	302	252
Influenza-Hospitalized	60	136
Legionnaires Disease	17	16
Listeriosis	0	2
Lyme Disease	8	16
Malaria	0	1
Meningitis-Aseptic/Viral	3	4
Meningitis, Bacterial not Neisseria	2	7
Mumps	2	1
Mycobacterium Tuberculosis	0	0
Pertussis	16	18
Q-Fever	0	1
Rocky Mountain Spotted Fever	0	1
Salmonella	28	25
Shigellosis	1	2
Staph Aureus VRSA	1	0
Streptococcal Group A	1	9
Streptococcal Group B Newborn	1	0
Streptococcus Pneumoniae	13	24
Syphilis	21	12
Varicella	8	5
West Nile Virus	0	1
Yersinia	1	3
Totals	1256	1444

Communicable Disease Summary

The daily surveillance of communicable diseases assists localities and the State of Ohio in the control and prevention of disease. Utilization of systems, such as the Ohio Disease Reporting System (ODRS), has assisted the LCGHD in identifying an increase in the diagnosis of two sexually transmitted diseases (STDs), chlamydia and gonorrhea, in Lake County.

Both of these STDs affect men and women, and can cause health concerns when left untreated. A challenge with many STDs is that not everyone may experience symptoms of the infection. Partnering with local health care providers and various community services has assisted LCGHD in treating and educating the public about the risk of STD infection.



HIV Prevention

The HIV Prevention Program has allowed LCGHD to partner with Geauga and Ashtabula counties, in order to provide ongoing, confidential HIV counseling, testing, and referral services to high risk individuals. The goal of this program is to increase HIV awareness, monitor high risk behaviors, and provide support and guidance to those individuals who may receive a positive test result. Those at risk for HIV contraction include: men having sex with men (MSM), and intravenous drug users (IDU), youth (ages 13 to 29), and baby boomers (ages 49 to 64).

In 2017, there was one positive test result. According to the Ohio Department of Health (2015), twenty-five percent of people living with HIV/AIDS in the United States are unaware of their HIV status².

	Tests Completed
MSM	15
IDU	67
Youth	54
Baby Boomers	28
Total Tests	164

1. Prejean, J., Song, R., Hernandez, A., Ziebell, R., Green, T., Walker, F., & Hall, H. I. (2011). Estimated HIV incidence in the United States, 2006–2009. *PLoS one*, 6(8), e1750.

2. Ohio Department of Health. (2015). HIV Prevention. Retrieved from <https://www.odh.ohio.gov/odhprograms/bid/hivstd/hivprev.aspx>

Ohio Healthy Homes and Lead Prevention Program

Lead Testing

The Ohio Healthy Homes and Lead Poisoning Program (OHHLPPP) provides program funding for the LCGHD. This funding is used in partnership with Lake/Geauga Head Start to provide lead testing to children under the age of six years old, those of which have not received prior lead testing. In 2017, all thirty-four students that completed testing were reported to have blood levels within normal limits.

The OHHLPPP also provides the Health District with the ability to monitor other physician reported lead cases within Lake County. In 2017, five children were reported to have blood levels greater than 10µg/dl, which requires a home inspection conducted by the state lead investigator. Fifteen children were reported to have blood lead levels of 5-9µg/dl, and these cases were monitored by a public health nurse who provided education, coordination of future screenings, and monitoring of lead levels for the families involved.

Overall, elevated blood lead levels decreased by 40% between 2016 and 2017. Lake County currently has four high risk zip codes requiring blood lead testing: 44057, 44077, 44092, and 44094¹.

1. The Ohio Department of Health. (2015). Blood Lead Testing Requirements for Ohio Children less than 6 Years of Age. Retrieved from <http://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/eh/lead-poisoning---children/2014/Updated-Brochures-Forms/BloodLeadTestingRequirementsandZipCodes.pdf?la=en>

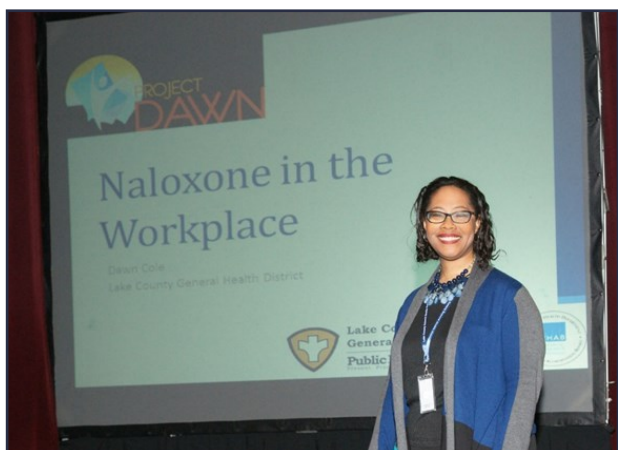
Health Promotion and Planning

Project DAWN (Deaths Avoided With Naloxone) Trainings Offered in Lake County

Ohio Senate Bill 319, signed by Governor Kasich on January 4, 2017, went into effect on April 6, 2017, subsequently allowing for service entities to keep non-patient specific naloxone onsite in case of emergencies. Examples of service entities includes schools, colleges, universities, health departments, community addiction service providers, courts, probation departments, halfway houses, prisons, jails, community residential centers, homeless shelters, and manufacturing facilities. These service entities must have a protocol, signed by either a physician or board of health, in order to authorize naloxone storage and usage, may purchase naloxone from any wholesaler, and are exempt from the requirement of having a Terminal Distributor of Dangerous Drugs (TDDD) license.



LCGHD presented to local school nurses and the Painesville City Local Schools Safety Committee on naloxone in the workplace, and was a featured speaker at the 2017 Lake County Safety Council Expo. The LCGHD assisted Hardy Technologies in the development and approval of a protocol for the storage and use of naloxone at their facility, and LCGHD continues to work with businesses, schools, and agencies across Lake County.



Additionally, LCGHD continues to offer a monthly Project DAWN Clinic, from which a total of 428 naloxone kits were distributed in 2017. Of those 428 kits, 236 went to community members, and the remaining 192 were distributed to Lake County law enforcement. A total of 42 lives were reportedly saved from the naloxone kits provided by LCGHD, and all of these reports were provided by Lake County law enforcement.

Medical Reserve Corps Receives Picture of the Year



The Department of Health and Human Services (DHHS) Assistant Secretary for Preparedness and Response (ASPR) awarded the Lake County Medical Reserve Corps (MRC) Picture of the Year for the 2016 Just Run event. The Medical Reserve Corps provides medical professionals with the opportunity to volunteer in the area of emergency preparedness and response.



Lake Metroparks and Fairport Harbor Exempted Village Schools Adopt Tobacco-free Policies

In 2017, and in order to combat the health hazards imposed by smoking to both Lake County community members and the environment, Lake Metroparks implemented tobacco-free policies at Lake Erie Bluffs Observation Tower, Penitentiary Glen Nature Play Area, Penitentiary Glen Kevin C. Clinton Wildlife Center Yard, Farmpark Showman's Circle, and Fairport Harbor Lakefront Park Concession Area. This environmental change will benefit many residents and out-of-town visitors, as well as provide spaces free from tobacco product waste.

Similarly, the benefits of creating a tobacco-free school policy include, but are not limited to: positive role modeling for children, reduced secondhand smoke (SHS) exposure, and the preparation of students for tobacco-free colleges and workplaces. Fairport Harbor Exempted Village Schools was the first school district in Lake County to adopt a tobacco-free school policy.



Lake County Safe Communities Coalition Collaborates Year Round

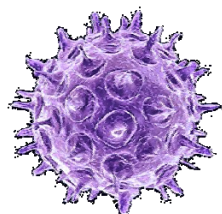
The Safe Communities Health Educator organized many community events and campaigns throughout 2017. The Protect & Serve Tavern, established in 1994 and located in the Great Lakes Mall in Mentor, is one of the most well attended events, receiving support from the Lake County Crime Prevention Task Force, Lake County Chiefs Association, and the Lake County Safe Communities Coalition.



Collaboration from Lake County Crime Prevention Task Force, Lake County Association of Chiefs of Police, and the Lake County Safe Communities Coalition at the annual Protect and Serve Tavern, located in the Great Lakes Mall.

Environmental Health Programs

Kirtland Country Club Assists with Norovirus Food-borne Illness Investigation



On May 16, 2017, LCGHD received a phone call from the general manager of the Kirtland Country Club (KCC), indicating that approximately 100 people in attendance of country club events between May 13, 2017, and May 15, 2017, may have become ill. During the weekend of May 13, 2017, a total of six events were held between both of the licensed food services. In total, an estimated 600 people were in attendance across the six events, and potentially at risk for food-borne illness. KCC, cooperative in the investigation, voluntarily shut down for cleaning and sanitizing.

There was a considerable number of variables associated with this outbreak, including the number of events, the number of employees that worked the events, and the variety of menu items per event. LCGHD, assisted by the Ohio Department of Health, identified Norovirus as the causative agent, though the origin was never identified. Norovirus is the leading cause of foodborne illness and outbreak in the United States, and often is the source of food service outbreaks in restaurants, nursing homes, and assisted living facilities. A contagious viral disease, Norovirus is associated with symptoms such as projectile vomiting, stomach pain, diarrhea, and fever, and infection occurs when an individual ingests stool or vomit from another infected person. This usually happens by eating or drinking items contaminated with Norovirus, thus reinforcing the importance of proper handwashing, especially for those preparing food.

ServSafe/Level II Training Increased in 2017

Due to a change in the State Food Code in 2016, food service operators and establishments are now required to have a minimum of one employee with Level II food training. In 2017, LCGHD trained 403 food service workers, by way of fifteen Ohio Department of Health–approved classes. The ServSafe Manager Certification, which verifies that a manager or person-in-charge has sufficient food safety knowledge, helps to protect the public from foodborne illness. Individuals that successfully pass 75% of the 90-question, multiple-choice exam receive the ServSafe Manager Certification.



Preventing Mosquito-borne Disease

Surveillance is a major component of an effective mosquito control program, and includes the identification of active breeding sites, such as wet areas near homes or parks. Mosquito control staff visually inspect areas of standing water for larval activity, and areas of concern can be treated with a larvicide that interferes with the life cycle of the immature mosquitos, thereby reducing the number of mosquitos that make it to breeding. In areas where adult mosquito control is needed, LCGHD will set traps to capture and identify female mosquitos either looking for a blood meal, or for a place to lay eggs. Based on the number of mosquitos caught, a spraying frequency is then determined, and these captured mosquitos are sent to the Ohio Department of Health for species identification and disease testing. LCGHD set traps across six locations in Lake County, collecting 12,219 mosquitos for testing and identification in 2017. With the identification of *Aedes albopictus* in neighboring counties, LCGHD's surveillance program will be increased in 2018.

Household Sewage Treatment System Operation and Maintenance Program



Ohio Revised Code, section 3701-29-19, requires the local health department to implement an operational permit program for every home sewage treatment system within their respective county. During year three of LCGHD’s five year household sewage treatment implementation plan, the maintenance program enrollment of discharging septic systems installed prior to the Ohio Environmental Protection Agency (OEPA) was established, in order to meet National Pollutant Discharge Elimination System (NPDES) requirements.

Discharging systems, which treat household waste and then drain to a watercourse, present a considerable health environmental threat, as nonfunctioning systems will discharge untreated wastewater. Over 1,000 discharging systems were issued operational permits in 2017, and more than 800 of these permits were new to the program. While the majority of these systems are well maintained, this program will greatly reduce the amount of untreated sewage left to pollute the waterways of Lake County. In an effort to expand the program, traditional household sewage treatment systems will be added in year five of the program, which will begin in 2020.

Stormwater and Outfall Monitoring

The LCGHD stormwater program sampled over 950 outfalls in 2017, and the majority of these outfalls contained elevated pollutant levels, a prompt for further investigation of illicit discharge sources in the area. These investigations include a dye test of home sewage systems to ensure storm drain connection. Kirtland, an area identified with high pollutant levels, was subject further dye tests and a storm drain camera. As a result of further testing, it was determined that many home septic systems in the area were connected to the storm drainage system. LCGHD is currently working with the city to find a solution to eliminate these illicit discharges and improve water quality.



Air Monitoring Update: 2017



As part of an Ohio Environmental Protection Agency (OEPA) contract, Lake County General Health District operates ambient air monitors, the majority of which run 24 hours a day, 365 days a year, and report data hourly. Air pollution control staff then review the data daily, and submit it to the Ohio EPA monthly. Monitors currently in use by LCGHD include: two sulfur dioxide monitors, one carbon monoxide monitor, two seasonal ozone monitors, two particulate matter (less than 10 microns; PM10) monitors, and two particulate matter (less than 2.5 microns; PM2.5) monitors. As a result of this air monitoring program, more than 37,000 data points are submitted to the Ohio EPA annually, which is then utilized by the Ohio and US EPA, respectively, to determine Lake County air quality.

2017 Statistics at a Glance			
Food Permits	1,454	Beach Samples	76
Plumbing Residential Permits	320	Beach Advisory Days	43
Plumbing Commercial Permits	77	Drug Disposal in Pounds	7,079
Private Water Permits	37	Animal Bites	492
Nuisance Complaints	501	Sewage Permits	149

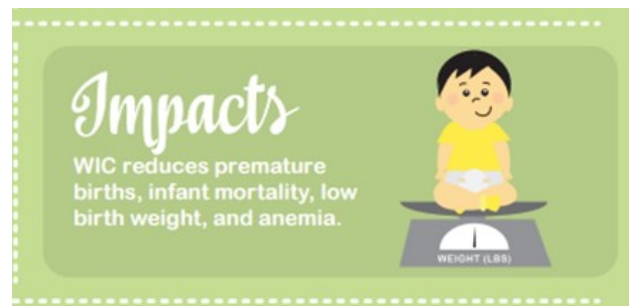
Women, Infants, and Children (WIC)

WIC Participation in 2017: Serving Families Everyday

In February 2017, Geauga County WIC officially became part of the LCGHD, and now operates as one program: the Lake-Geauga WIC Program. The Lake-Geauga WIC staff works hard everyday to ensure excellent customer service, and efficient service delivery.

In 2017, Lake-Geauga WIC served:

- 3,000 new applicants
- 8,000 re-applicants
- Over 330 pregnant women
- Over 1,400 children under five years of age
- Over 900 infants under one year of age
- Over 230 breastfeeding women



Public Health in Action

In 2017, Lake-Geauga WIC made over 600 referrals to neighboring agencies, consisting of:

- 35% to oral health programs and services
- 35% to physician offices
- 14% to food assistance programs
- 7% to social service and early childhood agencies

Lake-Geauga WIC also made over 700 breastfeeding support referrals to both the WIC Program and throughout the community, including referrals to Lake Health's Lactation Consultants.

Breastfeeding Program Accomplishments



Since the Lake and Geauga County WIC Programs have merged, the breastfeeding team now consists of three breastfeeding peer helpers, two dietitians, and a breastfeeding coordinator. A designated peer helper is also regularly available at each of the four clinics, allowing for better rapport, increased breastfeeding support, and breastfeeding education to participating mothers. As a result of the team's hard work, breastfeeding initiation rates have increased by 2% in 2017, to 72% overall. Additionally, breastfeeding support groups have been established in Madison, Willoughby, and Middlefield, and a fourth support group is coming soon to Painesville.

Farmers' Market Nutrition Program: Supporting Local Farmers and Families

The 2017 WIC Farmer's Market Nutrition Program supported local farmers over the summer by offering 2,824 fruit and vegetable coupons, each worth a total of \$5. As a result, a total of \$9,500 was redeemed by WIC families for locally grown fruits and vegetables.

Looking Ahead to 2018

In the fall of 2017, the Ohio WIC office released a new logo, and developed a strategic outreach plan that will be implemented by all Ohio WIC projects. In an effort to rebrand WIC, and in light of nationally decreasing WIC participation trends, a goal to increase participation rates has been identified. In part to achieve this goal, the Ohio WIC office is currently developing an online-based WIC computer system, with hopes to increase WIC service efficiency. Lake-Geauga WIC looks forward to working with the Ohio office on these new outreach initiatives.



Vital Statistics

	2017	2016	2015	2014	2013
Birth Certificates Issued	4,003	3,865	3,892	3,718	3,889
Out of County Birth Certs Issued	2,003	1,957	1,621	1,615	1,638
Web Orders for Birth Certs	-	132	509	491	476
Death Certificates Issued	8,557	7,954	8,631	8,053	8,766
Web Orders for Death Certs	-	20	111	86	81
Fetal Death Certificates Issued	2	1	1	1	4
Burial Permits Issued	658	650	648	647	768
Birth Certificates Filed	1,713	1,653	1,999	1,773	1,836
Death Certificates Filed	1,751	1,729	1,852	1,800	1,860
Free Veterans' Copies	306	327	354	362	387
Affidavits Issued	451	402	514	516	759
Supplements Issued	509	379	366	308	370

2017 Updates

- 83 local Vital Statistics offices have begun filing death certificates electronically. This program began in April 2016 as a pilot program, in which Lake County Vital Statistics participated.
- All Coroner offices, and approximately 70 physician offices throughout the State, have begun to electronically file death certificates.
- In 2017, all hospitals began registering all new births born in the hospital.

This Is Public Health

A Snapshot of Some of the Services Provided by Your Health Department in 2017

Acquired **\$2,200,619** in Federal and State Grant Awards to Improve Lake County Services



Over **2,000** Families Served



164 HIV Tests Administered



49 NPDES Sewage Systems Installed



resulted in

17,640 Gallons of Raw Sewage Removed from Lake County Waterways



42 Lives Saved by Law Enforcement



241 Families Served



76 Child Flu Shots
443 Adult Flu Shots Administered



274,456 People Reached through Media Coverage and Material Distribution



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.

