

VIGO COUNTY HEALTH DEPARTMENT



2016 ANNUAL REPORT

**The Vigo County Health Department serves to promote, protect and provide
for the well-being of the citizens in Vigo County**

BOARD OF HEALTH

For almost 50 years, the Vigo County Health Department has provided the citizens of Vigo County with the very best public health services possible. Today, those services have expanded into areas our predecessors never imagined, challenging us to keep pace with the demands of an ever changing environment and population. The Vigo County Health Department has continued in the successful tradition established under the leadership of its Board of Health. Members of the Board of Health have roots in medicine, law, business, industry, labor and social services. Maintaining communication between the governing body and staff members has been instrumental in relating regulation and procedures that best serve the community. The Vigo County Board of Health is appointed by elected officials in order to represent the needs of the community. The Vigo County Board of County Commissioners appoint all seven members of the board, no more than three from the same political party.

2016 BOARD OF HEALTH

Jeffery Depasse, Chair
Jared Farnsworth, Vice-Chair
David Runyan
Brian Garcia

James Turner, D.O.
Robert Burkle, M.D.
Sarah Ciolli, R.N.



PUBLIC HEALTH IN VIGO COUNTY



Dr. Darren Brucken
Health Officer



Joni Wise
Administrator

Vision: Healthy People in Healthy Communities

Mission: Promote physical & mental health, prevent disease, injury and disability

Public Health Goals

- Prevents epidemics and the spread of disease
- Protects against environmental hazards
- Prevents injuries
- Responds to disasters and assists communities in recovery
- Assures the quality and accessibility of health services

Essential Public Health Services

- Monitor health status to identify community health problems
- Diagnose and investigate health problems and health hazards in the community
- Inform, educate and empower people about health issues
- Mobilize community partnerships to identify and solve health problems
- Develop policies and plans that support individual and community health efforts
- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services and assure the provision of health care when otherwise unavailable
- Assure a competent public health and personal health care workforce
- Evaluate effectiveness, accessibility and quality of personal and population-based health services
- Research for new insights and innovative solutions to health problems

Programs and services are developed, implemented, evaluated and revised (if needed) to enable carrying out the essential public health services and meet the public health goals.

VIGO COUNTY HEALTH DEPARTMENT

Administration

Darren Brucken, M.D., Health Commissioner
Joni Wise, Administrator
Travella Myers, Deputy Administrator
Rhonda Coombs, Bookkeeper
Brooke Foltz, Purchasing Clerk

Environmental Health Division

Travella Myers, Supervisor
Theresa Jackson, Food Specialist
Amanda Bales, Food Specialist
Mark McClintock, Wastewater Specialist
Marci Shaw, Lead Specialist
Steve Thompson, Wastewater Specialist

Health Education/Media Coordination

Christina Keller

Vector Control Division

Mike Grayless, Supervisor
Tony Grayless, Assistant Supervisor
Warren Sweitzer, Assistant
David Higgins, Assistant
Logan Edwards, Assistant
Kim Edwards, Secretary
Jeremy Johnson, Seasonal

Vital Statistics Division

Terri Manning, Supervisor
Connie Malooley, Assistant Supervisor
Kirsten McGrew, Registrar
Loretta Nicoson, Registrar
Brandie Draser, Part-Time Registrar

Nursing Division

Catherine Brown, M.D., Pediatrician
Christina Barbour, RN, Staff Nurse
Chelsea Kizer, RN, Staff Nurse
Dolly Moss, Secretary
Teresa Bechtel, Immunization Registry Clerk
Roni Rozina, Insurance Billing Specialist

FINANCIAL REPORT FOR 2016

Cash Balance Health – January 1, 2016	\$1,139,712.24
Balance in Health – December 31, 2016	\$ 897,407.98
Cash Balance – Health Donation – January 1, 2016	\$ 65,014.45
Balance in Health Donation – December 31, 2016	\$ 52,073.52
Cash Balance – Health Maintenance – January 1, 2016 - Reserve	\$ 2,657.98
Balance in Health Maintenance – December 31, 2016	\$ 15,073.52

EXPENSES

Personnel Services	\$1,350,250.83
Supplies	\$ 118,855.47
Other Services	\$ 160,096.75
Capital Outlays	\$ 26,644.44
Un-Appropriated Funds	\$ 1,085.03

TOTAL DISBURSEMENTS \$ 1,656,932.52

RECEIPTS

Fees Collected	\$ 307,378.42
Tax Advancements & Settlements	\$ 922,542.94
Financial Institutional Tax	\$ 9,611.40
State Grants (Local Health Maintenance & LHD Trust, Immunization)	\$ 187,901.18
Commercial Vehicle Excise/Health Tax	\$ 4,076.02
Miscellaneous Revenue	\$ 52.50
Auto, Aircraft, Excise Tax	\$ Zero

TOTAL RECEIPTS - \$1,431,562.46

FEES COLLECTED: January 1, 2016 - December 31, 2016

Vital Statistics	\$ 153,122.00
Environmental Health	\$ 91,154.50
Immunizations	\$ 10,333.07
Other	\$ 74.50
Coroner's Education Fund	\$ 18,088.00
Donation Fund – Travel, Flu, Lead, Vaccines	\$ 34,606.35

NURSING DIVISION



Left to right: Chrissy Barbour RN, Roni Rozina, Teresa Bechtel, Dolly Moss, & Chelsea Kizer RN

The Vigo County Health Department (VCHD) Clinic is located at 696 S. 1st Street at the southwest corner of the Vigo County Annex Building. In 2016, three full-time Registered Nurses, a full-time Secretary, an Immunization Registry Clerk, and a part-time Insurance and Billing Clerk provided staffing for the Clinic. In addition, a Pediatrician, Dr. Catherine Brown, staffed our weekly Well Child Clinics. The Health Department Clinic provided services to both children and adults for a nominal fee or free of charge. In 2016, there were 4,696 client visits to the clinic.

EDUCATION

The public health nurses attended numerous training and educational courses throughout the year. Continuing Education included the Public Health Nurse Conference, Childhood Immunization and Registry Program (CHIRP) user group meeting, Ebola Table Top exercise, Meningococcal B plenary, National Immunization Coalition Conference, and Vaxcare insurance training. Education is an important aspect to evidenced based care.

ADULT VACCINE PROGRAM/ADULT WELL PHYSICALS

The Adult Stay Well Program was continued by Dr. Brown who provided adult physicals which included college students, daycare employees, and foster care parents for a nominal fee. The VCHD is enrolled in the Vaccines for Adult program to provide immunizations for adults with no insurance or insurance that does not cover vaccines. In 2016, 323 vaccines were administered for that program.

WELL CHILD PROGRAM/SPORTS PHYSICALS/KINDERGARTEN PHYSICALS/VACCINE FOR CHILDREN PROGRAM

The Well Child Program serves children from birth through 18 years of age. In 2016, the VCHD Clinic continued our weekly Well Child Clinics, in which Dr. Brown provided well child physicals, sports physicals, kindergarten physicals, and Head Start physicals for a nominal fee. The clinic is also a provider enrolled in the Vaccines for Children program and provided childhood immunizations to those who qualified. In 2016, 2,036 childhood vaccines were administered through this program.



Mitten tree



Dr. Catherine Brown

EPIDEMIOLOGY AND COMMUNICABLE DISEASE

Indiana Code 16-41-2-1 requires local health departments to investigate and report communicable diseases listed in the Indiana State Department of Health Communicable Disease Reporting Rule. Once the investigations are completed, they are entered into the computerized data base known as the Indiana National Electronic Disease Surveillance System (I-NEDSS). VCHD Clinic nurses investigated and reported 461 confirmed communicable disease cases in 2016. Chronic Hepatitis C continued to be the most prevalent communicable disease investigated by the VCHD in 2016.

TUBERCULOSIS CASE MANAGEMENT AND TESTING

Tuberculosis (TB) control and case management by Local Health Departments is a mandated task under the Indiana Code 410 IAC 1-2.3-106. This includes investigating positive skin tests, collection of sputum samples for evaluation by the ISDH lab, providing medications for both active and latent TB cases, home visits for medication administration, evaluation and testing of contacts of the infected patient, communication with the patient's physician, and patient education. In 2016, less than 5 active TB cases, less than 5 suspect, and 20 latent TB cases were managed by the VCHD Clinic. In addition, the VCHD Clinic provided TB skin testing on a walk in basis on Mondays and Fridays for the community for a nominal charge. 1,426 TB skin tests were administered in 2016.

COMMUNITY INVOLVEMENT

Immunizations are an important part of what the nurses at the Vigo County Health Department do on a daily basis. Approximately 170 flu vaccines were given to Vigo County Employees in the fall of 2016. In April, the VCHD nurses presented at the Indiana University Mini Med session at the Landsbaum Center in Terre Haute. The nurses also provided free hearing screenings for Hoosier Academy K-12 at their beginning of the year round-up. In December, the nurses also provided input and answered questions at an emergency preparedness class. The VCHD nurses also serve as clinical preceptors for nursing students from Indiana State University, University of Southern Indiana, and Saint Mary of the Woods College. The health department nurses, Christina Barbour RN and Chelsea Kizer RN, both sit on the Vigo County Immunization Task Force; which meets quarterly with other medical professionals, school nurses, and childhood development members to collaborate and create new ways to increase immunization rates for Vigo County.

LEAD SCREENING

In 2016, approximately 105 children were screened for lead poisoning by the Vigo County Health Department Clinic. We held many lead screening outreach clinics throughout the county such as Head Start, Early Head Start, and ISU Early Childhood Center. Lead poisoning case management and environmental lead risk assessment consists of patient cases that are over the level of 10 mcg/dl for venous blood lead levels. The Lead Case Manager followed 13 patient cases that were over the lead level of 10 mcg/dl and over 50 patient cases that were over the lead level of 5mcg/dl in 2016.



Christina Barbour RN giving an immunization



Chelsea Kizer RN preparing a lead test

INDIANA STATE IMMUNIZATION GRANT

In 2016 the Vigo County Health Department Nursing division was awarded a grant from the Indiana State Immunization Division for \$73,167.11. Funds from this grant were used in various ways to increase immunization rates, and promote services offered at the health department clinic. We were able to purchase billboards and newspaper advertisements, film a commercial, and order various supplies and equipment for the health department clinic. In July, the VCHD clinic started accepting children and adults with almost all private insurance companies. One hundred and thirty-two private insurance clients were seen since July, totaling 254 immunizations administered. Since the immunization grant was started in 2014, immunization rates in Vigo County have increased from 28% to 58% in 2016.

HEALTH EDUCATION/MEDIA COORDINATION



Christina Keller

Health Education is the process of assisting individuals and groups to make informed decisions and build skills on matters affecting personal, family and community health. Health Education provides information about awareness and prevention with the goal of providing Vigo County Citizens with the opportunity to their fullest potential. Health Education utilizes the following outlets to provide education:



SCHOOL AGED PROGRAMING

Research has shown that the majority of an individual's adult behavior and attitudes are shaped as children. Consequently, the Health Education Division provides a variety of health education services for our school aged children in Vigo County to promote healthy behaviors and lifestyles. School-age programming is presented not only in the schools, Head Starts, day care centers, summer camps and other children friendly venues, but also to parents in programs such as afterschool sessions, community events, and foster parent presentations. In 2016, VCHD provided the following services and program for school aged children.

- The Glo Germ Hand Washing Class
 - Oral Hygiene
 - Healthy Relationships
 - Hygiene Class
- Reproductive Health Programs
 - Lead Poison Prevention
- Nutrition & Physical Activity
 - Food Safety
- Personal Safety Courses



Glo Germ Handwashing Class

PRESENTATIONS

Presentations offer a comprehensive look at today's public health issues that are of concern. Some presentations are multi-faceted, such as an overview of the Health Department and its role in public health in Vigo County while others can be an in-depth look into issues such as bedbugs, influenza, or tobacco use in our community. This involvement offers the public the opportunity to learn about their health and well-being, ask questions, and become familiar with the Health Department. The Vigo County Health Department works collaboratively with many community partners which include but are not limited to; the Vigo County School Corporation, Hamilton Center, Vigo County Head Start, and Indiana State University.

The following is a brief list of programs & presentations conducted by the Health Department:

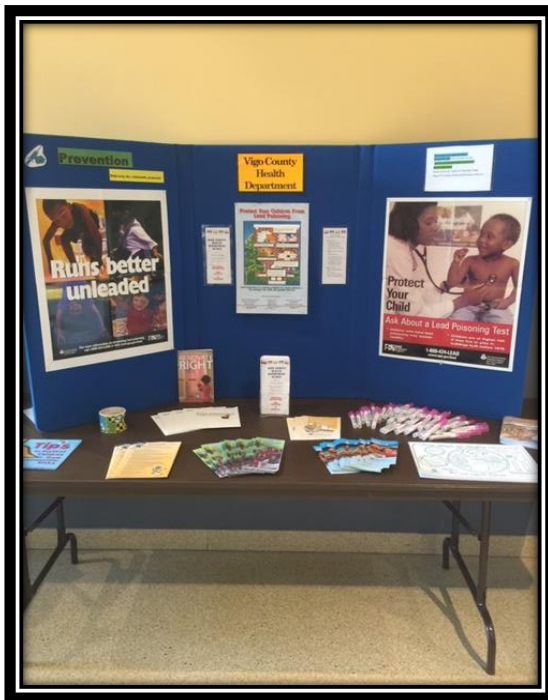
- County Employee CPR Program
- Children's Bureau Head Lice & Bedbug Presentation
- Tobacco Prevention for West Vigo Middle School
- CASY Child Care Provider – Hand Washing/Food Safety Presentation
- Great American Smoke Out
- Vigo County School Corporation Health In-Service
- West Vigo Wellness Night (Sleep Awareness)
- March of Dimes – Community Baby Shower
- MDwise Warren Village
- Family Day at the Vigo County Library
- Lunch and Learns – Annex
- Hand Washing & Food Safety at West Vigo Middle School
- HIV/AIDS Education at West Vigo Middle School
- Lead Poisoning Awareness
- Stress Management at Hamilton Center
- Handwashing at Hamilton Center
- Vaccinations for the Elderly, Sycamore Manor
- Tobacco Cessation at Hamilton Center
- Rotary Presentation



HEALTH FAIRS

Health fairs are a great way to promote health awareness and encourage participants to take responsibility for their health and provide valuable health information. The Vigo County Health Department holds an annual County Employee Health Fair to celebrate Public Health Week in April. Prevention was the focus of the health fair this year and we had a wonderful turnout! Local organizations provided information on a variety of healthy lifestyle topics including fitness, healthy eating, tobacco cessation, and disease prevention. Health fairs allow health department employees the opportunity to meet with the public and discuss their specific concerns. This year, Vigo County Health Department participated in the following health fairs:

- Terre Haute Community Health Fair
- Rose Hulman Health Fair
- Ivy Tech Community College Health Fair
- Eli Lilly Employee Health Fair
- UAP Pulmonology Vendor Fair
- Ryves Hall Health Fair
- Regional Hospital Health Fair
- Minority Health Coalition Health Fair
- Vigo County Employee Health Fair
- Area 7 Aging & Disabled Fair
- Elanco Health Fair
- ISU Wellness Bash



MEDIA PARTNERSHIPS

Working with the media is an extremely important component of Health Education. In order to ensure the residents of Vigo County receive the most accurate and up to date health information, the Vigo County Health Department has developed an excellent relationship with the media. The Health Educator/Media Coordinator works diligently with media outlets to compose important health messages in order to promote, provide, and protect the citizens of Vigo County and the surrounding areas. The following health topics were covered in the media:

- Influenza
- Ebola
- Bed Bugs
- National Night Out
- Vaccinations – Requirements
- Cold Weather Safety
- Vital Records
- Pneumonia
- County Health Rankings
- Mumps
- Measles
- E-cigarettes
- Ticks
- Pertussis
- Lead Poisoning
- Annual Health Reports
- Tire Amnesty Program
- Child immunizations
- West Nile Virus/Zika
- Obesity
- Flu Shot Clinics
- National Public Health Week
- Vigo County Employee Public Health Fair
- Food Safety/Leftovers
- Needle Exchange
- HIV statistics
- ISDH MOMS Hotline
- Food Permits/Mobile Units
- Heat Stroke
- Rabies
- And many more!

SOCIAL MEDIA

An always evolving, key piece of Health Education is our Social Media presence. We are very excited to now be a part of Facebook, Twitter, LinkedIn, YouTube, Pinterest, and Instagram! With the ever growing usage of social media sites it is crucial to use that to our advantage in reaching the public in every way possible for education and information. The use of social media in emergency situations such as an outbreak or natural disaster is also one of our main reasons to jump on board. Our goal is to provide the most accurate, up-to-date information as quickly as possible to our community. If you haven't already come visit our pages!



COMMUNITY INVOLVEMENT

Health Education and Media Coordination works collaboratively with hundreds of Vigo County members in order to provide fast, reliable, and educational information to our citizens. We would be unable to host events, such as our Health Fair, without the assistance of so many partners below.

- Minority Health Coalition of Vigo County
- Vigo County Immunization Awareness Task Force
- Regional Hospital
- Union Hospital
- Maple Center
- Healthy Hoosiers CSA
- Crisis Pregnancy
- Vigo County 911
- Vigo County EMA
- Area 7 Aging & Disabled
- VNA Hospice
- Mental Health America of Vigo County
- UAP
- Sam's Club
- Baesler's Market
- IU Health
- Hamilton Center, INC.
- CVS
- Minority Health Coalition
- YMCA
- Cummins Behavioral
- CODA
- Office of the Indiana Attorney General
- Chances and Services for Youth
- Vigo County School Corporation
- Indiana State University
- Walgreens
- Lighthouse Mission
- United Way
- Better Health Wabash Valley
- And many other wonderful partners!



Regional Hospital Cancer Center at VCHD Annual Health Fair



Council on Domestic Abuse (CODA)

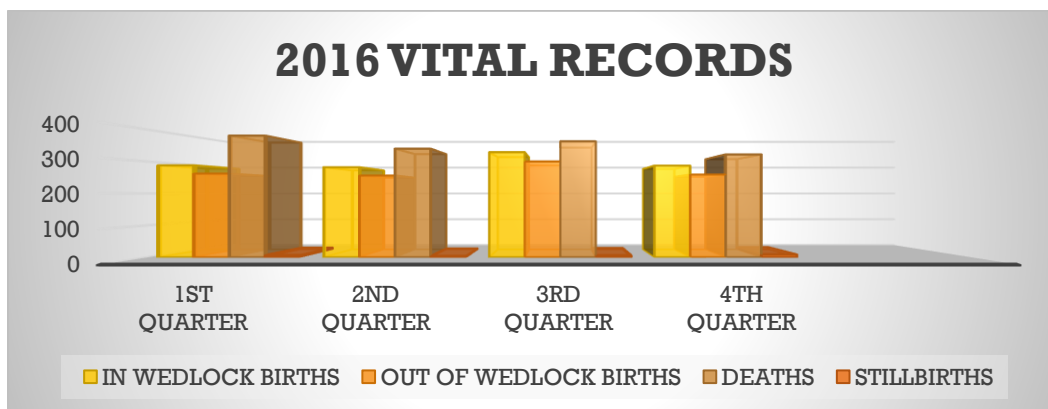
VITAL STATISTICS DIVISION



Left to Right: Kirsten McGrew, Connie Malooley, Loretta Nicoson, Cheryl Clements, Brandie Draser

THE VITAL RECORDS DIVISION'S OBJECTIVE IS TWO-FOLD:

- Carry out uniform procedures
- Maintain and protect the integrity of the Vital Records Systems



THE DIVISION HAS THE RESPONSIBILITY TO:

- Maintain a system that accurately records all births, deaths and fetal deaths
- Efficiently issue certified copies of records
- Issue provisional notification of death-burial transit permits
- Process paternities when they come to us from the courts
- Type and process paternities when people schedule appointments to come in to our office
- Type affidavits of amendment and schedule appointments for people to make corrections to their birth record
- Work with funeral homes in filing death certificates
- Verify birth records for the Military, Social Security and Division of Family and Children
- Assist citizens who wish to inspect permanent birth and death records
- Assist customers in doing genealogy



Brandi Draser



Terri Manning retired in 2016

VITAL STATISTICS ANNUAL REPORT 2016

BIRTHS REPORTED

In-Wedlock	1160
<u>Out-of-Wedlock</u>	<u>1109</u>
Total Births	2269

STILLBIRTHS

25

DEATHS REPORTED

1438

CORONER CASES

184

CORRECTIONS PROCESSED

Affidavit of Amendments	49
Adoption	87
<u>Paternity Affidavit</u>	<u>155</u>
Total Corrections	291

BIRTH CERTIFICATES ISSUED

8111

DEATH CERTIFICATES ISSUED

9405

CERTIFICATES ISSUED FREE

438

SEARCHES

Genealogy Searches	200
<u>Genealogy Views</u>	<u>25</u>
Total Genealogy Searches	225

GENERAL HEALTH FUND

\$ 153,762

CORONER'S TRAINING AND EDUCATION FUND

\$ 18,178

TOTAL CASH RECEIVED

\$ 171,940

ENVIRONMENTAL HEALTH DIVISION



Left to right front row: Theresa Jackson, Marci Shaw, Travella Myers, Brooke Foltz
Left to right back row: Steve Thompson, Mark McClintock, Rhonda Coombs, Amanda Bales

The Environmental Health Division is focused on the prevention of injury and disease by controlling the links between humans and their environment. The environment includes the natural environment, natural hazards, human-built environment and the unintended human contribution to illness and harm on human health. The Environmental Health Division addresses these threats through a multi-dimensional approach:

- Public education
- Regulation
- Monitoring
- Remediation
- Coalition building
- Advocacy

Our programs seek to minimize or eliminate risk factors in the human environment that may threaten life and overall health.

SUPPORT STAFF



Bookkeeper Rhonda Coombs and Purchasing Clerk Brooke Foltz manage the finances and purchases for nearly \$2,000,000 in budgeted funds.

FOOD SAFETY PROGRAM



Some typical violations found in restaurants

The Food Safety Program involves the planning of new and remodeled retail food establishments, planning of fairs and festivals in Vigo County, and the licensing and inspecting of all retail food establishments within Vigo County. We work closely with the state department of health on any food recalls and food borne illnesses.

By promoting food safety education and fostering understanding, communication, and cooperation among regulators, industry and consumers, VCHD seeks to provide the best public health and consumer protection in an expeditious and cost-effective manner.

YEARLY OVERVIEW

Licensed:

- 490 Retail food establishments
- 78 Temporary food stands
- 19 Mobile units
- 16 Farmer's Market

Inspections Conducted:

- 987 routine inspections
- 27 follow-up inspections
- 38 plan reviews
- 3 pre-opening inspections
- 32 opening inspections
- 12 food complaints

WASTEWATER MANAGEMENT PROGRAM



Examples of lines in a leach field

An on-site system is one which treats the sewage in a septic tank so that most of the sewage becomes effluent and is disposed of in an area close to the house or buildings. An example of an on-site disposal system consists of a septic tank and leach drains.

The planning, installation, and repair of on-site sewage disposal systems must be reviewed and inspected by one of our full-time environmental health specialist. This includes the reviewing of soil scientist reports, drawing of installed systems for department records, and giving recommendations for proposed subdivisions.

A total of:

- 46 New installations of on-site sewage disposal systems
- 3 Additions to on-site sewage disposal systems
- 35 Replacements of on-site sewage disposal systems
- 1 Repairs of on-site sewage disposal systems
- 46 Subdivisions

RECREATIONAL WATER PROGRAM

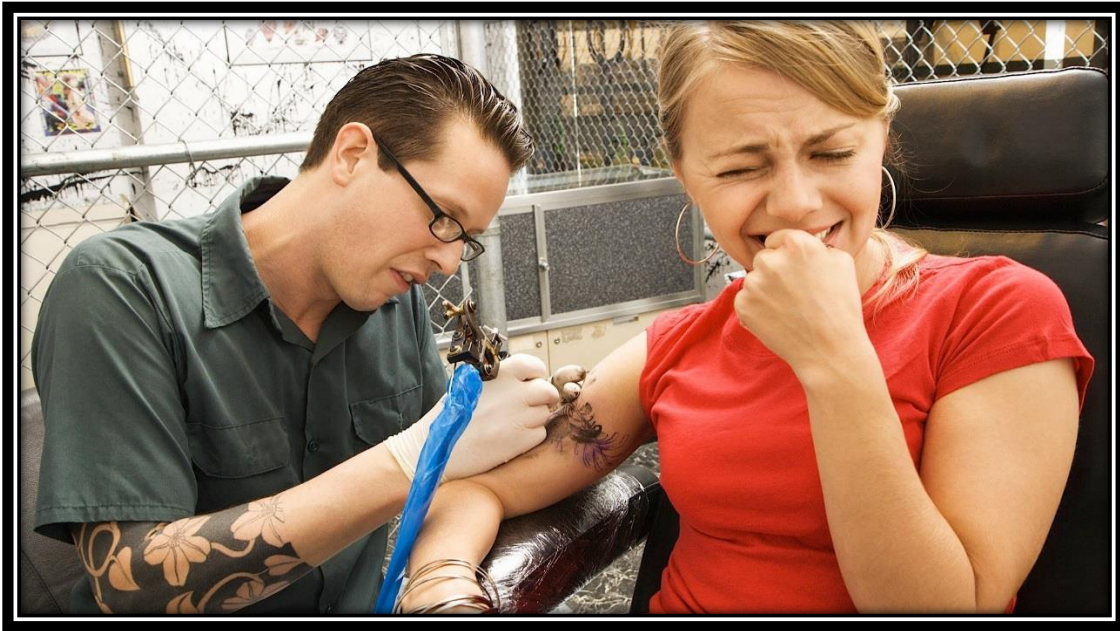
Waters used for recreational purposes are subject to a variety of environmental influences which can affect the health and/or safety of individuals using those waters.

Recreational water program includes the inspection and review of bacteriological reports of swimming and wading pools, spas, therapy pools, and public access beaches. The inspection entails an evaluation of the pool area, water quality, safety equipment, and mechanical room.

The goals of these programs are to minimize safety hazards, reduce the potential for disease transmission and assure that waters used for recreational purposes are operated and maintained in compliance with the applicable ordinances.

- 134 Regular inspections were performed
- 19 Follow-up inspections
- 37 Closings

BODY ART SAFETY PROGRAM



The use of improperly sanitized needles and instruments for invasive procedures on the human body and/or procedures being completed by inadequately trained individuals can contribute to the spread of communicable diseases and/or cause permanent injury.

Through the Body Art Safety program the Environmental Health Specialist works to ensure the safe and proper operation of the licensed body art establishments in Vigo County. We educate operators, evaluate plan reviews, and perform opening inspections on new or remodeled body art establishments. We also ensure general safety and sanitation standards, and proper disposal methods of infectious waste.

The Artist licensing program ensures the individuals that are performing the body art are knowledgeable and competent.

- 6 Body Art establishments licensed
- 6 Routine inspections
- 1 Opening inspection
- 22 Regular Artist License
- 11 Temporary Artist License

LEAD POISONING PREVENTION PROGRAM

Lead was a common ingredient in house paint where it acted as a pigment and increased durability. This was before the dangers of lead were known. Though banned for use in paint in the U.S. in 1978, millions of homes, schools, and businesses still have lead based paint on their walls, both inside and out. According to the Environmental Protection Agency, lead paint can be found in:

- 24% of homes built from 1960-1978
- 69% of homes built from 1940-1960
- 87% of homes built before 1940



If the paint is in good condition and has been painted over, it usually doesn't pose a problem. But if the paint is peeling or has been disturbed by scraping, sanding, or burning, it can pose significant health risks to people especially young children.

The state of Indiana mandates the local health department to follow children with elevated blood lead levels of 10 μg or more and to follow up services to provide parent education and blood testing of children with elevated blood lead levels of 5 $\mu\text{g}/\text{dL}$ of blood or more. This includes educating the parents and conducting a risk assessment on the home.



- 44 open cases
- 4 new cases
- 4 risk assessments
- 0 clearance exam

PUBLIC HEALTH COMPLAINT PROGRAM



Above are pictures from two different homes we inspected

Housing and property complaints filter through this program. Some of the problems addressed are: mold, rodents, roaches, animal feces, meth lab clean up, surfacing sewage, and human feces. We are called by other agencies as well such as Child Protective Services, Adult Protective Services, City and County Building Inspection, City Environmental, City and County law enforcement.

- 21 surfacing sewage complaints
- 6 unfit housing situations
- 2 animal feces complaints
- 15 bed bug complaints
- 13 mold complaints
- 25 Meth Lab letters

DRINKING WATER PROGRAM

Clean water is vital to our health, communities, and economy, it is a fundamental human need. Each person on Earth requires at least 20 to 50 liters of clean, safe water a day for drinking, cooking, and simply keeping themselves clean. Tens of millions of people are seriously sickened by a host of water-related ailments—many are easily preventable.

The drinking water program includes the review of water sampling results from daycares, mobile home parks, and retail food establishments that utilize well water; education on proper care and shocking of wells, and guidance when flooding is an issue.

We have also been involved with the local water company when we have found homes with high levels of lead in their water due to city water lines that had not been replaced.

VECTOR CONTROL DIVISION



Left to Right Front Row: Kim Edwards, Warren Sweitzer and Logan Edwards
Left to Right Back Row: Mike Grayless, David Higgins, Tony Grayless

The primary goal of the Vector Control Division is to reduce the risk of disease and death from pathogens carried by animals and/or vectors. The Vector Control Division also repairs and maintains all Health Department vehicles and spraying equipment.

A “vector” is an agent capable of transmitting a pathogen from one organism to another. (I.e. mosquito, rodent). The Vector Control Division devotes its time primarily to:

- Vector control
- West Nile surveillance
- Dead animal removal
- Fleet maintenance and repair

MOSQUITO CONTROL

The spraying for adult mosquitoes in Vigo County was as diligent as the weather would allow in 2016. The adulticiding program consists of five ½ ton pickup trucks and three ATVs (equipped with ultra-low volume cold aerosol fog machines) to spray insecticides throughout the county, as well as the city of Terre Haute, for the control of adult mosquitoes. The ATV mounted ULV makes most sites accessible. All eight ultra-low volume-fogging machines must be certified for droplet size and calibrated for flow rate prior to each spraying season. Calibration is monitored daily throughout the spraying season. Adult mosquito control is accomplished using four insecticides, Mosquitomist 1.5 and Bio-Mist 4+12, Pyrofos and Kontrol 4X4.



Chris Novak of Clarke Mosquito Control testing equipment



Vector Control Specialist Logan Edwards

All ULV units are fitted with GPS compatible “Smart Flow” systems. This enables Vector Control staff to preset and record calibration, time of spraying, flow rate and vehicle speed.

Vector Control staff prepares and updates 26 maps that are 40-45 miles of county and city roads. The 26 maps show the areas to treat and also areas that we do not treat, which we consider no spray zones. Some of the areas that are considered no spray zones might be areas with organic gardens, beekeepers, large bodies of water or persons who have requested no spraying be done in the area they live, either for health or personal reasons. The 26 maps are treated weekly, biweekly or monthly depending on adult mosquito population and weather conditions.

Vector Control employees spend an extended amount of time treating stagnant water for mosquito larvae. Several brands of insecticide targeting several species are employed to kill the larvae. One type of insecticide (Golden bear) can last for seven days in stagnant low area water, covering the surface of the water denying the mosquito larvae access to air. All “catch basins”



or dry wells are treated with Altosid briquettes and Bactimas briquettes which lasts 30 or 150 days. Altosid Briquettes inhibit the growth of the larvae preventing them from becoming adults. Catch basins have been identified as one of many ideal habitats for the Vector (*Culex pipiens*), a mosquito, notoriously known for the transmission of West Nile. *Culex* mosquito larvae love the stagnant dirty water left behind from rain that doesn't soak into the ground but runs off into catch basins, retention ponds, and roadside ditches.



In 2016, approximately 1410 catch basins were treated. That number will continue to increase due to community growth. Parking lots and subdivisions will install retention ponds and or catch basins to contain water run-off. Catch basins and larvaciding sites are mapped out using the County's GIS system. Larvae samples are examined for identification of species to insure proper insecticide treatment.

The following table contains a list of the amount and types of insecticide used in Vigo County to control adult mosquitoes and larvae in 2016.

	INSECTICIDE	AMOUNT USED
55 Gallon Drum	Biomist 4 + 12	10 Drums
55 Gallon Drum	Pyrofos	8 Drums
55 Gallon Drum	Mosquitomist	8 Drums
55 Gallon Drum	Kontrol	1.5 Drums
220 Per Case	Altosid Briquettes (150 Day)	7 Cases
44 lbs Per Case	Abate	½ Case
200 Per Case	Naturlar XRT	1 Case
100 Per Case	Bactimas Briquettes	12 Cases
55 Gallon Drum	Goldenbear	30 Gallons



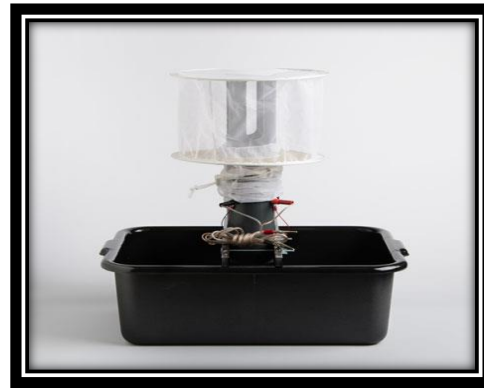
WEST NILE VIRUS SURVEILLANCE

We use two different types of light traps. One type of light trap (CDC –CO₂-Baited trap) uses dry ice or an attractant called “octonol” which simulates the exhaled respiratory gases of birds or mammals. The other is a gravid trap that uses alfalfa pellets mixed with water. The fermentation of these pellets releases an odor, similar to a livestock barn, and creates dirty, stagnant water that attracts gravid culex mosquitoes.

Light traps were set out at numerous locations throughout Vigo County with 3006 mosquito samples being collected between June and October 2016. Once the mosquitoes are collected they are separated into groups ranging in number from 5 to 100 and are then labeled as pools of mosquitoes, which are sent to the Indiana State Department of Health for West Nile testing. A total of 95 pools were sent in for testing in 2016. The Indiana State Department of Health reported 9 positive pools for Vigo County. Vector control specialists will continue to set, maintain and collect mosquito pools for ISDH West Nile Virus testing in the upcoming year.



Warren Sweitzer



Gravid Trap

MOSQUITO BORNE DISEASE PREVENTION ACTIVITIES IN 2016:

- Distributed 5600 “Skeeter Beater” coloring books to pre-school through 3rd grade elementary students on preventing and identifying prime breeding areas for mosquitoes.
- Distributed “Skeeter Beater” coloring books to Saint Patrick’s School and CASY (Community Alliance & Services for Young Children, Inc.).
- Worked with home owners (high grass, weeds, swimming pools, fishponds, standing water).
- Sent out Notice to Abate letters to all Vigo County cemetery caretakers.
- Worked with Terre Haute Street Department to remove standing water from alleys.
- Participated in Clean up Terre Haute program in May and September 2016.
- Continued to monitor home owners, tire retailers and salvage yards to ensure compliance with the Tire Storage Ordinance.

2017 MOSQUITO & LARVAE CONTROL STRATEGIES

1. Intensify local culex and aedes mosquito larval control to prevent the emergence of adult mosquitoes that feed on birds and contribute to the virus amplification transmission cycle.
2. Continue active West Nile surveillance to determine the presence of new or expanding West Nile transmission. (Light traps-Adult mosquito testing)
3. Reinforce public education and outreach programs to reduce mosquito- breeding sites around homes.
4. Educate on personal protective measures (long sleeves, insect repellent) with the use of the media (TV, radio and newspapers)
5. Implement local mosquito control to reduce the number of virus infected mosquitoes, thus reducing the immediate risk to humans.
6. Monitor adult and larval mosquito control efforts to ensure that the local programs are effectively reducing mosquito densities and virus infection rates.
7. Conduct inspections of local tire retailers and junkyards for tire storage ordinance compliance.

Tire Clean-up Program

In 2016 Vigo County Health Department employees removed discarded tires from the alleys and streets of Terre Haute and surrounding communities. A total of 5300 tires, filling four 53' semi-trailers, were collected. Residents that had tires stored outside were given information on our Tire Storage Ordinance informing them that the tires must be stored inside or removed from the property.

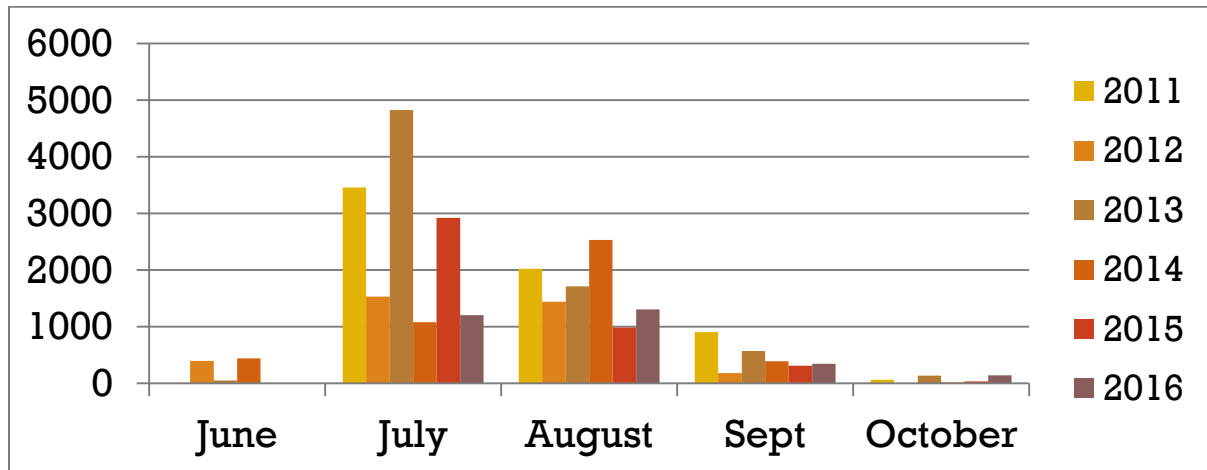


David Higgins, Jeremy Johnson & Mandy Bales

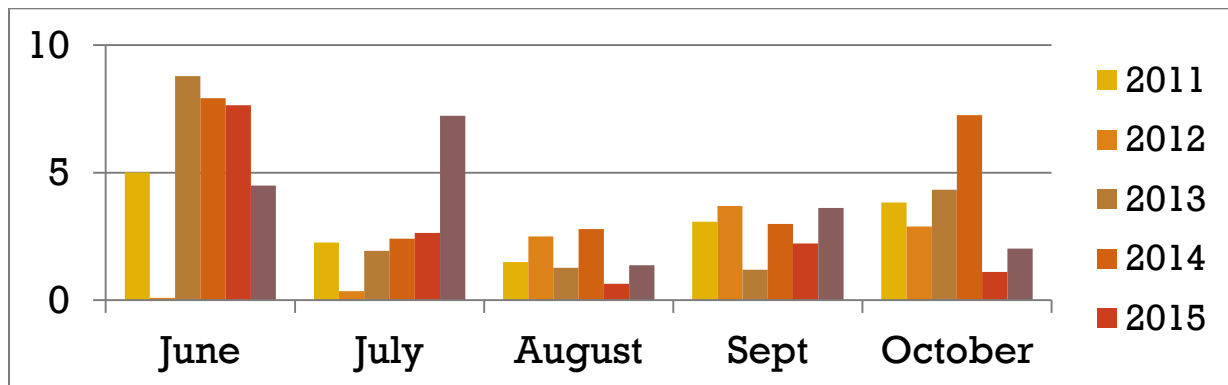


Warren Sweitzer and Logan Edwards

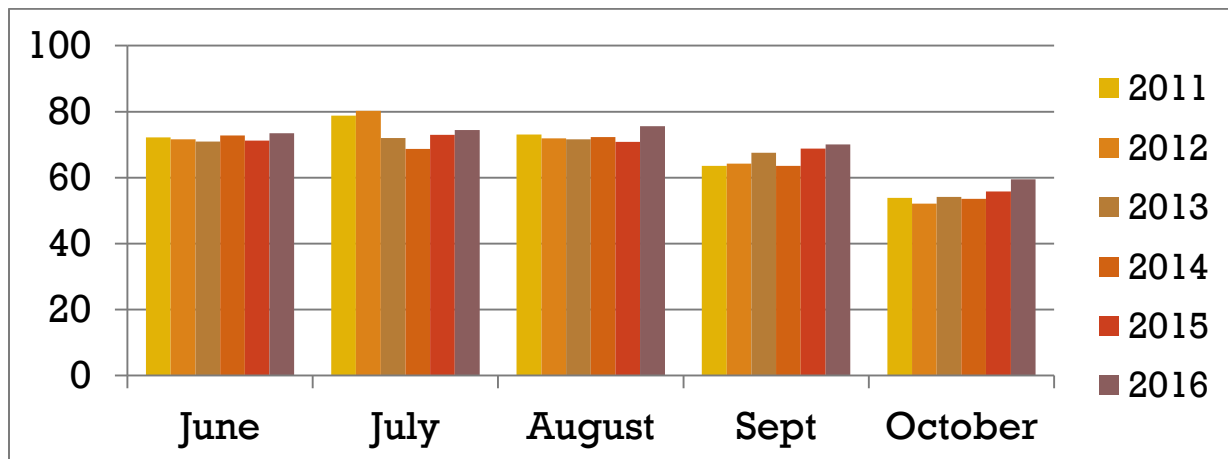
TOTAL MOSQUITOES COLLECTED



PRECIPITATION AMOUNTS



AVERAGE TEMPERATURES



REMOVAL OF DECEASED ANIMALS

In 2016 a total of 548 deceased animals were taken to the county landfill. 515 were removed from private properties as well as city and county roadways. An additional 33 were removed from the Terre Haute Humane Shelter.

RODENTS

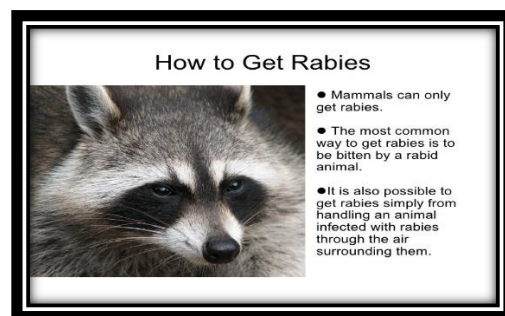
Rodents (i.e. rats, mice) are another source of disease transmission. Rodents must have adequate food, shelter, and water in order to survive. For these reasons, a large majority of rodent complaints are located within the city of Terre Haute.



A vector control specialist investigates complaints about rodents and proceeds to make recommendations to the property owner on findings and rodent control (i.e. removal of debris, animal feces). In some cases, the vector control specialist may set out bait and remove dead rodents, but the majority of the extermination is usually the responsibility of the property owner. A vector control specialist will continue to make follow up inspections to insure the property owner is correctly handling the problem. Two rodent complaints were investigated in 2016.

RABIES

In 2016 Vector Control staff sent in one raccoon and fourteen bats to the ISDH for rabies testing. All tests results were negative for rabies virus. Night surveillance was performed by Vector Control staff at two homes in Terre Haute to assist in bat proofing. Two bats were found inside Sarah Scott Middle School in mid-August prompting the Vigo County School Corporation to voluntarily shut down the school. Vector Control staff worked with the school corporation maintenance department to bat proof the inside of the school. The Vigo County Health Department, with the help from Dr. Joy O'Keefe, Assistant Professor, Department of Biology at ISU and Director of Center for Bat Research, Outreach and Conservation, Carissa Lovette, Bat Conservationist at Dobbs Park, family, friends and other county employees, performed night surveillance on the outside of the school. The school was able to reopen on August 31, 2016.



VEHICLE MAINTENANCE

During the winter months the Vector Control Division is busy with repairing, cleaning and inspection of all vehicles and equipment. All ULV spray units must be cleaned and broken down during the winter months, checked, repaired and parts replaced as needed. Along with routine maintenance, all trucks and cars are thoroughly inspected and repaired. All Health Department vehicles and equipment have routine maintenance throughout the year.



David Higgins doing vehicle repair



Logan Edwards doing vehicle repair

TOYS FOR TOTS

In 2016 Vigo County Health Department employees donated money to purchase toys for the Toys for Tots program in Vigo County, \$1400 was collected. \$350 was donated to CASA for their Angel Tree Program and the toys purchased with the remaining balance were given to the Marine Corp for distribution.



THE END