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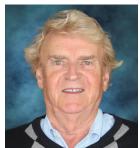
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A Letter from the State Health Officer

The Honorable Kay Ivey Governor of Alabama State Capitol Montgomery, Alabama 36130

Dear Governor Ivey:

I am pleased to present the Annual Report of the Alabama Department of Public Health (ADPH) for 2018. Public health has a direct impact on the quality of life for all Alabamians, and some of the highlights of the year follow.

Perhaps the best report is that Alabama's infant mortality rate of 7.4 infant deaths per 1,000 live births in 2017 was the best rate ever in Alabama's history. However, we still have work to do, as our infant mortality rate continues to rank among the highest in the nation. We are grateful for the ongoing support you have provided for the Alabama Infant Mortality Reduction Plan and remain committed to evidence-based initiatives that will continue to improve the health of Alabama's infants, children, mothers, and families.

The Children's Health Insurance Program has increased access to health care, and now only 3 percent of Alabama children lack health insurance coverage. We are also proud that the annual school survey conducted in conjunction with the State Department of Education found fewer than 5 percent of Alabama children are without age-appropriate immunizations for vaccine-preventable diseases. Medical and religious exemptions combined continue to be less than 1 percent for all students attending public and private schools in the state.

Communicable disease detection, prevention, and response remain an important function of public health. ADPH investigated more than 700 infectious disease outbreaks, clusters, and complaints in 2018. Public health staff collaborated with other state and federal partners in interdisciplinary efforts to identify causes, modes of transmission, and underlying environmental reasons for illness. These included an investigation of an invasive pneumococcal disease outbreak at a state prison, disease surveillance that resulted in a multistate egg recall, and deployment of nurse strike teams to help our sister states in the aftermath of hurricanes.

Even though a virulent strain of influenza resulted in one of the most severe flu seasons in recent years, we are grateful to you for helping expedite treatment and increase awareness of the need for preventive measures by declaring a State Public Health Emergency regarding influenza in January 2018.

Alabama recorded a record low number of tuberculosis cases, 91, the lowest since reporting began in the 1930s. Even with the decline, efforts continue toward our goal of eliminating this lifethreatening disease.

To address environmental health concerns, we continued working to ensure standards to protect the public from the spread of disease are maintained in the areas of food and lodging protection; milk, food, and seafood processing; and onsite sewage disposal. Representatives from ADPH and the local community conducted household surveys of residents in Lowndes County to ask about general household water and sewage practices, household illnesses, and illness prevention practices. Health education messages about good septic tank practices were promoted statewide.

Chronic diseases and conditions cause major limitations in daily living for too many Alabamians. ADPH focused on clinical and community linkages to better support chronic disease self-management and prevention by sponsoring blood pressure self-monitoring stations in sites that are open to the public and encouraging physical activity, healthy diets, and injury prevention. Tobacco use is costly in both direct medical expenses and preventable deaths, and efforts continue to help tobacco users quit, prevent youth and young adults from taking up the habit, and protect people from exposure to secondhand smoke.

To combat the growing opioid epidemic, ADPH is developing strategies that include strengthening the Alabama Prescription Drug Monitoring Program to make it easier for prescribers to discern between patients who legitimately need medications and those who abuse them, promote safe prescribing practices, and educate the public about substance abuse.

Other initiatives address the well-being of individuals and communities in our state. These include developing and improving suicide and violence prevention programs, administering programs to improve healthcare access and quality in rural and medically underserved areas, protecting the health, safety, and welfare of the public in the areas of emergency medical services, prevention of abuse and neglect in healthcare facilities, regulating radioactive materials and equipment, and providing health and safety training and technical assistance to early childcare providers, among others.

As we face the uncertainties and challenges of the years ahead, we remain committed to working collaboratively to accomplish our vision of creating an environment in which all Alabamians are healthy by promoting, protecting, and improving Alabama's health.

Sincerely,

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Scott Harris, M.D., M.P.H. State Health Officer



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Mission

To promote, protect, and improve Alabama's health

Vision

Healthy People. Healthy Communities. Healthy Alabama.

Core Values

Excellence – We believe in providing the highest quality services to our clients. We believe that all clients should be served with compassion, empathy, fairness, and respect.

Integrity – We believe our employees should be professional, competent, honest, and knowledgeable; maintaining the highest level of integrity, accountability, confidentiality, and concern for our clients. We believe in always striving to maintain the public trust.

Innovation – We believe that we should demonstrate the ability to adapt to change and to be flexible in our approach to solving problems and providing services.

Community – We believe that we should build and maintain internal and external partnerships to address public health challenges including effectively utilizing resources, solving problems, and building relationships.

Authority

Alabama law designates the State Board of Health as the advisory board to the state in all medical matters, matters of sanitation, and public health. The State Committee of Public Health meets monthly and is authorized to act on behalf of the State Board of Health. The State Health Officer is empowered to act on behalf of the State Committee of Public Health when the Committee is not in session.

More than 140 years ago, medical leaders in Alabama advocated constitutional authority to oversee matters of public health. The purpose of the authority was to preserve and prolong life; to plan an educational program for all people on rules which govern a healthful existence; and to determine a way for enforcing health laws for the welfare of all people.

Centralized Billing Unit

The Centralized Billing Unit (CBU) was created in May 2017 located within the General Operations Division. CBU's goal is to provide statewide county support for correction of claims, resubmissions, and credits to recover the maximum amount of revenue owed to the department. CBU provides administrative services to ensure compliance and integrity with all payer sources as well as local, state, and federal requirements.

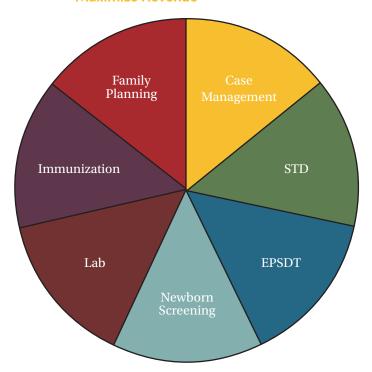
CBU is responsible for the following:

- Billing corrections and resubmissions
- Ensuring provider enrollment
- Re-enrollment
- · Reactivation of provider status
- Serving as liaison for all payer sources including private and state agencies
- Utilizing current procedural terminology coding
- · Billing contracts
- Credentialing
- Third party liability updates/removals
- Other reporting analysis and trends

CBU began working with a new electronic health record which consisted of a practice and revenue management component for a brief period of time before working with the state-of-the-art in-house billing system, CLAIMS Integration, to bill for services rendered. CBU provided numerous training opportunities on-site and through video web conferences as well as satellite conference and live webcasts to keep staff trained and updated on all billing changes.

CBU continues to look for opportunities for revenue expansion as well as expanding the services offered to patients. The unit supports effective and efficient work processes to ensure accurate billing is done and to reduce error rates. CBU works closely with the central office, district, and county staff to ensure successful revenue recovery efforts.

Figure 1. Programs Assisted by CBU to Maximize Revenue



Bureau of Children's Health Insurance

The Bureau of Children's Health Insurance administers the Children's Health Insurance Program (CHIP). CHIP provides comprehensive health coverage to eligible children through a separate program known as ALL Kids. As of a result of provisions in the Affordable Care Act, in addition to the ALL Kids program, CHIP also funds two groups of Medicaideligible children (MCHIP).

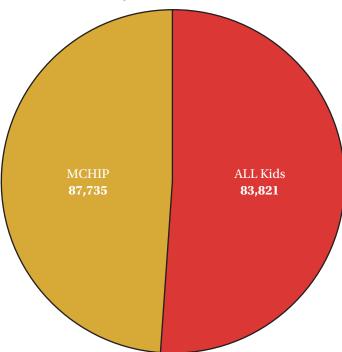
The bureau had an exciting start to year 2018. After a few months of uncertainty with CHIP funding, Congress passed a full decade of funding in February. The bureau was thrilled that over 150,000 of Alabama's CHIP-funded children would not be at a loss for health insurance.

The bureau has used 2018 as a year to continue to work collaboratively with Medicaid to make enhancements to the dual eligibility enrollment system which keeps the application process streamlined and easy for applicants to navigate. Creation of a new ALL Kids logo and movement

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into social media at the end of 2018 leaves the bureau looking forward to bringing the uninsured children rate below the current 3 percent.

Figure 2. Fiscal Year (FY) 2018 Enrollment Figures (As of September 2018)



CHIP Total: 171,556

Bureau of Clinical Laboratories

The mission of the Bureau of Clinical Laboratories (BCL) is to improve and protect Alabama residents' health through laboratory science. The laboratory consists of the Administration, Business Operations, Clinical Chemistry, Logistics, Microbiology, Mycobacteriology and Mycotics, Newborn Screening, Quality Management, Sanitary Bacteriology, Sexually Transmitted Diseases (STD), and Mobile Laboratory divisions. Testing is funded through Medicaid receipts and federal grants.

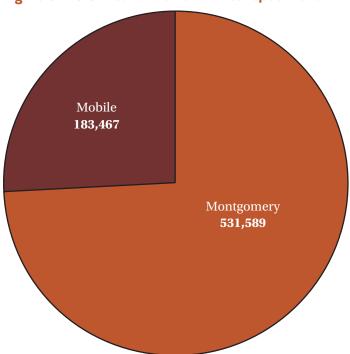
Laboratory Quality

Laboratorians work diligently and are committed to ensure testing that supports public health. The BCL is credentialed by the Centers for Disease Control and Prevention (CDC), Food and Drug Administration (FDA), Environmental Protection Agency (EPA), and Clinical Laboratory Improvement Amendments (CLIA) to ensure quality test results. The BCL is in its fourth year of a \$1.5 million FDA grant to become International Organization for Standardization (ISO) accredited.

Distribution of Clinical Specimens and Environmental Specimens Received

The BCL offers laboratory testing services through an array of technical specialties at the main laboratory in Montgomery and a specialty laboratory in Mobile. A total of 1,739,170 laboratory tests were performed this year for the 715,056 clinical specimens and 14,589 environmental

Figure 3. 2018 Distribution of Clinical Specimens



samples received. The distributions of specimens are depicted in the accompanying figures.

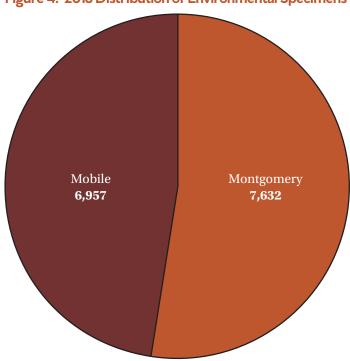
Laboratory Information Management System (LIMS)

Electronic ordering and reporting allows for near real-time results. The number of clinical and environmental results reported electronically to partners continues to increase. The BCL ChemWare Horizon LIMS capacity expands as new instruments are interfaced. It is also interfaced directly with ADPH's new electronic health record. The LIMS for the Newborn Screening (NBS) Laboratory does not receive electronic requests but contains reporting tools that facilitate billing, follow-up, and intervention.

Clinical Chemistry Specimens Processed and Analyzed

The Clinical Services Branch receives specimens from county health departments, federally qualified health centers, and community based human immunodeficiency virus (HIV) treatment programs to support the clinical management of their patients. This branch performs routine chemistry profiles, hepatitis B screenings, complete blood counts, CD4/CD8 T-lymphocyte subset enumeration, and quantitative polymerase chain reaction (PCR) for HIV viral loads and genotype testing. In early 2019, hepatitis C screening and viral load testing will be implemented. This

Figure 4. 2018 Distribution of Environmental Specimens



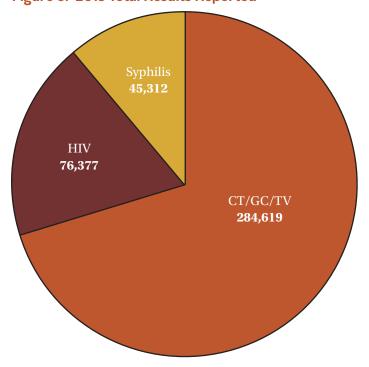
branch assists the Alabama Department of Human Resources with its Temporary Assistance to Needy Families program by conducting drug screening for applicants in accordance with Alabama Act 2014-438, Senate Bill 63. The Lead Branch conducts lead testing in support of the department's Childhood Lead Program. The division processed and analyzed 22,899 specimens during 2018.

Infectious Disease Testing - Microbiology

Outbreaks: The Emerging Infectious Disease (EID) Branch continued to use syndromic panel testing to streamline and expedite outbreak detection. Seventy specimens were analyzed with the gastrointestinal panel that identified norovirus, Clostridium difficile toxin, enteropathogenic Escherichia coli, and enteroaggregative Escherichia coli. The respiratory panel was used to detect three non-influenza respiratory outbreaks for the following: coronavirus OC43, coronavirus NL63, and respiratory syncytial virus. EID implemented a high throughput respiratory panel for surveillance and tested 185 specimens in which 76 were positive for human metapneumovirus, rhino/enterovirus, adenovirus, parainfluenza, human bocavirus, and respiratory syncytial virus types A and B.

As participants of PulseNet, a national laboratory foodborne illness network that uses pulsed field gel electrophoresis (PFGE) analysis, EID determined Alabama outbreak clusters of Shigella sonnei, Escherichia coli O157:H7, Listeria monocytogenes, and Salmonella. Sample analyses contributing to 25 national outbreaks were posted to the PulseNet International Database. PFGE was also used to investigate

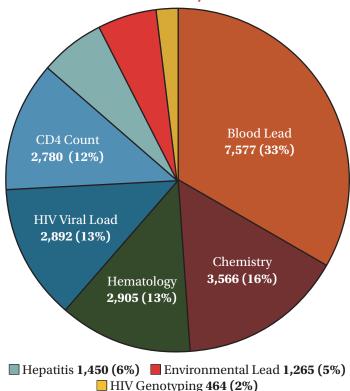
Figure 5. 2018 Total Results Reported

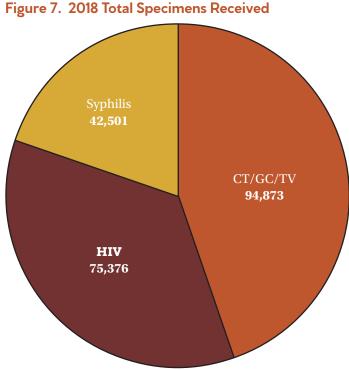


outbreaks at two Alabama healthcare facilities involving Legionella pneumophila and Serratia marcescens infections.

Of the 64 norovirus specimens tested, 27 outbreaks were identified. Three hundred sixty-four bacterial and

Figure 6. 2018 Clinical Chemistry Specimens Processed and Analyzed





mycobacterial specimens were identified using 16S sequencing. Two malaria cases were confirmed including a rare species, *Plasmodium malariae*. For meninogococcal disease surveillance, 94 *Haemophilus influenzae* were serotyped and 2 *Neisseria meningitidis* were serogrouped. Influenza and arboviral testing remained a priority with 706 specimens tested for influenza virus and 342 specimens submitted for arboviral testing. A total of 170 specimens were tested using the Zika MAC ELISA with 2 presumptive positives submitted to the CDC for confirmation. Also, 330 specimens were tested with the reverse transcription-PCR Trioplex Arbovirus panel yielding no positives. Two specimens were tested for *Bordetella* species.

Conventional Microbiology worked in conjunction with the CDC and the Jefferson County Department of Health on a Gonococcal Isolate Surveillance Project to track antibiotic resistance trends in *Neisseria gonorrhoeae*. Select specimens are collected and sent to the CDC where they are collated and analyzed. This branch also tests for carbapenemresistant *Enterobacteriaceae* (CRE), and 93 specimens were forwarded to the Antibiotic Regional Laboratory Network for enhanced surveillance. CRE is a growing concern in healthcare settings because these multidrug-resistant bacteria can cause serious and difficult-to-treat infections.

Preparedness: The Biological Terrorism (BT) Laboratory collaborated with Alabama's National Guard 46th Civil Support Team for an after-incident hotwash to discuss communication protocol and specimen submission. The BT Laboratory responded to suspected cases of Middle East Respiratory Syndrome Coronavirus and botulism. Nine specimens, including two environmental samples, were received to rule out agents of bioterrorism; one case of brucellosis was confirmed.

The Chemical Terrorism (CT) Laboratory participated in a simulated sample reporting exercise and specimen packaging and shipping exercise in 2018. The CT Laboratory has completed testing validation for screening ochratoxins in baby cereal and is in the process of expanding its food testing menu. In conjunction with Alabama Department of Environmental Management (ADEM), the CT Laboratory is testing freshwater fish samples for perfluorinated chemicals. The CT Laboratory also plans to participate in the public health surveillance of opioid testing.

NBS

State law mandates every newborn be tested for certain metabolic, endocrine, hematological, and other genetic disorders. Initial screening is performed at birth, and a second screening is recommended at 2 to 6 weeks of age. The laboratory screens approximately 150,000 specimens for 48 different disorders translating to about 6 million total tests performed annually.

The NBS Laboratory began testing for Severe Combined Immunodeficiency Disorder (SCID) on October 1, 2018. This condition is caused by mutations that affect the immune system and is fatal without treatments. Early identification makes it possible to identify the disorder before symptoms appear and helps ensure these infants receive life-saving treatments.

Tuberculosis (TB) and Fungal Infections

The Mycobacteriology Branch received 7,694 specimens for isolation and identification of *M. tuberculosis* complex as well as species of non-tuberculous mycobacteria (NTM). Using PCR-based technology, the TB Laboratory is able to confirm new smear positive patients within 2 hours. The TB Laboratory works with and provides TB Control staff genotyping data generated by the Michigan Department of Community Health. Both this PCR-based technology and genotyping information have been assets during outbreak investigations as they aid in determining their origins. The TB Laboratory uses Matrix Assisted Laser Desorption/Ionization-Time of Flight technology to rapidly identify NTM.

The Mycotics Branch reported 29 endemic yeasts (*Cryptococcus neoformans* and *Cryptococcus* species) and 2 endemic fungi (*Blastomyces dermatitidis*). A total of 2,970 specimens were received in this branch from county health departments and private providers.

HIV and STD Testing

The number of specimens tested in 2018 decreased by 11 percent. The incidence rates for chlamydia, gonorrhea, trichomoniasis (CT-GC-TV), syphilis, and HIV remained unchanged for women and men attending adult health and STD clinics. The STD Branch received 212,750 specimens and performed 406,308 tests. CT-GC-TV infections are detected using a nucleic acid test. The Bio-Rad BioPlex 2200 instrument was implemented in 2018 to perform multiplex assays for syphilis and HIV testing. The CDC's reverse algorithm is followed for syphilis testing. The initial screening test for syphilis, syphilis total, and rapid plasma reagin assay is a multiplex trepomenal IgG/IgM immunoassay test which also produces results for the nontreponemal RPR test to determine past or recent infections. The BioPlex 2200 HIV Antigen/Antibody (Ag/Ab) Assay is performed to screen for HIV infections. This multiplex assay produces individual results for HIV 1 Ag, HIV 1 Ab, and HIV 2 Ab. When the HIV screen is positive, an antibody or nucleic acid test is used to confirm the infection.

Mobile Division Laboratory

Shellfish/BEACH/Harmful Marine Phytoplankton Branch

The Mobile Division Laboratory collaborates with ADEM to meet EPA's Beaches Environmental Assessment and Coastal

Health (BEACH) Act requirements. Seven hundred eighty-one samples from coastal waterways were analyzed and reported.

The laboratory also provides oyster growing water monitoring and harmful algal bloom (HAB) analysis. Laboratorians analyzed and reported results for 401 samples collected from coastal waterways for HAB monitoring. In addition, 495 water samples from oyster growing areas were tested in compliance with National Shellfish Sanitation Program guidelines. Oyster growing and harvest areas require monitoring for bacterial contamination and HAB concentrations to ensure a safe supply of shellfish. In efforts to achieve ISO 17025 accreditation, crab meat analysis continues as the laboratory works to improve methodology and equipment automation.

Mobile Division Clinical Branch

The Mobile Clinical Branch also performs CT-GC-TV and syphilis testing. The laboratory performed 126,704 tests for CT-GC-TV and tested 36,171 specimens for syphilis. The Urine Culture and Sensitivity Branch analyzed 1,118 specimens for pathogens and antimicrobial sensitivity.

Mobile Division Environmental Testing

The Drinking Water Section tested 4,827 samples from public systems and private wells.

Sanitary Bacteriology/Media Division

The Sanitary Bacteriology/Media Division tests dairy products, public and private water, and fluoride samples

as well as prepares media used by both the county health departments and the BCL. Testing was conducted on 1,729 dairy samples to include raw producer, tank truck, and finished dairy products. Testing was performed on 975 fluoride samples. The laboratory provides proficiency testing for the milk laboratories in the state. Working with the FDA, five milk laboratories were inspected for compliance with state and federal regulations. The laboratory tested 3,417 public and private water samples in support of the Safe Water Act under contract with ADEM. While continuing work with ADEM, 19 public water utility laboratories were inspected for compliance with state and federal regulations.

The Media Branch made 3,567 liters of media in support of NBS, microbiology, milk and water, mycology, TB, and EID programs.

Rabies

Mobile and Montgomery laboratories both test animals for rabies. The number of rabies specimens tested at the Mobile location increased significantly due to redistribution of the county service areas. This branch analyzed 440 animals. Notably, the presence of positive fox and raccoon specimens generated significant public health interest. The Montgomery Rabies Branch tested 1,298 animals of which 38 were positive for the rabies virus. At the Alabama Environmental Health Association annual conference, the Montgomery testing staff presented a lecture, "Rabies Testing: Process and Requirements for Alabama," to provide training on collection and shipping of rabies specimens.

Bureau of Communicable Disease

The mission of the Bureau of Communicable Disease is to prevent and control designated communicable diseases and illnesses in Alabama. The bureau consists of the following divisions: HIV/AIDS Prevention and Care, Immunization, Infectious Diseases and Outbreaks, STD, and TB Control.

HIV/AIDS Prevention and Care

The mission of the HIV/AIDS Prevention and Care Division is, in collaboration with community partners, to reduce the incidence of HIV infections, increase life expectancy for those infected, and improve the quality of life for persons living with or affected by HIV.

Alabama continues to experience an HIV epidemic of moderate magnitude when compared to other states. A cumulative total of 21,723 HIV infections have been diagnosed among Alabama residents since reporting began in 1982, with preliminary data indicating 14,653 HIV positive individuals living in Alabama have been diagnosed, as of December 31, 2018.

As of December 11, 2018, the division was providing medications for 1,156 individuals through the AIDS Drug Assistance Program. An additional 2,040 clients were provided insurance assistance, 1,958 through the Alabama Insurance Assistance Program and 82 through Medicare Part D Client Assistance Program. The Direct Care Program was able to provide support to Ryan White providers of medical care with the acquisition of medical transportation vehicles. The vehicles will be used to improve patient access to medical and support services throughout the state.

The division convened the second annual Alabama Partners in Care meeting in September. During this meeting, the medical providers and HIV prevention partners came together to provide an overview of medical and prevention initiatives which were conducted during 2018. Using this meeting as a vehicle, the members are able to review past initiatives, measure the level of success, and modify and/or create new strategies for 2019.

The Start Talking Alabama campaign targeting young men of color has created a presence on social media utilizing Facebook, Instagram, Twitter, and YouTube. The campaign has posted 11 videos on YouTube and created 3 satellite productions accessible to providers across the United States to address the issues. Start Talking Alabama was recognized by the CDC for outstanding work.

The division was awarded a CDC Demonstration Project grant to increase HIV and hepatitis testing as well as address opiate substance abuse in Alabama's vulnerability counties in central Alabama. This project will be conducted in partnership with the University of Alabama at Birmingham.

Immunization (IMM)

Reducing vaccine-preventable diseases and increasing immunization rates is the division's goal. IMM has four branches: Surveillance; Registry; Vaccines for Children (VFC) and Assessment Feedback, Incentive, and Exchange (AFIX); and Administration.

The Surveillance Branch conducts an annual school survey, in conjunction with the Alabama Department of Education. This survey evaluates the immunization status of all children to ensure they have a current Certificate of Immunization (COI) or a valid exemption on file. In the 2017-2018 School Entry Survey, medical and religious exemptions combined continue to be less than 1 percent for all students in public and private schools. The number of students with expired and no COI was less than 5 percent. In addition, the branch oversees vaccine-preventable disease investigations statewide. IMM field staff investigate vaccine-preventable disease (VPD) reports submitted by notifiable disease reporters and laboratories. Field staff investigated 1,122 VPD and several VPD outbreak investigations: 1 Streptococcus pneumonia; 2 varicella; 3 pertussis outbreaks; and 1 Streptococcus pneumonia cluster.

Figure 8. Cases Classified As Vaccine-Preventable Disease Cases in Alabama

Disease	2015	2016	2017	2018
Diphtheria	0	0	0	0
H. influenzae	-	79	86	127
Hepatitis A	-	-	21	40
Hepatitis B	-	-	78	61
Measles	0	0	1	0
Meningococcal	-	5	4	5
Mumps	1	2	35	17
Perinatal hepatitis B	0	0	0	0
Pertussis	170	165	226	225
Polio	0	0	0	0
Rubella	0	0	1*	0
Strep. pneumoniae	-	341	375	554
Tetanus	1	1	1	0
Varicella	174	100	93	93
Total	346	693	921	1,122

^{*}Congenital Rubella Syndrome

	Figure 9. Number of Active ImmPRINT Sites by Type									
Year	Source	County Health Department	Clinic	FQHC/ RHC	Hospital	Pharmacy	School	Child care Centers	Subtotal	Grand Total
2015	ImmPRINT	71	432	68	23	36	546	2	1,110	2.255
2015	Interface	4	595	86	56	333	0	0	1,145	2,255
2016	ImmPRINT	71	571	78	27	60	1,578	3	2,320	2.402
2016	Interface	5	606	86	60	346	0	0	1,173	3,493
0017	ImmPRINT	69	685	89	34	109	1,664	242	2,826	4.000
2017	Interface	5	655	90	63	354	0	0	1,237	4,063
2010	ImmPRINT	68	801	98	41	241	1,701	339	3,302	4.001
2018	Interface	7	720	99	66	391	0	0	1,359	4,661

Figure 10. Number of Vaccines Submitted to ImmPRINT

Year	Source	Number of Vaccines
2015	ImmPRINT	307,407
2015	Interface	1,134,761
2016	ImmPRINT	453,800
2016	Interface	1,393,035
2017	ImmPRINT	436,133
2017	Interface	1,631,301
2010	ImmPRINT	410,401
2018	Interface	1,496,287

The VFC Branch manages Alabama's VFC Program, a federal entitlement program that provides vaccine at no cost to children under 19 years of age who are uninsured, Medicaid-eligible, under-insured, American Indian, or Alaskan Native. As of December 2018, 504 enrolled public and private providers received approximately \$68 million worth of vaccines. As part of the vaccines distributed, the VFC Program provided 236,770 doses of seasonal influenza to providers in all 67 counties. Field staff perform regulatory VFC site visits and AFIX audits on 50 percent of enrolled providers to promote proper vaccine storage and handling, accurate and safe administration of vaccine, and vaccine coverage improvement.

The Registry Branch manages the interfaces and providers who submit vaccine information in the state's immunization registry, Immunization Patient Registry with Integrated Technology (ImmPRINT). Sites can submit vaccine information manually or by electronic interface.

With over 50 staff statewide, the Administration Branch manages state and federal budgets, including contracts, grants, payroll, leave, and personnel.

Infectious Diseases & Outbreaks (ID&O)

The mission of ID&O is to protect the health of Alabama residents by monitoring and investigating select infectious, zoonotic, and environmental diseases and events. Figure 11 demonstrates the number of disease reports that were counted as cases according to the criteria established by the Council of State and Territorial Epidemiologists and the CDC in 2018 as compared to the previous 4 years.

Outbreak Investigations

ID&O defines an outbreak as two or more similarly ill persons, who live in different households and share a common exposure; a cluster is defined similarly, except a common exposure is not identified. Complaints are those that are reported as outbreaks but do not meet the above criteria to warrant a full investigation, although follow-up is still done and control measures are provided. All reporters, as outlined in the Notifiable Disease Rules, are required to report outbreaks of any kind within 24 hours of presumption. In 2018, 727 outbreaks, clusters, and complaints were investigated. Interdisciplinary, collaborative efforts among state and federal partners aided in the identification of causative agents, likely modes of transmission, and underlying environmental causes of illness. A few of these investigations are described as follows.

A Multistate Salmonellosis Outbreak Associated with an Alabama Farm and Shell Egg Consumption

During patient interviews for routine disease surveillance, a patient revealed that several people were ill following attendance at a local bank employee luncheon held in July. This report, received August 9, was followed up and corroborated with other salmonellosis investigations within the disease surveillance system that mentioned exposure to the same catered luncheon. An environmental assessment was completed at the catering facility, and clinical specimens and food samples were collected for testing. An epidemiologic study was conducted and revealed that those who ate an undercooked food item made with raw shell eggs were more likely to become ill, as compared to those who

Diseases	2014	2015	2016	2017	2018
Acute flaccid myelitis					4^
Anthrax	0	0	0	0	0^
Arboviral diseases (includes West Nile virus, Zika virus, and other arboviral diseases)	23^	10^	60^	67	32
Babesiosis	1	2	0	1	0
Botulism	0	1	1	0	0
Brucellosis	0	2	0	0	1
Campylobacteriosis	255	589^	692	790	781
Cholera	0	0	0	0	0
Cryptosporidiosis	147	261	334	189	150
Dengue	3	3^	5	0	3
E. coli, shiga toxin-producing (includes O157: H7)	41^	40	39	31	127^
Ehrlichiosis/Anaplasmosis	19	18	21	17	24
Giardiasis	182	188	234	191	217
Hansen's disease (Leprosy)	0	1	1	1	0
Hantavirus pulmonary syndrome					0^
Hemolytic uremic syndrome (HUS)	1	3	6	0	2
Influenza-associated non-pediatric mortality					110^
Influenza-associated pediatric mortality	1	1	0	1	2
Legionellosis	62	59	63	66	75
Leptospirosis	1	0	0	0	1
Listeriosis	9	5	8	5	11
Lyme disease	17	25	38	39^	32
Malaria	14^	11	11	8	8
Novel influenza A virus infection	0^	0	0	0	0
Paratyphoid fever	0	0	9	3	5^
Plague	0	0	0	0	0
Psittacosis	0	0	0	0	0
Q fever	2	0	1	0	3
Rabies, animal	78	83	77	51	55
Rabies, human	0	0	0	0	0
Salmonellosis	1,165	1,151	1,276	1,130^	1,162^
Severe acute respiratory syndrome associated coronavirus (SARS-CoV)	0	0	0	0	0
Shigellosis	516	680	239	247^	315
Spotted fever rickettsiosis	220	288	453	671	662
Toxic shock syndrome (non-streptococcal)					0^
Trichinellosis (Trichinosis)	0^	0	0	0	0
Tularemia	0	0	1	1^	0
Typhoid fever	2	0	0	1	1
VISA (Staphylococcus aureus, vancomycin-intermediate)	2	2	3	4	1
VRSA (Staphylococcus aureus, vancomycin-resistant)	0	0	0	0	0
Vibriosis (non-cholera)	20	19	31	26^	38
Yellow fever	0	0	0	0	0
Other investigations†	27	0	0	0	0
Total	2,840	3,543	2,094	3,540	3,822

^{*}Preliminary counts include finalized investigations among Alabama residents as of January 8, 2019. These case counts do not include those for conditions investigated by other divisions.

investigated, but are not reportable in Alabama or do not fall into any other category (such as histoplasmosis, streptococcal toxic-shock syndrome, yersiniosis).

[†]The other investigations category includes a variety of conditions or events that have been ^The case defin

 $^{{}^{\}wedge}\text{The case definition}$ was updated this year for this condition.

did not eat the food. As the investigation progressed, ID&O learned that the Tennessee Department of Health was also investigating a restaurant-associated outbreak which had cases with similar exposures. Both outbreak investigations identified a sole source of eggs originating from a farm located in Cullman County.

Federal and other state partners, including the FDA, CDC, and the Alabama Department of Agriculture and Industries (ADAI), came together to evaluate the underlying issues that may have led to the illnesses. FDA and ADAI visited the farm to collect drag swabs and eggs, assess the infrastructure, and make recommendations as needed. Ultimately, whole genome sequencing (WGS) was able to definitively link the patient specimens, food samples, environmental samples, and shell eggs. A recall was issued for the eggs and communications coordinated between agencies to ensure the public was aware of the situation. The farm voluntarily depopulated egg-producing hens and plans were put in place to prevent such an occurrence from ensuing again.

An Investigation of Acinetobacter baumannii Colonization at a Rehabilitation Facility

On October 25, 2018, ID&O was notified of two laboratory-confirmed cases of Acinetobacter in a single unit of a rehabilitation center. Although these cases were asymptomatic at the time of report, a previous 2014 cluster of Acinetobacter in the same unit sparked concern and a call for further action. An outbreak investigation and point prevalence study commenced to determine the extent of colonization among patients and provide specific recommendations to minimize risk of infection and spread of the pathogen. Twelve residents provided rectal and composite skin and/or wound swabs; 11 provided sputum samples. These samples were routed through the BCL to CDC's Antibiotic Resistance Laboratory Network regional laboratory in Tennessee. Carbapenem-resistant Acinetobacter baumannii were identified in multiple specimens. Additionally, the strain found among patients exhibited high multidrug resistance, though it remained susceptible to amikacin and colistin. ID&O and CDC worked in conjunction to develop transmission-based precautions, and clinical care and environmental cleaning recommendations, which were then given to the facility's administration.

An Escherichia coli O157:H7 Outbreak Among High School Students

In April 2018, the Mobile County Health Department received, and forwarded to ID&O, a report of four high school students who were hospitalized with gastrointestinal illness. An outbreak-specific questionnaire was developed for those ill to gather additional information, although the low response rate hindered a complete analysis. Around the same time as this investigation, a multistate outbreak of *E. coli* O157:H7 associated with romaine lettuce was in

progress. Traceback efforts implicated the lettuce was from the Yuma growing region. As part of the ID&O investigation, clinical specimens from the students and food samples from the high school were collected for testing at the BCL. Although no pathogens were isolated from the food samples collected in Alabama, WGS was able to reveal a connection of the clinical specimens to the multistate outbreak. With 36 states and more than 200 people infected with *E. coli* O157:H7, FDA issued an advisory to consumers to avoid eating romaine lettuce from the Yuma region.

Arboviral (Mosquito-borne) Surveillance

In 2018, ID&O investigated 226 reports of suspected human arboviral illness; of which, 15 percent were determined to be cases. The majority of investigations were for Zika virus (77 percent) or West Nile virus (WNV) (19 percent).

Cases of illness associated with Zika virus continue to be identified in Alabama. As Zika cases continue to be prevalent in other countries, ID&O will continue to conduct surveillance and testing to identify potential travel-associated cases, particularly among pregnant women due to the elevated risk of birth defects associated with the virus. These individuals are not only tested for Zika virus, but for dengue and chikungunya as well since they share similar viral characteristics. ID&O has developed a multi-functional surveillance process to identify travel-associated cases and detect any locally acquired cases in a timely manner so that control measures can be initiated swiftly. As in 2016 and 2017, all cases of Zika were travel-related, and no locally acquired cases of Zika virus were identified in 2018 in Alabama.

Figure 12. Human Arboviral Investigations and Cases in Alabama, 2018

Arboviral Disease	Investigations	Cases
California encephalitis	1	0
Chikungunya	0	0
Dengue	7	3
Eastern equine encephalitis	0	0
Jamestown Canyon	0	0
La Crosse encephalitis	0	0
Powassan	0	0
St. Louis encephalitis	1	0
West Nile virus	44	28
Yellow fever	0	0
Zika virus	173	4
Total	226	35

^{*}As of January 8, 2019

ID&O was notified of a total of 63 positive equines, sentinel chickens, and mosquito pools in 2018 by the Mobile County Health Department, ADAI, and the Baldwin County Commission. Forty-eight sentinel chickens were positive for WNV and one was positive for Eastern equine encephalitis (EEE). Eleven equines were positive for EEE and two were positive for WNV. One mosquito pool comprised of *Culex quinquefasciatus* mosquitoes tested positive for WNV.

Influenza Activity

CDC classified the 2017-18 influenza season (October 1, 2017-May 19, 2018) as a high severity season. This classification was derived based on high levels of outpatient visits for influenza-like illness (ILI), elevated influenza-related hospitalization rates, and geographically widespread influenza activity across the country for an extended period. Alabama's influenza and ILI activity began increasing in November, peaked in January, and remained elevated through February, while nationally elevated levels continued through March.

Between October 2017 and May 2018, 758 specimens were tested at the BCL. Of those, the following subtypes of influenza were detected: A (H3N2), A (2009 H1), B (Victoria), and B (Yamagata). The 2017-18 season in Alabama was unique in that three to four different strains were in circulation at any given point in the season. In addition to the specimens received and tested at the BCL by PCR, 4,059 were also tested at other locations in the state. In total, over 4,800 virologic influenza specimens were tested statewide using PCR. Overall, 12 percent tested positive for influenza.

Due to the widespread outbreak of influenza across the state, Governor Kay Ivey declared a State Public Health Emergency which was effective January 11, 2018, and terminated March 12, 2018. As a result, all influenza-associated deaths became reportable January 11, 2018. At the end of the season, a total of 145 non-pediatric influenza-associated deaths and 2 pediatric influenza-related deaths were reported to the department.

As a participant in the U.S. Outpatient ILI Surveillance Network, medical providers submit the percentage of patient visits at their facilities attributable to ILI each week. These data are used to measure ILI activity and to assess geographic spread of influenza across the state.

These data are essential for monitoring which influenza viruses are circulating, helping determine which influenza strains should be included in the seasonal vaccine, and detecting rare events such as novel influenza or antiviral resistance.

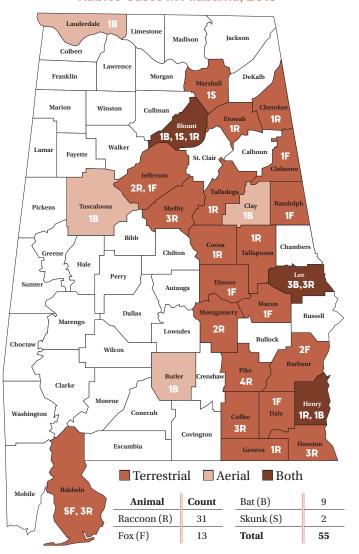
Healthcare-Associated Infections

Alabama remains committed to reducing healthcareassociated infections in Alabama hospitals. Alabama hospitals began reporting four infection measures to the department in 2011: catheter-associated urinary tract infections (CAUTIs), central line-associated bloodstream infections (CLABSIs), surgical site infections (SSIs) associated with colon surgeries, and SSIs associated with abdominal hysterectomies. These data represent Alabama's seventh year of reporting infection measures. In 2017, Alabama hospitals had significantly fewer CAUTIs and colon SSIs than predicted using national baseline data. CLABSIs and SSI counts for abdominal hysterectomies were statistically similar to the numbers predicted using national baseline data.

Rabies

In 2018, the department investigated 6,655 potential rabies exposures. ID&O confirmed 55 animal rabies cases, all in wild animals (raccoons, foxes, and bats). Animal case counts include animals tested at the BCL, as well as positives reported from the United States Department of Agriculture Wildlife Services. News releases were issued when positive cases occurred to provide education about rabies in wildlife

Figure 13. Reported Laboratory-Confirmed Animal Rabies Cases in Alabama, 2018



and highlight the importance of vaccination of domestic animals. No domestic animals tested positive in 2018.

STD

Primary and Secondary Syphilis

The 360 reported cases of primary and secondary syphilis infection correspond to a rate of 7.4 cases per 100,000 population. This is the fourth consecutive year primary and secondary syphilis have increased in Alabama. Men who have sex with men or who are bisexual accounted for 40.8 percent of the cases in 2018.

Chlamydia

The 26,869 cases of *Chlamydia trachomatis* infection reported correspond to a rate of 549.7 cases per 100,000 population. There was a slight decrease in the number of chlamydia cases reported from 2017.

In 2018, the overall rate of chlamydia infection in Alabama was highest among women, (at 735 cases per 100,000 females) as compared to men (348.9 cases per 100,000 males). This is a direct reflection of targeting women for chlamydia screening in order to prevent infertility, pelvic inflammatory disease, and reproductive sequelae.

Figure 14. Primary and Secondary Syphilis, Alabama 2008 - 2018

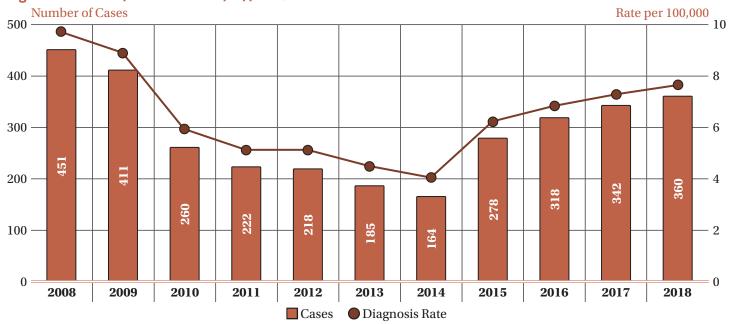
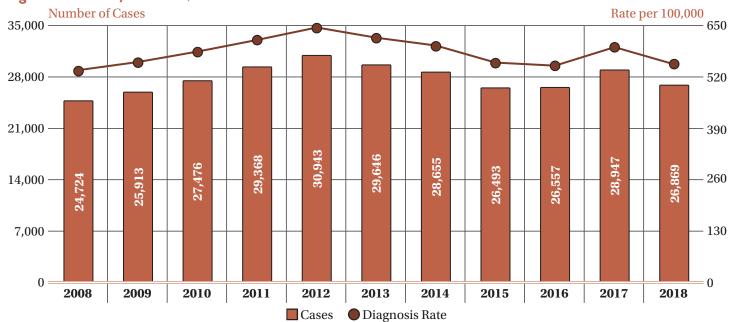


Figure 15. Chlamydia Cases, Alabama 2008-2018



The rate of reported chlamydia cases remained highest among blacks (861.6 cases per 100,000 population), Hispanics (239.8 cases per 100,000 population), and whites (117.9 cases per 100,000 population).

Nearly 45 percent of the chlamydia cases reported in 2018 were residents of Jefferson (4,766 cases), Mobile (2,798 cases), Montgomery (2,441 cases), and Madison (2,226 cases) counties.

The number of chlamydia infections was highest among persons age 15-29. This age group comprised about 87 percent of the cases in Alabama. This demonstrates the need to engage adolescents and young adults in discussions on sexual health topics.

Gonorrhea

In 2018, 11,919 cases of *Neisseria gonorrhoeae* infection were reported, which corresponds to a rate of 243.8 cases per 100,000 population.

The rate of reported gonorrhea cases remained highest among blacks (445.2 cases per 100,000 population), followed by Hispanics (59.5 cases per 100,000 population), and whites (52.3 cases per 100,000 population). The number of gonorrhea cases reported among males and females increased in 2018. The overall rate of gonorrhea infection in Alabama among men (258.9 cases per 100,000 population) was higher than women (228.5 cases per 100,000 population).

Nearly 49 percent of the gonorrhea cases reported in 2018 were residents of Jefferson (2,594 cases), Madison (962 cases), Montgomery (1,119 cases), and Mobile (1,076 cases) counties.

The number of gonorrhea infections was highest among persons age 15-29. Seventy-five percent of the gonorrhea cases occurred in this age group.

HIV/AIDS

In 2018, a total of 657 new HIV/AIDS cases were reported. This case count corresponds to a rate of 13.4 cases per 100,000 population.

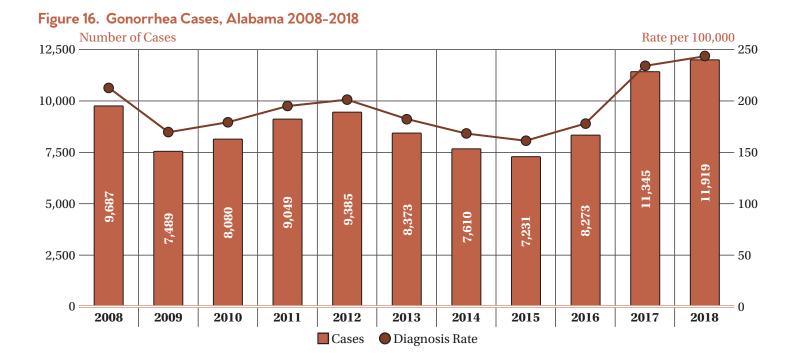
The rate of HIV/AIDS cases was highest among blacks (36.7 cases per 100,000 population), followed by Hispanics (7.6 cases per 100,000 population), and whites (4.3 cases per 100,000 population).

About 55 percent of the HIV/AIDS cases reported in 2018 were residents of Jefferson (111 cases), Montgomery (81 cases), Madison (33 cases), Mobile (85 cases), and Tuscaloosa (49 cases) counties.

TB Control

The ultimate goal of the Division of TB Control is to eliminate TB in Alabama. Until that goal is reached, the division strives to reduce the annual burden of disease, limit transmission, and prevent future cases through the provision of diagnostic, treatment, case management, and contact investigation activities. The division provides these services to all persons in Alabama regardless of the ability to pay. This commitment to the citizens of Alabama has contributed to a historic decline in morbidity.

In 2018, the division evaluated 106 persons suspected of having TB, eventually ruling out disease in 15 suspects and



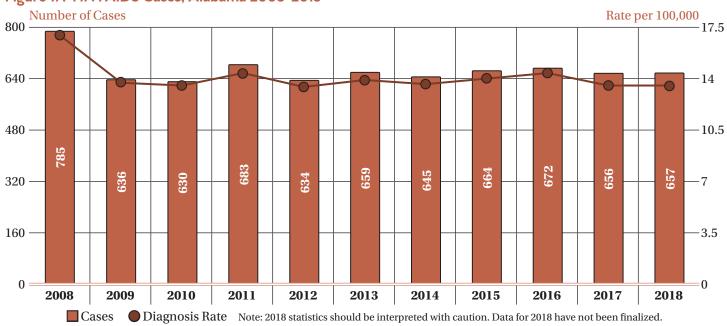


Figure 17. HIV/AIDS Cases, Alabama 2008-2018

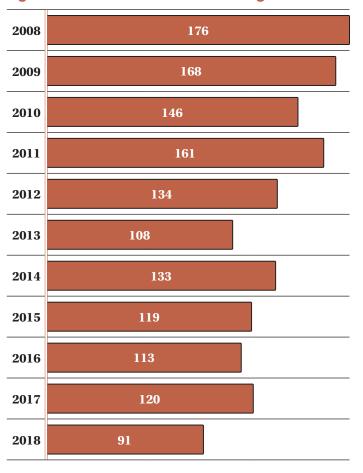
confirming active TB disease in 91 patients. This figure represents a 25.79 percent decrease in confirmed cases compared to 120 cases in 2017.

The 10-year trend in confirmed active cases of TB, as illustrated, reveals an overall decline of 51.7 percent in verified TB cases (from 2008 to 2018). However, morbidity reported over the past 5 years has demonstrated far less progress in the continuing steady decline of reported TB cases. Since 2013, when Alabama reported a historical low of 108 cases, TB cases have remained relatively steady until 2018. Cases have actually increased in some years during the previous 5 years. During the past 5 years, Alabama has reported an average of 116 cases per year, a 42-case decrease compared to the historical high reported in 2014.

In addition to the identification, evaluation, and treatment of persons with active TB, the division seeks to prevent future cases through prompt identification and medical evaluation of contacts at risk for exposure, and to assure the initiation and completion of preventive therapy for those contacts diagnosed with latent TB infection (LTBI). Preliminary data for 2018 shows that 3,005 persons were identified as contacts to TB cases classified as Acid Fast Bacilli (AFB) sputum smear positive cases, and that 2,831 (92.8 percent) of those contacts were fully evaluated. Of the number of persons who were fully evaluated, initial reports indicate that 159 of 171 (93 percent) persons were diagnosed with LTBI, and were placed on preventive treatment for LTBI by division staff. The division continues to place great emphasis on the identification of persons at high risk for progression to active TB disease. Some groups of persons who are diagnosed with LTBI infection are at increased risk for rapid progression to TB disease including persons who are close contacts

to AFB smear positive cases; individuals diagnosed with certain immunocompromising medical conditions such as HIV, diabetes, and others; persons who are foreign-born

Figure 18. TB in Alabama - 2008 through 2018



from countries with a high prevalence of TB (immigrants or refugees); and persons who abuse drugs and alcohol. Treating these persons preventively protects the individual and the community at large from developing TB disease.

Figure 19. Demographics for Confirmed TB Cases in Alabama – 2018

Age
0-4 = 5 (5.49%)
5-14 = 1 (1.10%)
15-24 = 9 (9.89%)
25-44 = 30 (33.03%)
45-64 = 18 (19.78%)
65+ = 28 (30.77%)
Race / Ethnicity
White = 45 (49.45%)
Black = 35 (38.46%)
Asian = 9 (9.89%)
Other = 2 (2.1%)
$Hispanic^* = 18 (19.78\%)$
Gender
Male = 64 (70.33%)
Female = 27 (29.67%)
Nativity
U.S. Born = 63 (69.23%)
Foreign Born = 28 (30.77%)

 ${}^*\! Hispanic$ ethnicity is not a single race, so percentages noted do not equal 100.

Office of Emergency Medical Services (OEMS)

The OEMS is responsible for protecting the health, safety, and welfare of the public by assuring that emergency medical services (EMS) provided by response agencies, training entities, and technicians meet or exceed established standards. The OEMS investigates complaints and may exercise its authority to deny, place on probation, suspend, or revoke licensure when statutory or regulatory violations are substantiated.

Figure 20. EMS Personnel – Personnel Licensed by OEMS by License Type

License Type	Number of Personnel
Advanced Emergency Medical Technician (A-EMT)	942
Emergency Medical Responder (EMR)	86
Emergency Medical Technician (EMT)	6,275
Intermediate	264
Paramedic	4,949
Total	12,516

Alabama Trauma and Health Systems

The Alabama Trauma System (ATS) currently consists of 60 trauma centers, including 6 out-of-state trauma centers. The efforts and dedication of trauma centers, EMS, the Alabama Trauma Communication Center, regional EMS, and advisory councils working together facilitate timely routing of trauma patients to the appropriate hospitals.

In 2018, the OEMS evaluated/re-evaluated ten Level I and Level II trauma centers in the ATS. Additionally, the American College of Surgeons, Committee on Trauma, came to Alabama September 10-14 to evaluate the ATS at the request of the following Alabama stakeholders: Alabama Department of Public Health (ADPH), Alabama Hospital Association, Children's of Alabama, the Healthcare Authority of the City of Huntsville doing business as HH Health System, the UAB Health System, and USA Health University Hospital. The final consultation report will include a prioritized list of recommendations for the ATS.

From January 1, 2018 – December 31, 2018, 14,816 patients were entered into the trauma system.

The Alabama Stroke System was activated statewide on October 30, 2017. The primary goal of the stroke system is to maintain a stroke emergency care system that results in 100 percent tissue plasminogen activator (tPA) administration to all eligible patients as well as decreased stroke mortality

and disability. Patients who are experiencing symptoms of a stroke need to be rapidly evaluated at a hospital and treated within a few hours of the onset of symptoms to either reverse the stroke or minimize the damage, if possible. Because tPA has to be administered within the first few hours of acute ischemic stroke onset, the system will improve the chances of survival regardless of proximity to an urban stroke center.

From January 1 through December 31, 2018, 7,733 patients were treated for stroke, 1,926 of which were ischemic stroke; 476 received tPA, a rate of 24.7 percent. The system currently includes 73 stroke centers, including 10 out-of-state partners. The three designation levels of stroke centers are as follows: Stroke Ready Center, Primary Stroke Center, and Comprehensive Stroke Center.

As technology improves and stroke data become more available, so have the treatment options for certain types of stroke. ADPH is working with stroke professionals to incorporate advances in treatment into the system to assist in getting the patient to the appropriate stroke center for rapid evaluation and treatment to decrease stroke morbidity and mortality.

Alabama Head and Spinal Cord Injury Registry/Alabama Trauma Registry

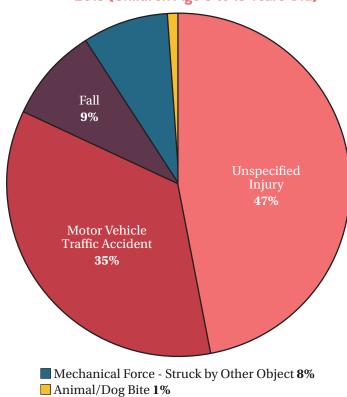
Alabama hospitals, regardless of participation in the ATS, are required to report specific head and spinal cord injuries to ADPH to be entered in the Alabama Head and Spinal Cord Registry. ADPH provides the Alabama Department of Rehabilitation Services (ADRS) this information so ADRS then can contact the patients with moderate to severe head and spinal cord injuries to offer assistance and information on programs for which they may be eligible.

The Alabama Trauma Registry is an integrated database that collects patient data from the state's certified trauma centers. These data are used for system quality improvement and research in collaboration with other entities.

Alabama Emergency Medical Services for Children

The mission of the Alabama Emergency Medical Services for Children (EMSC) Program is to prevent and reduce child, youth, and adolescent disabilities and deaths that are the result of severe illness and injury. Several services are available through the program including education for prehospital professionals; continual permanent installation of the EMSC Program into Alabama's EMS system; and assurance that pediatric equipment, according to the American Academy of Pediatrics/American College of Emergency Physicians guidelines, is available on prehospital emergency vehicles that transport children.

Figure 21. Five Most Common Causes of Injury in 2018 (Children Age 0 to 18 Years Old)



EMS Education

The Education section added a specialist to its ranks to assist with not only ambulance and service inspections but also provide support to the education coordinator. As the office's footprint in the initial and ongoing process of educating prehospital providers, the section ensures that the expertise of those most knowledgeable are utilized. The office collaborated with a select group of EMS educators to draft new EMS education rules. These rules will give

Figure 22. Five Most Common Primary Impression Criteria

Primary Impression Type	Count of Events
General Weakness	107,291
Altered Mental Status	27,826
Acute Pain Not Elsewhere Classified	14,573
Pain-Chest/Cardiac	14,254
Respiratory-Respiratory Distress, Acute	14,176

OEMS the authority to approve and regulate all programs offering EMR, EMT, A-EMT, and Paramedic education within Alabama through a credentialing process. OEMS also partnered with the ADPH Office of Primary Care and Rural Health to acquire a grant benefitting prehospital providers in rural health and Alabama EMS Region 4 (West). This grant provides funds to educate EMS personnel with the recognition, pathophysiology, treatment, and prevention of opioid emergencies.

Alabama Opioid Assistance Project

The Substance Abuse and Mental Health Services Administration has awarded a grant of approximately \$3.2 million to the OEMS. The grant will be used to assist in supplying naloxone to EMS providers licensed in the state of Alabama and to gather research and data on naloxone use statewide. The project is intended to provide training and naloxone assistance to EMS, and peer recovery support and referral to opioid overdose victims and their families. The OEMS will combine its efforts with the Council on Substance Abuse in Alabama to provide data collection and referral assistance when a patient arrives at a receiving facility.

Bureau of Environmental Services

The Bureau of Environmental Services ensures the wellness and safety of Alabamians by regulating food service establishments, milk production, lodging facilities, seafood production, soil testing, onsite sewage disposal, solid waste disposal, vector control, and indoor air quality and home lead inspections.

Environmental Operations Unit

This unit creates the infrastructure for the bureau by ensuring that the bureau performs proficiently, effectively, and professionally by developing environmental guidelines, policies, and performance standards that measure the efficiency and productivity of the state's environmental programs. The unit also serves as a facilitator for the bureau by providing structured training through workshops, seminars, and conferences for bureau and county personnel. By serving as a "checkpoint" for the bureau, local environmentalists are kept abreast of new and innovative technology, and are provided professional development seminars.

Food, Milk, and Lodging

Food and Lodging Branch

- 52,674 inspections were conducted at food establishments, and 2,905 complaints received from the public concerning food establishments were investigated. Additionally, 159 emergency closure orders were issued.
- 924 lodging inspections were conducted, and 417 complaints received from the public concerning hotels were investigated.
- 377 body art facility inspections were conducted, and 43 complaints received from the public concerning body art facilities were investigated.

Milk and Food Processing Branch

- 1,853 samples of milk were reviewed and documented on samples collected for laboratory analysis for bacterial contamination and the presence of antibiotic residue.
- 131 dairy farm inspections and 265 milk processing plant inspections were conducted.

Seafood Branch

- Collected and analyzed 389 water samples in shellfish growing areas of Mobile Bay.
- Conducted 353 inspections of oyster, crab, and other seafood processing plants; 19 samples of oysters or crabmeat were collected for laboratory analysis.

Community and Environmental Protection

The Onsite Sewage Branch issued 11,270 permits to install and repair onsite sewage systems, 9,816 systems were installed, and 10,400 onsite sewage systems were issued an approval for use.

The Solid Waste/Vector Program provides information and education to individuals and communities on the storage and control of solid waste to minimize the threat of a health hazard, nuisance, or harborage for vermin or vectors. This program also permits and inspects solid waste collection vehicles and transfer stations. For FY2018, 2,268 "G" stickers (permits) were issued for collection vehicles. Of the 60 septic tank manufacturers permitted in Alabama, 36 manufacturers were inspected in FY2018.

Indoor Air Quality/Lead Branch

The Indoor Air Quality/Lead Branch provides information and printed materials on issues related to indoor air quality, molds, lead-based paint, and other lead hazards. The primary focus of the branch is to enforce the state regulations promulgated under the Alabama Lead Reduction Act of 1997. These rules require individuals and firms engaged in lead identification and risk assessment and lead-based paint removal of pre-1978 housing and child-occupied facilities to be trained and certified to perform according to established safe work practice standards. Branch personnel also provide support for the Alabama Childhood Lead Poisoning Prevention Program. The Indoor Air Quality/Lead Branch is the EPA-designated state indoor air contact providing advisory services for the state and those who request it by providing indoor air quality, molds, and asbestos information and printed materials.

Lead Contractor Certification Program activities:

- Certification of firms to conduct lead based-paint activities: 56
- Inspection of lead project sites: 82
- Outreach and education contractors' compliance assistance: 63
- Numbers of state lead regulations violations noted: 35

Childhood Lead Poison Prevention Program activities:

- Lead outreach (inspections and awareness) workshops: 180
- Inspections of homes with cases of children with high blood lead: 107
- Environmental lead sampling of dust, soil, water, and paint chips (approximate): 1,376

Soil Branch							
Individual Sites Evaluated	493						
Large Flow Sites Evaluated	19						
Lots in Large Flow Development	126						
Training Activities Conducted	11						
Training Attendees	203						

Bureau of Family Health Services

Cancer Prevention and Control

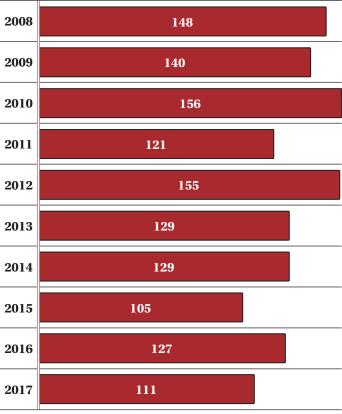
Alabama Breast and Cervical Cancer Early Detection Program (ABCCEDP)

The ABCCEDP has provided free breast and cervical cancer screening and diagnostic services for Alabama's underserved women for more than 21 years. Breast cancer screening includes free clinical breast exams and biennial mammograms. Since 2008, a total of 1,321 breast cancers and 1,382 cervical preinvasive and invasive cancers have been diagnosed through ABCCEDP.

Alabama Comprehensive Cancer Program

The Alabama Comprehensive Cancer Program facilitates the statewide Alabama Comprehensive Cancer Control Coalition. The coalition is a statewide group of cancer-related organizations and advocates that are responsible for assessing the burden of cancer, determining priorities for cancer prevention and control, and implementing the 2017-2022 statewide comprehensive cancer control plan. The vision is to eliminate the burden of cancer in Alabama. The current 5-year goals are to expand partnerships; decrease

Figure 23. ABCCEDP Diagnosed Breast Cancers by Year*



*2017 is the most recent year for which statistics are available.

the number of Alabamians affected by tobacco; increase the number of Alabamians receiving the HPV vaccination; reduce Alabamians' cancer risk by decreasing their exposure to ultraviolet light; strengthen survivorship, hospice, and palliative care; and increase Alabamians' access to clinical trials. Healthy lifestyle choices such as a proper diet, regular exercise, and participation in checkups and screenings are vital.

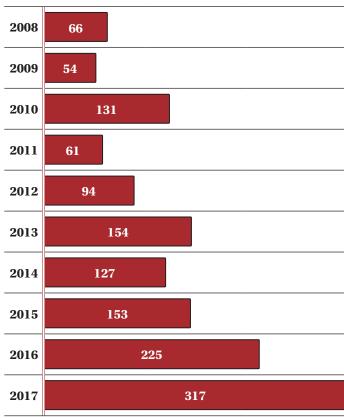
Alabama Statewide Cancer Registry

The Alabama Statewide Cancer Registry, a population-based cancer registry, is an information system designed for the collection, management, and analysis of cancer data. Cancer surveillance serves as the foundation for a comprehensive strategy to reduce illness and death from cancer and enables health professionals to better understand the cancer burden. The registry plays a significant role in disseminating data to aid efforts to reduce the burden of cancer in Alabama.

Fitway Colorectal Cancer Prevention Program

The FITWAY Colorectal Cancer Prevention Program works to increase colorectal cancer screening rates to 80 percent by using evidence-based practice interventions at five clinics

Figure 24. Diagnosed Preinvasive and Invasive Cervical Cancers by Year*



*2017 is the most recent year for which statistics are available.

targeting low income and uninsured persons. Over the past year, colorectal cancer funding was used to screen 113 persons, and prostate cancer funding was used to screen 1,076 persons.

WISEWOMAN (Well Integrated Screening and Evaluation for Women Across the Nation) Program

The WISEWOMAN Program strives to help women who participate in ABCCEDP understand and reduce their risk for heart disease and stroke. The program provides services to improve hypertension and promote healthy lifestyles.

Figure 25. Alabama Cancer Incidence Rates by Site and Sex, 2007-2016 Combined

NAME					
		ALE		MALE	
	Rate	Count	Rate	Count	
All Sites	545.5	136,822	401.2	119,473	
Bladder	33.3	7,868	7.6	2,379	
Brain and Other Nervous System	7.9	1,921	5.6	1,561	
Breast	1.4	350	120.8	35,656	
Cervix Uteri	-	-	9.0	2,265	
Colon and Rectum	53.2	13,150	38.6	11,732	
Esophagus	8.3	2,162	1.7	532	
Hodgkin Lymphoma	2.7	635	2.0	510	
Kidney and Renal Pelvis	22.7	5,770	12.0	3,600	
Larynx	8.3	2,187	1.7	525	
Leukemia	15.9	3,745	9.8	2,838	
Liver and Intrahepatic Bile Duct	10.7	2,844	3.7	1,140	
Lung and Bronchus	93.6	23,429	52.7	16,510	
Melanoma of the Skin	28.3	6,829	16.2	4,542	
Myeloma	8.0	1,989	5.6	1,721	
Non-Hodgkin Lymphoma	19.7	4,748	13.7	4,138	
Oral Cavity and Pharynx	20.1	5,210	7.1	2,137	
Ovary	-	-	11.8	3,520	
Pancreas	14.7	3,651	11.0	3,432	
Prostate	136.4	36,039	-	-	
Stomach	8.8	2,140	4.8	1,459	
Testis	4.5	993	-	-	
Thyroid	4.8	1,188	13.1	3,424	
Uterine (Corpus and Uterus, not otherwise specified)	-	-	19.2	5,870	

^{*}Most recent data available. Rates are per 100,000 and age-adjusted to the 2000 U.S. (19 age groups) standard. Rates and counts are for malignant cases only with the exception of urinary bladder and groups that contain urinary bladder.

Since the program began in 2013, more than 4,200 women have participated across six counties. Participants receive access to resources needed to improve their cardiovascular health, such as risk reduction counseling, health coaching, nutrition visits, and support groups. All participants received health coaching, 414 participants received medication support, 899 attended a support group, 387 attended a lifestyle program educational class, and 1,805 received nutritional counseling by a registered dietitian. Program efforts led to a statistically significant improvement in hypertension through increased awareness, knowledge, and skills to improve nutrition, physical activity, and weight.

Oral Health

The National Oral Health Conference recognized the Oral Health Office for advancing its overall ranking from last in the nation to 29th in 2018. Community fluoridation continued to be at the forefront of the office's focus in other ways. In observance of National Children's Dental Health Month, the office undertook several initiatives including the "Share Your Smile With Alabama" children's smile contest that featured the winners, a third grade boy and girl, in an advertising campaign and a satellite news conference.

Activities:

- Awarded grants ranging from \$6,000 to \$25,000, totaling \$100,000, to five water systems to begin fluoridating, expand an existing fluoridation program, or replace aging equipment.
- Presented certificates to 95 public water systems for consistent and professional adjustment of fluoride levels recommended for prevention of tooth decay. The CDC and the Association of State and Territorial Dental Directors provided the awards. Three systems received commendations for providing 50 consecutive years of community fluoridation.
- Drafted a bill to require Alabama water systems to provide an advance written notice to the State Health Officer before initiating any permanent change in the fluoridation status of its water supply. Alabama became only the fourth state in the nation to enact such legislation.
- Through partnerships, provided 500 "Brush, Book, Bed" kits to stress the importance of a structured and repeatable bedtime routine comprised of brushing the child's teeth, reading a book, and going to bed at a consistent time.
- Partnered with Northern District counties to provide 6,000 oral health kits to promote oral health and as outreach for health department services and collaborated with WIC to supply 1,638 4-year-old WIC recipients with oral health kits in the 18 counties of the Black Belt.
- Provided 150 oral health kits, 300 dental-related coloring books, and 300 activity pages to a Montgomery elementary school at an educational outreach program.
- Sent letters notifying dentists with controlled substances permits about a new requirement to register with the Prescription Drug Monitoring Program (PDMP) and encouraging them to register.

- Launched an ad campaign to increase the proportion of infants and children who receive preventive dental visits by piloting the Home by One Program.
- Piloted the First Steps Program to increase the proportion of at-risk pregnant women receiving a preventive dental visit during pregnancy.

Perinatal Health

State Perinatal Program

The purpose of the State Perinatal Program is to identify and recommend strategies that will effectively decrease maternal and infant morbidity and mortality, improve maternal and infant health through a system of regionalized care, and provide leadership in establishing program priorities. Program activities include fetal, infant, and maternal mortality reviews, education to reduce risk factors associated with Sudden Unexplained Infant Death, promotion of the Text4Baby campaign, promotion and education of the Alabama Perinatal Regionalization System Guidelines, support and promotion of breastfeeding, participation on local, state, and national committees to reduce maternal and infant mortality, and provision of outreach education to healthcare providers and the public. In 2018, the program committee reviewed 152 fetal and infant deaths, established the Maternal Mortality Review Program, and launched the Governor's Initiative to Reduce Infant Mortality in collaboration with multiple state agencies and programs.

Maternal and Child Health (MCH)

The MCH Program coordinates federal MCH Title V Block Grant activities. MCH Title V Block Grant services to Children and Youth with Special Health Care Needs are administered, through a contract, with the ADRS Children's Rehabilitation Service. The Alabama MCH Program staff continues to change the ways in which the grant is administered to better align with the objectives and goals of the federal block grant transformation. The MCH 3.0 Transformation requires states to select national measures across six population health domains. Also, states must select evidence-based or informed strategy measures (ESM) for each of the selected national performance measures. Bureau staff work with community, state, and national partners to identify and implement ESMs that improve the health of Alabama's MCH population. In addition to the ESM-focused activities, MCH Program staff also engage in other multi-partner and multi-sector projects. On September 14, 2018, the program, in collaboration with Alabama's Healthy Start Grantees and the March of Dimes, hosted the 2018 Infant Mortality Summit. Agencies, families, and providers around the state attended the summit that featured nationally known speakers. The latest MCH-led project is the Governors' Initiative to Reduce Infant Mortality. This project involves multiple statewide initiatives, partners from around the state, and support from the National MCH Workforce Development Center.

For more details on Alabama's MCH priority needs for 2016-2020 and the evidenced informed strategies to address those needs, see Figure 26.

NBS

The Alabama NBS Program is a part of the Perinatal Health Division and is a coordinated system encompassing NBS, Zika birth defects surveillance, care coordination, evaluation, diagnosis, intervention, and management of conditions. The newborn screen includes the bloodspot screen, newborn hearing screen, and pulse oximetry screen to detect critical congenital heart defects. The goal of the program is to identify certain genetic and congenital disorders early to reduce infant morbidity, death, intellectual disability, and other developmental disabilities.

NBS is mandated by public health law and is a collaborative effort between the BCL, which performs blood analysis of approximately 150,000 specimens each year, and the Bureau of Family Health Services, which performs follow-up and education activities. Currently, Alabama screens for 31 of 35 nationally recommended conditions as part of the Recommended Uniform Screening Panel, most recently adding SCID on October 1, 2018. Twenty SCID presumptive positive results were received with no classic SCID identified.

In 2018, approximately 163 infants were identified early with a genetic, metabolic, heart defect, or endocrine condition. Infant lives were saved and improved through early screening and detection.

In addition, efforts continued to establish a birth defects surveillance system to better understand the prevalence of Zika-related birth defects within the state. No infants were identified with congenital Zika syndrome in 2018. The Alabama Birth Defects Surveillance Program will continue to build the infrastructure for birth defects surveillance to promote prevention, education, and intervention activities.

MCH Epidemiology

The mission of the MCH Epidemiology Branch is to utilize research and analysis to assess needs to impact public health policy that will assure the healthiest conditions for the state's MCH populations. In order to answer a request, provide context for a statistic or topic, staff may have to sometimes perform literary searches and statistical testing, and identify and glean information from key subject matter experts. The branch administers the MCH Title V Block Grant Annual Report, the State Systems Development Initiative Project, and the Pregnancy Risk Assessment Monitoring System (PRAMS) Project. The PRAMS Project is a joint research project between the department and the CDC. On May 1, 2016, the bureau assumed administration of the PRAMS grant from the Center for Health Statistics, which began collecting PRAMS data in 1992. The purpose

Figure 26. Alabama MCH Priority Needs and NPMS by Domain, FY2016-FY2020						
MCH Population Domain	National Performance Measures (NPMs)	Priority Needs	Evidence-Based/Informed Strategy Measures (ESMs) Choose at least one per NPM			
Women/ Maternal Health	NPM #1: Well-woman visit (Percent of women with a past year preventive medical visit)	Lack of or inadequate access to comprehensive reproductive and well woman healthcare	• ESM – NPM #1: Increase the proportion of women age 12-55 who report receiving a preventive visit in the past 12 months by piloting Well Woman in two county health departments by December 2017			
Perinatal/ Infant Health	NPM #5: Safe sleep (Percent of infants placed to sleep on their backs) NPM #3: Perinatal regionalization (Percent of very low birth weight [VLBW] infants born in a hospital with a Level III+ Neonatal Intensive Care Unit)	 Lack of awareness of and trust in safe sleep recommendations Desire to maintain and strengthen regionalized perinatal care 	ESM - NPM #5: To conduct the Direct on Scene Education Train-the-Trainer Program to first responders in order to reduce Alabama's high rate of unsafe sleep-related deaths in infants less than 1 year of age ESM - NPM #3: To improve the system of perinatal regionalization statewide in order to increase the number of VLBW deliveries at an appropriate level of care facility			
Child Health	NPM #6: Developmental screening (Percent of children, ages 9 through 35 months, receiving a developmental screening using a parent-completed screening tool)	Low rates of preventive health and developmental screening for children	ESM – NPM #6: To establish an agreement with the Alabama Partnership for Children's Help Me Grow Program to utilize its online ASQ-3 assessment tool so that parents can complete developmental screens prior to child health visits at county health departments			
Adolescent Health	NPM #10: Adolescent well-visit (Percent of adolescents, ages 12 through 17, with a preventive medical visit in the past year)	Low rates of preventive health and developmental screening for adolescents	ESM – NPM #10: Partner with the University of Alabama at Birmingham (UAB) Leadership and Education in Adolescent Health Project to provide training and clinical practice quality improvement on youth-centered care to clinicians and other clinic staff using the Bright Futures model			
Children with Special Health Care Needs (CSHCN)	NPM #11: Medical Home (Percent of children with and without special healthcare needs having a medical home) NPM #12: Transition (Percent of adolescents with and without special healthcare needs who received services necessary to make transitions to adult health care)	Lack of or inadequate access for CSHCN to family-centered, coordinated, ongoing comprehensive care within a medical home Lack of or inadequate access to services necessary for CSHCN to transition to all aspects of adult life	ESM – NPM #11: 1. Percent of enrollees in the State CSHCN Program with a comprehensive plan of care. 2. Percent of providers receiving education/training about family-centered care ESM – NPM #12: Number of youth with special healthcare needs enrolled in the State CSHCN Program with a transition plan in place			
Cross- Cutting or Life Course	NPM #13: Oral health (A. Percent of women who had a dental visit during pregnancy and B. Percent of children ages 1 through 17 who had a preventive dental visit in the past year)	 Inadequate and insufficient health education and outreach Inadequate health and dental insurance for all Title V populations 	• ESM – NPM #13: 1. Increase the proportion of infants and children, ages 1 through 17 years, who report receiving a preventive dental visit in the past 12 months by piloting the Home by One Program. 2. Increase the proportion of at-risk pregnant women who report receiving a preventive dental visit during pregnancy by piloting the First Steps Program			

Figure 27. Newborn Screening Primary Disorder Confirmed, 2018		
3-Methylcrotonyl-CoA Carboxylase Deficiency (3MCC)		
Argininosuccinic Acidemia (ASA)		
Beta-Ketothiolase Deficiency (BKT)		
Biotinidase Deficiency (BIOT)		
Carnitine Uptake Defect (CUD)	0	
Citrullinemia (CIT)	0	
Classical Galactosemia (GALT)	1	
Congenital Adrenal Hyperplasia (CAH)	4	
Congenital Hypothyroidism (CH)	25	
Critical Congenital Heart Disease (CCHD)	1	
Cystic Fibrosis (CF)	6	
Glutaric Acidemia Type I (GA1)	0	
Hb S/Beta-Thalassemia (HBSA)	2	
Hb S/C Disease (HbSC)	15	
Hearing Loss (HEAR)	61	
Homocystinuria (HCY)	0	
Hydroxymethylglutaric Aciduria or HMG-CoA Lyase Deficiency or 3-OH 3-CH3 Glutaric Aciduria (HMG)		
Isovaleric Acidemia (IVA)		
Long-Chain 3-OH Acyl-CoA Dehydrogenase Deficiency (LCHAD)		
Maple Syrup Urine Disease (MSUD)	0	
Medium-Chain Acyl-CoA Dehydrogenase Deficiency (MCAD)		
Methylmalonic Acidemia CblA and CblB Forms (CBLAB)	1	
Methylmalonic Acidemia Due to Mutase Deficiency (MUT)	0	
Multiple Carboxylase Deficiency (MCD)	0	
Phenylketonuria (PKU)		
Propionic Acidemia (PROP)	0	
Severe Combined Immunodeficiency (SCID)	0	
Sickle Cell Anemia (HBSS)		
Trifunctional Protein Deficiency (TFP)		
Tyrosinemia Type I (TYR1)		
Very Long-Chain Acyl-CoA Dehydrogenase Deficiency (VLCAD)	0	
TOTAL	162	

of this program is to determine why some babies are born healthy and others are not. To do this, a questionnaire asks new mothers about their behaviors and experiences around the time of their pregnancy. Approximately 1,400 Alabama mothers per year are randomly selected from the state birth certificate registry to receive the questionnaire for completion. Responses to the survey are used to help improve the health of mothers and babies in Alabama.

The branch also provides support to the following programs within the bureau: the Alabama State Perinatal Program, which includes the Fetal and Infant Mortality Review Program and the Collaborative Improvement and Innovation Network to Reduce Infant Mortality; the Family Planning Program; the Women's Health Medical and Social Work programs; the Childhood Lead Program; the Newborn Screening and Newborn Hearing Screening programs; and the Alabama Zika and Birth Defects Surveillance Program, which is currently under development. The branch also provides support to the Governor's Initiative to Reduce Infant Mortality Workgroup.

Women's and Children's Health

The Women's and Children's Health Division is comprised of the Adolescent Pregnancy Prevention Branch (APPB), Social Work, Family Planning, Alabama Childhood Lead Poisoning Prevention Program (ACLPPP), and Children's Health programs.

The APPB works to reduce the incidence of unplanned pregnancies and sexually transmitted infections among teens in Alabama. The APPB utilizes federal grants awarded to ADPH, as well as partnerships with a number of local and state organizations, to promote healthy decisions among young people. The branch works at the community level to provide opportunities and resources that promote the overall health and well-being of youth. This approach includes abstinence education, responsibility education, and overall positive youth development.

APPB contains the Alabama Abstinence Education Program which provides abstinence education to youth in school and community settings through grants to youth-serving organizations; and the Alabama Personal Responsibility Education Program, which provides education regarding abstinence and contraception to youth age 10-19 in community settings through grants to youth-serving organizations. APPB reached approximately 14,000 youth in 23 counties with evidence-based, medically accurate programs.

The Social Work Unit provides case management services to the NBS, Lead, and Family Planning programs, women who have experienced an adverse pregnancy outcome, children in need of follow-up dental care, and children in need of specialty services from Children's of Alabama. The unit completed 36,703 referrals in Patient 1st, including 285 lead referrals, 1,084 newborn hearing referrals, and

48 NBS referrals in FY2018. In the Plan First Program, 23,430 unduplicated patients were served. The unit also collaborates on grants with the Department of Human Resources to ensure children enrolled in Early Head Start attend medical and dental appointments and the Department of Mental Health on Project LAUNCH to develop an infrastructure for early childhood mental health.

The Family Planning Program provided education and counseling, medical examinations, laboratory tests, and contraceptive supplies to approximately 79,600 individuals of reproductive age in FY2018. Program goals include decreasing unintended pregnancies and assisting clients to plan and space the time between pregnancies.

The Children's Health Branch is comprised of the ACLPPP and the Healthy Child Care Alabama (HCCA) Program.

ACLPPP is a collaborative effort of the Bureau of Family Health Services, Bureau of Environmental Services, and Alabama Medicaid. The program provides public outreach and education to spread awareness about lead poisoning and increase the number of children screened for lead exposure. In addition, the program provides case investigation and management services to help identify the source of, and alleviate, lead exposure. In FY2018, ACLPPP acquired additional funding through the Association of MCH Programs and through the CDC. Figure 28 lists the lead screening totals.

HCCA provides health and safety training and technical assistance to early child care providers throughout the state. In an effort to prevent injury and promote health, 12 nurse consultants work to provide first aid, safety, CPR, infection control, and poison prevention training. During FY2018, programming was provided to over 24,000 provider staff. In addition, CPR classes were provided to 4,700 provider staff members.

Figure 28. Childhood Lead Screenings, 2014-2018^{*}

Calendar Year	Number of Children Reported	Number of Lab Reports with an Elevated Blood Lead Level
2014	31,948	537
2015	30,046	325
2016	32,273	312
2017	38,218	383
2018	39,404	1,292*

^{*}The measure of an elevated result changed from >10 micrograms per deciliter (µg/dL) to >5 µg/dL on January 1, 2018. There were 338 blood lead results >10 µg/dL for 2018.

Women, Infants, and Children Program

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) serves women who are pregnant, recently had a baby, or are breastfeeding; infants; and children up to the age of 5 years. To qualify to receive WIC benefits, the applicant must meet income guidelines and have at least one nutrition risk documented. Benefits provided by the WIC Program include quality nutrition education and services, breastfeeding promotion and support, referrals to maternal and child healthcare services and other assistance agencies, and supplemental foods prescribed as a monthly food package.

Figure 29. Average Participation for WIC, 2018

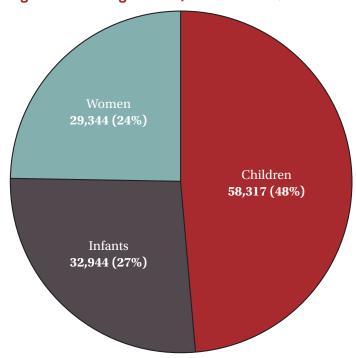


Figure 30. WIC Redemptions by District, 2018

Districts	FY2018 Total Redemptions	
East Central	14,610,294.48	
Jefferson	11,089,876.07	
Mobile	10,331,084.06	
Northern	19,944,041.96	
Northeastern	13,938,236.52	
Southeastern	9,270,294.89	
Southwestern	8,546,460.79	
West Central	9,246,499.01	
Total	96,976,787.78	

Office of Field Operations

Clinical Management and Practice

Clerical

Public health clerical staff provide professional assistance in the daily operations of county health departments and in the daily functions of the districts and central office. Staff serve in a variety of roles including front desk receptionist, intake clerk, home health clerk, and office manager. Approximately 450 administrative support staff are employed by the department, and each is vital to the agency's ability to meet the needs of the citizens of Alabama.

Nursing

The mission of Public Health Nursing is to assure conditions in which individuals, families, and communities can be healthy utilizing the unique expertise of public health nurses to assess, plan, and implement programs which promote health and prevent disease. The department employs 780 nurses who provide family planning, child health, and preventive and treatment services for disease control.

Public health nurses are active in the community through involvement in health fairs and other educational opportunities. ADPH is an approved provider of continuing education by the Alabama State Nurses Association. In 2018, over 2,400 participants earned 141 continuing education units through 38 programs that were offered.

Social Work

Social Work staff serve as members of a multidisciplinary team of professionals, skilled in using social work values, knowledge, and community resources to promote positive health outcomes, while respecting personal choice and promoting the health and well-being of individuals, groups, and communities. Public health social workers act as liaisons within their respective communities, educating and advocating for changes to improve poor outcomes related to social determinants of health.

Public Health Social Work is an approved provider of Social Work Continuing Education by the Alabama Board of Social Work Examiners, and during 2018 provided social work continuing education credit for more than 60 programs, both onsite and via satellite.

The department employs approximately 200 social workers who provide care in county health department clinics, physician offices, the home, or are responsible for programmatic oversight in the county, district, and central office. Social workers provide direct service to a multitude of Alabamians in a variety of settings and programs within the department including Plan First, Patient 1st, Elevated Lead, Metabolic Care Coordination, Newborn Hearing Screening,

Home Health, Telehealth, Wisewoman, Suicide Prevention, Prenatal Education, Adolescent Abstinence Education, Maternity Care Coordination, HIV Care Coordination, TB, STD, Diabetes Self-Education, Alabama Personal Responsibility Education Program, CHIP, Licensure and Certification, and serve on several committees at the local level using the Collective Impact framework to address deeply entrenched and complex social problems that negatively impact the communities of Alabama.

Community Affairs

The department established the Office of Community Affairs in 2015 to address healthcare transformation and its impact on communities, programs, and resources. Better health for populations, better quality care for individuals, and lower per capita costs was the framework developed for healthcare transformation.

The Office of Community Affairs works to identify ways the department can partner with other community entities to ensure poor social determinants of health and risky health behaviors are addressed by connecting programs, populations, and resources. The office focuses on working across multiple organizations and through stakeholders to address the complex health concerns of Alabama citizens. These include enhancing appropriate access to care through strengthening transportation policy and supporting telehealth, especially for residents of rural areas.

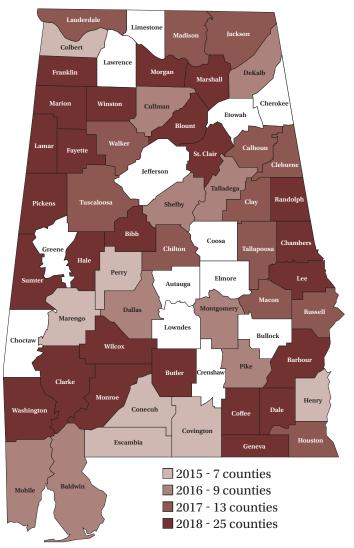
Telehealth

Since 2015 when the department embarked on a pilot telehealth research project with the UAB School of Medicine, the Telehealth Program operated within the Video Communications and Telehealth Division. The Office of Telehealth is now formally established and recognized as a stand-alone unit within Field Operations. Fifty-four county health departments have telehealth carts, 12 healthcare agencies collaborate with the Telehealth Program, and services include nephrology, neurology, cardiology, behavioral health, genetic counseling, maternal-fetal medicine, HIV/AIDS, and diabetes education.

The office manages several grants that provide for the deployment of the carts and specialty equipment, and funding for county health department staff, primarily nurses and social workers who are trained as "telepresenters," to operate the equipment during the telehealth appointments. One noteworthy new grant provides funding to purchase microscopes for all county health departments that are specifically designed to integrate with the telehealth carts. This project, in collaboration with the BCL, Division of Quality Management, will significantly increase the

efficiency of its work to ensure that all clinical laboratory testing meets federal regulatory standards. BCL technical consultants will soon be able to provide county health department staff training and competency testing via telehealth communications.

Figure 31. Telehealth Cart Deployment at County Health Departments



Bureau of Financial Services

The Bureau of Financial Services provides financial and cost accounting, accounts receivable, payroll, accounts payable, purchasing, budgeting, grant accounting, production planning, and administrative support to accomplish its goals in financial and cost accounting, reporting, and management for the department.

In FY2018, Financial Services managed the department's \$725 million budget using 332 internal budgets interfaced with 10 Executive Budget Office spending plan activities, and 214 internal funds interfaced with 12 State Comptroller's funds in the State Treasury. The bureau managed a total of more than 100 federal grants with a value in excess of \$528 million and 448 contracts totaling over \$69.5 million.

Included in the federal grants accounted for were 5,123,738 WIC negotiable instruments issued to recipients paid with a redeemed food value of \$97.5 million, including \$34.9 million received from the department's infant formula rebate contract.

The bureau provided fiscal agent services in the form of payroll, procurement, accounts payable, contract payment processing, and budget management to the Family Practice Rural Health Board and the Board of Medical Scholarship Awards.

Additionally, the bureau provides all accounting services for the Alabama Public Health Care Authority (the authority). The State Committee of Public Health authorized the

Figure 32. Public Health Funding History

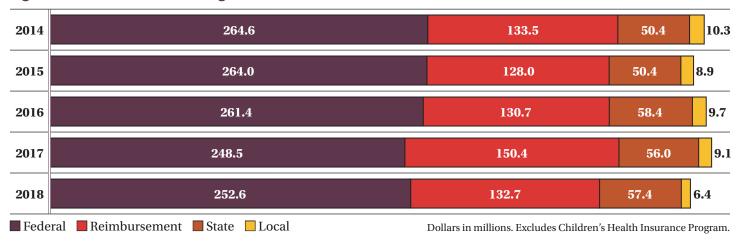


Figure 33. State Appropriations - Public Health

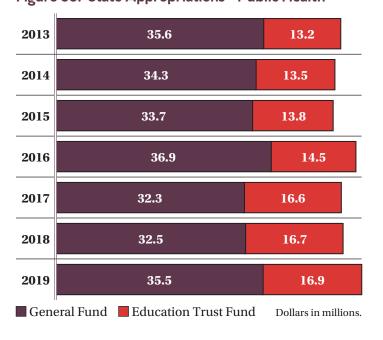
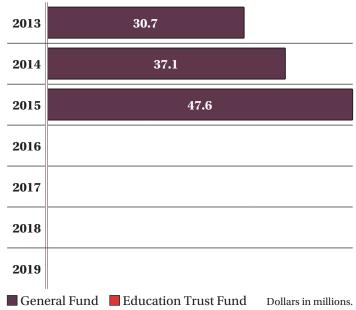


Figure 34. State Appropriations - CHIP



department to establish the authority as a public corporation in 1995. The mission of the authority is to build, furnish, and equip public health facilities throughout Alabama.

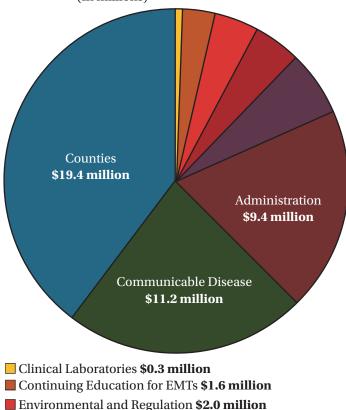
The authority has completed the Phase I, II, and III building programs, which included constructing and renovating 66 facilities, and continues to propose and develop solutions for additional public health buildings and equipment needs.

A Phase IV building program is ongoing and encompasses the following projects. Construction has begun on a new state laboratory with adjacent training center, which includes office space. The projects are expected to be completed in early 2020.

The authority manages the Alabama Public Health Capital Maintenance Trust Program, which provides funding for a comprehensive, coordinated preventative maintenance improvement and replacement program for public health facilities in Alabama. The authority's construction management firm provides technical assistance, advice, and program monitoring. The program spent \$1,232,193 during FY2018 to provide the following services:

- Periodic facility inspections to identify deficiencies, repairs, and maintenance needs.
- Maintenance contracts for heating, ventilation, air conditioning systems, fire alarms, and fire sprinkler systems.
- Roof systems maintenance/repair and a full range of other maintenance repair expenditures and renovations to maintain public health facilities in good working order.

Figure 35. Use of State Funds - FY2018 General Fund and Education Trust Fund only (In millions)



■ AL Medical Edu Co **\$2.1 million**

■ Family Health **\$3.0 million**

Excludes Children's Health Insurance Program and Children First Trust Fund

Bureau of Health Provider Standards

The mission of the Bureau of Health Provider Standards is to improve quality of care and quality of life for healthcare consumers and to reduce adverse outcomes through the process of licensure inspection and certification of healthcare providers.

The bureau consists of several units that include, but are not limited to Assisted Living, Medicare Other, Nursing Home, and Clinical Laboratory Improvement Amendment (CLIA). Each unit serves only in its specialty and performs license inspections, unannounced surveys for complaints and compliance, and certification surveys when required. Provider Services processes applications for initial licensure, certification, change of ownership, annual license renewal, and changes in provider information.

Medicare Other

The Medicare Other Unit successfully completed all of the required FY2018 Centers for Medicare and Medicaid Services (CMS) workload. The Medicare Other Unit has moved the surveyors' base location to the county health department closest to their home. This transition has worked out very smoothly, and has increased the surveyors' productivity and morale.

Assisted Living Facilities (ALFs)

The ALF Unit completed 86 ALF surveys and 46 Specialty Care Assisted Living Facility (SCALF) surveys for a total of 132 surveys. One hundred seventy-four complaints were investigated. Seven facilities had probational licenses, and there were 198 licensed ALFs and 101 licensed SCALFs. Three facilities (two ALFs and one SCALF) voluntarily closed in lieu of adverse licensure action.

Long Term Care

The Long Term Care Unit successfully completed all of the required FY2018 CMS workload. The statewide average interval requirement between consecutive standard health surveys must be 12.9 months or less. The average for FY2018 was 12.7 months for surveying 229 providers. Effective November 28, 2017, CMS rolled out an electronic long term care survey process that is being utilized nationwide. Survey staff of the unit began the use of this electronic process immediately. Long term care surveyors are required to pass a federally mandated surveyor minimum qualifications test. During FY2018, 11 surveyors had the opportunity to take this test, with all successfully completing this requirement.

CLIA Laboratory

The CLIA Laboratory Unit successfully met CMS survey requirements for FY2018. The CMS proposed workload for surveys for FY2018 was 272 surveys, to include initial certifications, recertifications, validations, and complaints. CLIA, State Agency, completed 267 surveys to equal 98 percent completion of the survey workload for the fiscal year. In addition, CLIA trained a new administrative support assistant to perform the clerical and administrative tasks, including data entry of CLIA applications. CLIA also successfully met the requirements to enter all new applications within 30 days of receipt and any revisions within 45 days of notification. Additionally, CLIA's Central Office in Baltimore finalized and made available the basic CLIA course via the web in the spring. Three surveyors, new and experienced, completed the basic training (approximately 30-35 hours) by the required date. The surveyors also attended the mandatory annual consortia for CLIA surveyors for continuing education in April.

Provider Services License and Certification

Certification: There are 1,070 certified facilities and agencies in Alabama. While there were a number of certification changes during FY2018, the total number of certified facilities and agencies did not change. Provider categories with the most significant change were home health agencies (5 percent increase), rehabilitation centers (5 percent increase), and End Stage Renal Disease treatment centers (3 percent increase).

Figure 36. Summary of Licenses and Investigations

Facility Type	Total Complaints Investigated	Facilities with Probationary Licenses
Abortion Centers	0	0
ALFs/SCALFs	174	7
Ambulatory Surgical Centers	0	0
End Stage Renal Disease Treatment Centers	7	1
Home Health Agencies	4	0
Hospitals	29	0
Hospice Agencies	0	0
Nursing Homes	390	0

Licensure: The Provider Services License Unit has continued to process applications for initial facility licensure and license amendments.

Figure 37. Licensed Healthcare Facilities and Agencies

	•
Abortion or Reproductive Health Centers	5
Ambulatory Surgical Centers	43
ALFs	198
SCALFs	101
Cerebral Palsy Centers	1
End Stage Renal Disease Treatment Centers	181
Freestanding Emergency Departments	3
Hospice Agencies	183
Hospitals	124
Independent Clinical Laboratories	438
Independent Physiological Laboratories	65
Nursing Homes	231
Rehabilitation Centers	54
Sleep Disorder Centers	18
Total	1,645

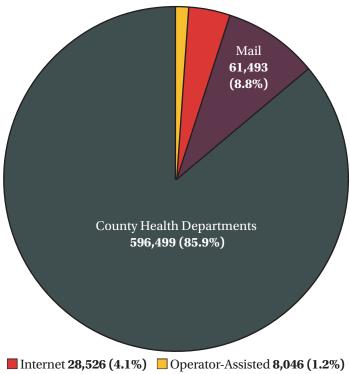
Center for Health Statistics

The Center for Health Statistics operates the vital records system and collects and tabulates health-related statistical data for the state of Alabama. The center files, stores, and issues certified copies of vital records including birth, death, marriage, and divorce certificates for events that occur in Alabama. In addition to registering vital records and issuing certified copies, the center corrects and amends birth and death records and creates new certificates after legal actions.

The center consists of the following divisions: Administrative Services, Quality Assurance and Registration, Record Services, Special Services, and Statistical Analysis.

An automated vital records system called ViSION, or Vital Statistics Image Oriented Network, allows vital records to be issued in all Alabama county health departments. Customers can obtain vital records from the center through county health departments in 30 minutes or less. Customers may also order records over the Internet, by telephone for next business day delivery, or by regular mail.

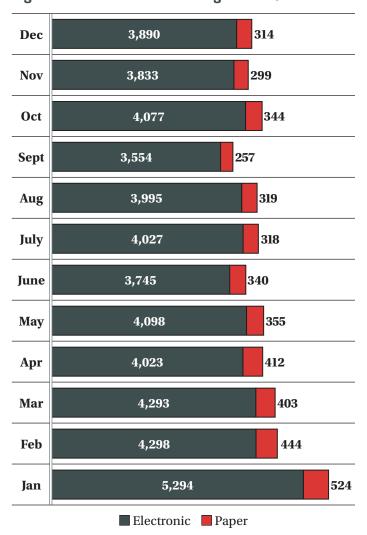
Figure 38. Certified Copies of Vital Records Issued, 2018



The center issued 694,564 certified copies of vital records through county health departments, mail, Internet, and operator-assisted requests.

More than 164,700 vital records were registered with the center in 2018. All birth records are registered electronically, and approximately 92 percent of divorce and 92 percent of death certificates are now registered electronically. The center continues to increase the number of death records registered through the Electronic Death Registration System (EDRS), which allows families to obtain certified copies more quickly. The addition of Supplemental Medical Certification to the EDRS now allows medical certifiers to electronically make changes, corrections, or additions to the cause of death information on a death certificate. Upon filing of an electronic supplemental medical certification, an amended death certificate is almost immediately available, compared to the 2-3 week processing time of a paper supplemental medical certification form.

Figure 39. Electronic Death Registration, 2018



The center's Statistical Analysis Division conducts studies and provides analyses of natality, pregnancy, general mortality, infant mortality, causes of death, marriage, divorce, and other demographic and health-related data for public health policy and surveillance. Results are distributed

through numerous publications, reports, presentations, special tabulations, and the department's website to the public, news media, researchers, government or private agencies, and various units within the department.

Figure 40. Vital Statistics, 2017				
	Number	Rate/Percent		
Births	58,936	12.1	(Per 1,000 Population)	
Births to Teenagers	4,285	13.9	(Per 1,000 Females Aged 10-19 Years)	
Low Weight Births	6,052	10.3	(Percent of All Live Births)	
Births to Unmarried Women	27,736	47.1	(Percent of All Live Births)	
Deaths	53,240	10.9	(Per 1,000 Population)	
Marriages	34,329	7.0	(Per 1,000 Population)	
Divorces	17,888	3.7	(Per 1,000 Population)	
Induced Terminations of Pregnancy	6,768	7.1	(Per 1,000 Females Aged 15-44 Years)	
Infant Deaths (Neonatal + Postneonatal)	435	7.4	(Per 1,000 Live Births)	
Neonatal Deaths (0-27 days of life)	257	4.4	(Per 1,000 Live Births)	
Postneonatal Deaths (28-364 days of life)	178	3.0	(Per 1,000 Live Births)	

Total estimated state population is 4,874,747.

Cause of Death	Rank	Number	Rate ¹	Population
Total		53,240		4,874,747
Heart Diseases	1	13,105	268.8	
Malignant Neoplasms	2	10,415	213.7	
Chronic Lower Respiratory Diseases	3	3,484	71.5	
Cerebrovascular Diseases	4	2,932	60.1	
Accidents	5	2,700	55.4	
Alzheimer's Disease	6	2,562	52.6	
Pneumonia and Influenza	7	1,177	24.1	
Diabetes Mellitus	8	1,172	24.0	
Septicemia	9	1,036	21.3	
Nephritis, Nephrotic Syndrome, and Nephrosis	10	981	20.1	
Suicide	11	834	17.1	
Chronic Liver Disease and Cirrhosis	12	756	15.5	
Homicide	13	601	12.3	
Parkinson's Disease	14	555	11.4	
Essential (Primary) Hypertension	15	531	10.9	
All Other Causes, Residual		10,399		

¹Rate is per 100,000 population.

Bureau of Home and Community Services

The Bureau of Home and Community Services administers home care services statewide. Its mission is to deliver high-quality services and compassionate care provided by competent and professional staff to patients in the home and community setting throughout Alabama. The bureau consists of the following divisions: Financial and Billing Support Services; Budget, Contracts, and Personnel; Compliance; and Home Care Services.

Patients Served

In FY2018, the Bureau of Home and Community Services served a total of 6,630 patients.

Home Health Visits

The Home Care Program provided 193,655 home health visits statewide to patients covered by Medicare, Medicaid, and third party insurance in FY2018.

Alabama Medicaid recipients received a total of 220,123 home health visits. ADPH staff provided 74 percent of the total visits in FY2018.

Figure 42. Home Health and Life Care Patients, FY2018

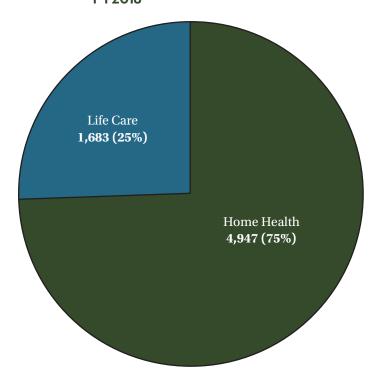


Figure 43. Home Health Visits by Payer, FY2018

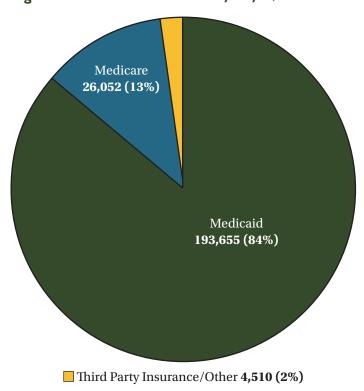


Figure 44. Alabama Medicaid Home Health Visits, FY2018

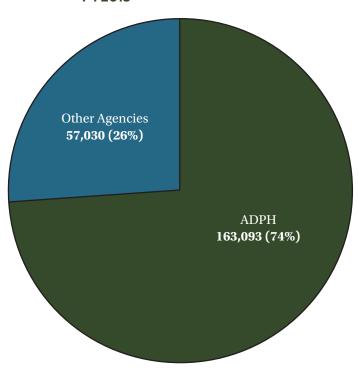


Figure 45. Home Health Visits by Discipline, FY2018

	Medicare	Medicaid	Third Party Insurance/Other	Total
Skilled Nurse	12,028	71,933	2,284	86,245
Physical Therapy	6,898	4	1,006	7,908
Speech Therapy	0	0	0	0
Occupational Therapy	0	0	0	0
Social Work	15	0	0	15
Home Health Aide	7,111	91,156	1,220	99,487
Total	26,052	163,093	4,510	193,655

Life Care Service Hours

The department's Life Care Program provided 14,939 biomonitoring hours in FY2018. Nursing staff provided inhome medical monitoring for Medicaid patients diagnosed

with diabetes, congestive heart failure, and/or hypertension. Patients benefit from improved outcomes, lowered healthcare-related expenses, and improved compliance with the physician's plan of care.

Office of Human Resources

The Office of Human Resources reviews and processes requests for personnel actions such as new hires, promotions, transfers, dismissals, leave reports, performance appraisals, disciplinary actions, and coordinates the State Employee Injury Compensation Trust Fund Program.

In addition, the Employee Relations Section coordinates the department's Recruitment Program, Affirmative Action Program, and coordinates (through referrals) the Employee Assistance Program. The office provides training on human resources issues and guidance to supervisors and employees in resolving workplace complaints and grievances, U.S. Equal Employment Opportunity (EEO) Commission, Americans With Disabilities Act accommodations, and shuttle requests. Staff review and recommend requests for serious disciplinary actions, participate in administrative hearings, and respond to allegations of unfair practices.

During 2018, the office also collaborated with the Centralized Billing Unit in the processing of electronic health records.

ADPH Minority Employment Comparison

The department is comprised of 2,748 merit system employees; 37 percent are minority employees. According to the EEO 2015 Job Patterns statistics, the department has a higher percentage of minorities compared to the Alabama labor market. (Source: U.S. EEO)

 Figure 46. 2018 Personnel Actions Processed for Merit Employees

 New Hires
 166

 Promotions
 144

 Dismissals
 4

 Retirements
 83

 Transfers Out
 25

Employee Assistance Program Referrals

(Employees and Dependents)

Hours of Leave Donations

Probationary Appraisals

117

56

2,061

2.214

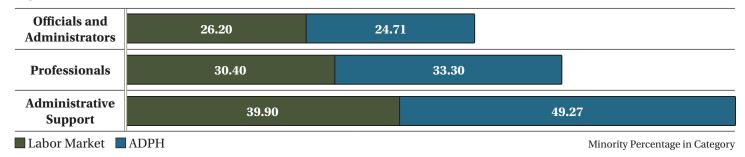
364

Other Separations

Annual Appraisals

Figure 47. 2018 Turnover Rates in Central Office and Districts				
	# of Merit Employees	Turnover Rate (%)		
Central Office	1,426	13.41		
Districts	1,322	13.89		
Statewide	2,748	13.64		

Figure 48. Alabama Labor Market vs. ADPH, 2018



Bureau of Information Technology

The mission of the Bureau of Information Technology (IT) is to plan, provide, and support the information and logistics needs of the department. The bureau consists of five divisions: Project Management Support, Database Administration, Business and Information Architecture, Technical Support, and Logistics. IT procures, develops, and supports information technology systems to supply information to department and public users through an integrated information processing and telecommunication structure.

The Logistics Division manages the department's property assets, forms, emergency preparedness supplies, mailroom, and vehicles. This division has the responsibility of auditing every property item assigned to the department statewide. On its recently completed property audit, the department received its seventh consecutive "perfect" audit.

Technical support requests continue to grow as IT continues to enhance its infrastructure.

Figure 49. IT Support Facts, 2018				
IT Support Facts	2018 Quantities			
Help Desk Calls	29,534			
Personal Computers/Laptops Supported	5,422			
Windows Servers Supported	419			
Personal Computers/Laptops Installed	318			
WAN Support Completed Work Orders	4,757			
IP Phone Devices Supported	5,965			
Windows 2016 Servers Deployed	49			
Smart Phones Supported	655			
Technical Support Projects Completed	17			
Voice Mail Boxes Supported	2,635			
Statewide Antivirus/Encryption Upgrades	4,089			
IP Gateways Supported	78			
WAN Support Miles Driven	193,944			

One of the most noteworthy and impactful contributions from IT in 2018 was the development of CLAIMS Integration. The development and deployment of this system was very important because it enabled the department to improve its revenue stream and better manage financial resources for continued business continuity. Critical modules of CLAIMS Integration were developed in record time to facilitate the gathering of data from the Electronic Health Record (EHR) and enable the department to continue

billing and reimbursement operations. The reimbursement results were outstanding and more than tripled the revenue expectations. Users praised the ease of use, screen design, and the back-end programming that saved the user from having to perform numerous extra keying steps. From its inception, through development and implementation, billable revenue continues to increase. IT will continue to work with the department to expand CLAIMS Integration to ensure billable revenue for services provided is captured, billed, and reimbursed.

IT also continues to look for ways to enhance and improve user experience, functionality, security, and responsiveness of the different systems supported. Noted below are a few examples of some of these enhancements:

- The Finance Accounting and Cost Tables application is being developed to improve transactions processed in the State of Alabama Accounting and Resource System. The obligations process was implemented in 2018.
- Working with the EHR and state laboratory teams, the Electronic Test Orders and Results interface was developed and implemented to facilitate creating test orders and receiving results directly in the patient's record in the department's EHR. Since implementation in March, approximately 250,000 orders/results have been processed from the EHR.
- The department's Learning Content Management System functionality continues to be enhanced to include course cancellation, waiting list registration, e-mail responses, and an option to allow a user to print a certificate of completion.
- On November 14, 2018, the Death Registration System, which includes the web-based EDRS and the Mid-Range Issuance and Archival System, were upgraded to incorporate the ability for death certificate certifiers to file supplemental causes of death electronically. Prior to this upgrade, supplemental causes of death were filed using only paper forms. This upgrade, which has been in development for a while but recently deployed, is expected to reduce processing time and errors significantly. This upgrade also added two new certifier roles to EDRS, certified registered nurse practitioners and certified nurse midwives, so they, along with physicians and coroners who already had the capability, can certify death certificates and file supplemental causes of death. More than 20 supplemental causes of death have been submitted since going live with this upgrade.
- In 2014, the department partnered with the Alabama Medicaid Agency to provide resources and support for the Alabama Meaningful Use/Promoting Interoperability Program. This program has improved outbreak detection ability, eased the burden of data entry, streamlined reporting, and aided in data security. This partnership

has allowed numerous eligible hospitals and eligible professionals to achieve CMS and public health goals. In 2018, the electronic case reporting program made an additional registry available to providers.

Figure 50. Breakdown by Program				
Program	Eligible Physician Count	Eligible Hospital Count		
Immunization	12,308	72		
Electronic Lab Reporting	NA	71		
Syndromic Surveillance	3,761	68		
Alabama Statewide Cancer Registry	3,643	32		
Electronic Case Reporting	106	4		
Other Specialized Registries	38	NA		

Figure 51. Logistics Facts, 2018			
Logistics Facts	2018 Quantities		
Equipment Inventory Items	19,545		
Equipment Inventory Value	\$41,851,700.20		
Forms Managed	1,300		
Form Packages Sent	6,563		
Promotional Items Managed	400		
Department Vehicles	55		
Emergency Response Vehicles, Trailers, etc.	93		

Bureau of Prevention, Promotion, and Support

Behavioral Health

Injury Prevention and Fatality Review

The Alabama Child Death Review System (ACDRS), established by law in 1997, is charged with reviewing, evaluating, and preventing cases of unexpected and unexplained child deaths. The program's mission is to understand how and why children die in Alabama, in order to prevent future child deaths. ACDRS contributed to legislation such as the Sudden Unexpected Infant Death Initiative Law passed in 2011. As a result of this law, ACDRS implemented child injury and death scene re-enactment and scene reconstruction trainings statewide. In 2018, 154 individuals were trained in six 2-day sessions.

The goals of the Alabama Child Passenger Safety Program are to educate Alabamians on the safe use of child passenger restraints, provide training for individuals to become certified Child Passenger Safety technicians, and establish car seat fitting stations at specific locations around the state. A grant from the Alabama Department of Economic and Community Affairs expanded the department's program in 2018.

The Alabama Violent Death Reporting System (AVDRS) was established in 2016 with a grant received by the CDC. AVDRS participates in CDC's National Violent Death Reporting System and utilizes vital statistics, law enforcement, and coroner/medical examiner reports to record, analyze, and link homicides, suicides, and certain types of undetermined deaths in Alabama across all age groups. The primary goal of the system is to assist with developing and improving violence prevention programs in the state. Data are being collected from 10 pilot counties for deaths occurring in 2017, with plans to collect data from every county for 2018 deaths.

Suicide is the eleventh leading cause of death in the state, with 786 citizens lost to suicide in 2016, compared to 543 deaths due to homicide. The Alabama Youth Suicide Prevention Program began its second year working to reduce the rate of suicides and suicide attempts for youth ages 10 to 24. The program provides grants to crisis centers, the state suicide prevention coalition, and colleges and universities to provide education, outreach, screenings, and referrals to promote suicide prevention, awareness, and services in communities throughout the state. In 2018, suicide prevention program partners conducted 511 trainings, resulting in 13,342 individuals trained as gatekeepers to identify and refer individuals at risk for suicide.

The Rape Prevention and Education Program, a CDC-funded program, provides primary prevention education and awareness to the general population in 34 Alabama counties

through grants to the Alabama Coalition Against Rape (ACAR) and 8 rape crisis centers. Through this work, more than 17,000 youth and young adults have been reached. The Public Health and Human Services Block Grant provides prevention education and awareness to the public and support through the promotion of public awareness and general assistance to victims of sex offenses within the state in 30 counties through grants to ACAR and 6 rape crisis centers.

Tobacco Prevention and Control

Tobacco use continues to be the leading cause of preventable death in Alabama, killing in excess of 8,600 smokers and costing the state more than \$1.88 billion in direct medical expenses to treat smoking-related diseases each year. The program works to help tobacco users quit, prevent youth and young adults from starting tobacco use, and protect people from exposure to secondhand smoke. The program utilized resources to help tobacco users quit by obtaining Medicaid reimbursement for Quitline services, a \$308,365 grant from the CDC to build Quitline capacity, and \$616,009 in state funds to provide up to 8 weeks of nicotine replacement therapy patches, conduct targeted outreach efforts, and support the Alabama Tobacco Quitline. The program managed telephonic and web-based quitlines assisting 7,612 tobacco users in 2018.

The Youth Tobacco Program was awarded \$1 million to implement a mini-grant program to effect social norm change around tobacco use, address the marketing of emerging products to youth, promote policies that protect youth from nicotine initiation and exposure to secondhand smoke, and promote tobacco cessation. Anti-tobacco messages were delivered to more than 436,920 children and almost 500,000 adults via advertising campaigns and in-person presentations in targeted cities. Additionally, 451 retail assessments were completed to gain point of sale information.

Program accomplishments include the following:

- The city of Sheffield adopted a comprehensive smokefree ordinance that includes e-cigarettes and prohibits smoking in cars with minors present, protecting nearly 9,000 people.
- The city of Luverne strengthened its tobacco-free policy by adding non-hospitality workplaces and prohibiting the use of e-cigarettes, protecting nearly 3,000 people.
- Two historically black colleges and universities implemented smokefree campus policies, protecting 8,032 faculty and staff from secondhand smoke exposure.
- Participated in a pilot project for a CDC-sponsored statewide media tour.

FDA Tobacco Inspection

The FDA Tobacco Inspection Program is in its eighth year of a contract with the FDA's Center for Tobacco Products to conduct inspections to ensure tobacco permit holders comply with the requirements of the Tobacco Control Act. In FY2018, staff conducted 487 advertising and labeling inspections of all tobacco retailers in the state to ensure they are following federal law when advertising, displaying, and selling regulated tobacco products.

The department's sub-grantee, the Alabama Law Enforcement Agency, conducted 2,986 undercover buys by accompanying a minor who attempts to make a tobacco purchase. Every tobacco retailer in the state is inspected with the assistance of a trained, age-appropriate, undercover minor to determine if the teenager is able to purchase tobacco products in violation of the Tobacco Control Act of 2009. The program conducted 3,473 inspections in 2018, which revealed a combined violation rate of 10.31 percent.

Center for Emergency Preparedness

The Center for Emergency Preparedness (CEP) is responsible for coordinating disaster preparedness and response for the department and serves as the coordinating entity for Emergency Support Function 8, Health and Medical, for the state during emergency responses. CEP is funded solely by federal grants.

- The CDC provided \$8,637,761 during FY2017-2018, in a cooperative agreement to provide overall direction to and management of the department's assessment, planning, and response to acts of terrorism, outbreaks of disease, and other public health threats and emergencies such as meteorological, geological, chemical, and radiological disasters.
- The Assistant Secretary for Preparedness and Response
 Hospital Preparedness Program provided \$3,264,692
 in a cooperative agreement with the department for
 the same period. These funds were designated to
 enhance healthcare system capability and capacity and
 preparedness for naturally occurring disasters or terrorist
 action resulting in mass casualties.

Planning, partnership building, and exercises continue to be a focus of CEP. The Homeland Security Exercise and Evaluation Program (HSEEP) provides a set of guiding principles for exercise programs, as well as a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning. CEP has an HSEEP trainer certified by the Alabama Emergency Management Agency and conducts exercises in accordance with program guidelines.

The Alabama Incident Management System is data capture software that gathers real-time information about hospital and other healthcare facility resources and activities and is the situational awareness tool for healthcare coalitions. This tool has been developed and improved through a partnership with the University of South Alabama and was used in managing patients in a patient transfer center during Hurricane Michael. The department supported the continued development of this software and holds the copyright on the program.

CEP has continued to actively participate in the Region IV Unified Planning Coalition, which is comprised of the eight southeastern states. The coalition is involved in planning for state-to-state support prior to a major event and coordinates support of the eight states for each other through the Emergency Management Assistance Compact.

Activities:

- Deployed 2 nurse strike teams of 11 members to support the North Carolina Department of Public Health in its response to Hurricane Florence. During their 2-week deployment to the flood-stricken areas, teams assisted in caring for people in both mass care and medical needs shelters.
- Supported the state of Florida in responding to Hurricane Michael. CEP established a patient transfer center to coordinate the evacuation of patients from medical facilities in Florida to appropriate care in facilities in Alabama and assisted Florida residents who had been separated from their medical homes with locating providers within Alabama who could provide continuation of medical care.
- In cooperation with the University of South Alabama Center for Disaster Healthcare Preparedness, continued to provide basic advanced regional response training sessions on campus and across the state. This partnership also continued the Healthcare Emergency Professional Certification program with another cohort beginning the program.
- Continued work on preparedness for outbreaks of serious infectious diseases through coordination with hospitals, EMS, and other partners across the state to develop the Serious Infectious Disease Network, which better prepares the state to deal with the threat of emerging serious diseases such as Ebola. This network consists of frontline healthcare facilities, assessment facilities, and a transport plan. From the frontline facility, patients with a serious infectious disease can be safely transported to an assessment facility where they can be cared for and diagnosed in an environment which protects both the patient and the staff caring for the patient. If necessary, the patient can then be transported to a regional treatment facility for specialized treatment.

Chronic Disease

Cardiovascular Health

During 2015-2016, the CDC reports that one in every four deaths in the U. S. was caused by heart disease, and one in every three adults in the U.S. had high blood pressure. The Cardiovascular Health Program (CVH) proudly sponsors 34 public blood pressure monitoring stations in 22 counties around the state. These sites include senior centers, county health departments, public libraries, county extension service offices, and municipal offices that are open to the public.

Between the first installation in February and October 2018, the sites signed up 695 clients and took 2,414 separate blood pressure readings. CVH awarded five mini-grants around the state. In Florence, a pharmacy launched a medication adherence program with self-monitored blood pressure that averaged a 32 mmHg drop in systolic blood pressure and a 12 mmHg drop in diastolic pressure.

Diabetes

The Alabama Diabetes Control Program focused on clinical and community linkages to better support chronic disease management and prevention, through supporting programs such as Diabetes Self-Management Education (DSME) and the CDC Diabetes Prevention Program (DPP). DSME is the ongoing process of facilitating knowledge, skill, and ability necessary for diabetes self-care. Programs must meet ten national standards and apply for accreditation/recognition from the American Diabetes Association or the American Association of Diabetes Educators. Once the programs are accredited/recognized, they can be reimbursed from various insurance plans for the classes. Approximately 50 accredited/recognized DSME main sites and 17 DPP sites are located in Alabama.

Program accomplishments:

- Awarded \$89,805 in mini-grants to organizations to assist with building DSME programs and helping programs becoming accredited/recognized.
- Offered 3 DPP facilitator trainings that allowed for 54 new trainers in the state, and gave food model sets to 20 organizations.
- Partnered with the National Association for Chronic Disease
 Directors to hold a state engagement meeting at which
 approximately 80 partners helped write a state plan for
 diabetes prevention consisting of consumer awareness,
 availability, healthcare professional awareness, and coverage.
- Offered a national standards and reimbursement workshop for partners in the state.
- Provided technical assistance to all diabetes programs to combat this disease through support, training, partnerships, and marketing resources.

School Health

The School Health Program continued to play a vital role within the Alabama Champions for Healthy Active Schools (Champions) Task Force whose key partners share a vested interest in improving the health of all Alabama students. Its role is to assist with the development of school/system wellness policy while partners provide resources for the whole school, whole community, whole child components. In its 5 years of existence, Champions trained 134 local education agencies and had an impact on 744,637 students.

Communications and Marketing

One of the goals of the Digital Media Branch is to ensure departmental promotion, education, and dissemination efforts are reaching the broadest possible audience in the quickest, most efficient manner. Specific departmental programs, marketing/promotional campaigns, and events are promoted on the department's website (alabamapublichealth.gov); social media networks (Instagram, Facebook, Pinterest, Twitter, and YouTube); and mobile apps. The branch assisted departmental programs in promoting an unprecedented amount of marketing campaigns and events in 2018.

Marketing worked with more than 35 programs to create health messages and distribute them to Alabama citizens. Among them are the septic tank program, family planning, oral health, and suicide prevention.

Public Information works to improve public health by disseminating information through the mass media and departmental publications and provide awareness of departmental objectives, activities, and services throughout the state. Activities included preparing and distributing 95 news releases and editing a variety of documents in 2018.

Management Support

The Office of Management Support provides leadership and coordination for critical departmental programs such as the following: Records Disposition Authority, Grant Management, Policy Clearinghouse, and Competitive Selection Process.

Public Health Accreditation

The Public Health Accreditation Board (PHAB) finalized a rigorous review of the documentation submitted by the department and conducted a site visit over the course of 5 months ending with an on-site visit by the review team assigned to the department. On June 6, 2017, the department received PHAB accreditation through 2022.

In 2018, the department shifted focus from initial accreditation to reaccreditation. Reaccreditation efforts focused on identification of new domain leads throughout

the agency to help prepare documentation on behalf of the department. Accreditation leadership team meetings continued throughout the year and focused on the reaccreditation planning process that included defining a reaccreditation time line.

Performance Management and Quality Improvement (QI)

Department leadership and staff worked together to develop a 5-year Strategic Plan and a 2019 Annual Plan. The strategic and annual planning processes will drive the implementation of a newly acquired performance dashboard that will allow the department to track performance toward stated goals. The 2019 annual planning teams began meeting in October to establish goals and objectives, and finalize the annual plan. QI training continues to be provided to departmental staff, utilizing new training methods taken from other health departments and modified to meet departmental needs. Sixteen training sessions with 541 participants were held in 2018, and 8 QI teams received coaching from the QI Training Team/QI Council.

Workforce Development

The program offers training programs and initiatives designed to help departmental employees deliver high quality public health services. Its goal is to assure a competent public health workforce through strategic planning to anticipate and prepare the workforce for changes in public health practice through development of appropriate training programs and opportunities, both state-based and through regional and national initiatives. Activities include the following:

- Offered staff training through partners such as the State Personnel Department and the South Central Public Health Partnership.
- Supported staff training on specific topics and training days for several disciplines.
- Supported training that resulted in the Montgomery Tower Toastmasters being awarded Distinguished Chapter status, the highest level of achievement.
- Worked with various educational institutions to provide non-clinical placements throughout the public health system and hosted several graduate student interns.

Nutrition and Physical Activity (NPA)

The NPA Division is a team of experts who provide state leadership and speak for the health department on nutrition, physical activity, obesity, and wellness. The vision for the division is for Alabamians of all ages to embrace a culture of healthy choices as their normal way of life.

Adults and youth in Alabama continue to have high rates of obesity, and the state consistently ranks as one of the most

obese in the nation. For people with disabilities, the rates are even higher. The following NPA activities address obesity in adults and youth:

- Scale Back Alabama is an inclusive statewide weight-loss program that encourages Alabama to get healthy and have fun while doing it. In its twelfth year, the program drew in over 18,000 adults from around the state and the total weight loss was nearly 70,000 pounds. The Scale Back Alabama school program had impressive numbers with 129 schools enrolled.
- The State Obesity Task Force is a network of organizations and individuals that work to reduce and prevent obesity in Alabama. A state physical activity and nutrition plan was developed that will guide initiatives and policies being implemented statewide to prevent and reduce the prevalence of obesity in Alabama, and support healthy nutrition choices and regular physical activity.
- The Alabama Disability and Health Program is funded through a CDC competitive grant and works to improve the health and quality of life among people with mobility limitations and intellectual disabilities through adaptation and implementation of evidence-based health promotion strategies. In 2018, the program continued its long partnership with the Alabama Department of Education to promote quality physical education (PE) and encourage physical activity among all children and youth, including those with disabilities. Training of staff with inclusive PE and physical activity resources was provided to 435 schools, 30 school systems, and 12 colleges/universities. Another 305 PE teachers and school staff were trained on best practices for adapted physical education. The program worked with other partners to develop and implement the 100 Alabama Miles Challenge, a statewide program designed to encourage Alabamians to live a more active lifestyle.
- The Healthy Wellness Initiative is a collaboration with the Alabama Department of Education to provide wellness, nutrition, and physical activity technical assistance, information, and training to 21st Century Community Center Learning and Dependent Care grantees. The initiative hosted four regional trainings for afterschool programs in 2018. A PE expert conducted specialized trainings for Alabama afterschool teachers on fun, inclusive, and developmentally appropriate physical activity.
- As an implementing agency for the Supplemental Nutrition Assistance Program (SNAP) Education Program, NPA provided direct nutrition education to nearly 550 individuals who are eligible for SNAP benefits. An additional 43,000 were reached indirectly with nutrition messages, resources, and materials. A social marketing campaign along with policy changes that create healthy environments had an impact on over 500,000 individuals statewide.
- Collaborated with state universities to provide a public health rotation for dietetic interns.

The Alabama State Office of Minority Health works to expand the knowledge and awareness of existing health disparities among minority populations to lead to the expansion and creation of health policies and strategies in order to eliminate such disparities. In 2018, the office worked with multicultural partners in four counties to increase awareness and use of positive health behaviors and practice through improving the availability of healthy food and beverage options and health-related programs. The office also worked within the same communities to increase access to physical activity opportunities and programs and increase access to healthcare services through awareness of present services in the respective hot spot areas.

Additionally, staff organized, sponsored, presented in, and hosted multiple events to educate and inform the public about concerns related to minority health, health disparities, and the social determinants of health specific to Alabama.

Pharmacy

Continuing its response to a growing opioid abuse public health crisis, the division coordinated several conferences and summits to provide education to stakeholders that included healthcare providers and representatives of other state agencies, community groups, law enforcement, educational institutions, and faith-based organizations. The division is preparing for an upgrade to the PDMP, a database of controlled substances in Schedules II-V dispensed in Alabama, in 2019. The upgrade includes a new dashboard, patient overdose risk score, and integration into the EHR and pharmacy dispensing system. The database, which can be accessed by dispensers and prescribers within the state, is a tool that can be used in providing patient care.

Activities:

- Transitioned to a new software system to continue its
 work to make it easier for prescribers to discern between
 patients who legitimately need medication and those who
 are abusing it, promote safe opioid prescribing practices,
 and improve database utilization.
- Established and oversaw implementation of medication dispensing policies for all county health departments.
- Provided medication consultation to all public health programs including specific programs within the various bureaus, county health departments, emergency preparedness, and other state agencies on medicationrelated and pharmacy-related activities. Information requested included medication storage, medication purchasing and dispensing, clinical information, scheduling of medications, health professional continuing education programs, and statutory regulations.
- Worked with CEP in developing emergency preparedness plans and training public health employees, healthcare

professionals, and volunteers for activation of the Strategic National Stockpile, a national repository of medications, vaccines, antidotes, and medical supplies that may be needed during a disaster.

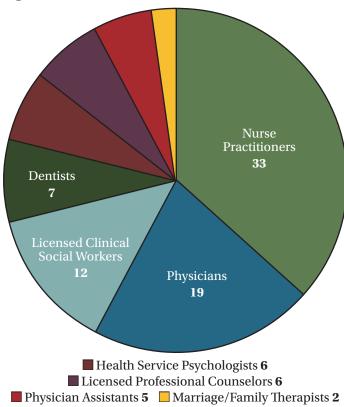
Primary Care and Rural Health

The Office of Primary Care and Rural Health (OPCRH) administers programs to improve healthcare access and quality in rural and medically underserved communities. Currently, 63 of Alabama's 67 counties have areas designated as medically underserved for primary care. These underserved areas have a high prevalence of healthcare issues, including chronic diseases such as diabetes, hypertension, and heart disease, and other challenges such as a high rate of substance abuse. The office works very closely with partners such as the Alabama Rural Health Association, the Alabama Hospital Association, the Alabama Primary Health Care Association, and departmental bureaus to address these health issues. Some of the major programs employed by the OPCRH include the recruitment and retention of healthcare professionals, and technical assistance to small rural hospitals and health providers in transitioning to a new value-based healthcare system.

The OPCRH utilizes a national, web-based recruitment system called 3RNet to recruit health professionals into medically underserved areas. During FY2018, approximately 577 primary care practitioners were referred to rural hospitals and clinics in Alabama. Another recruitment program is the National Health Service Corps (NHSC), which has both a scholarship and loan repayment component.

The NHSC covers a wide array of health professionals, from physicians, dentists, and nurses to behavioral health professionals. These programs are supplemented by a J-1 visa waiver program, which enables placement of foreign-trained physicians in return for 3 years of service in medically underserved areas. Currently, there are over 155 healthcare providers delivering medical care to rural and medically underserved Alabamians under these programs. The OPCRH also assists communities in establishing CMScertified rural health clinics. During the past year, 6 new rural health clinics were established, for a current total of 106. The OPCRH also participates with the Southeastern Telehealth Resource Center and the department's Office of Telehealth to expand healthcare access through partnerships and new technologies. One such initiative has been a partnership with Veterans Affairs to utilize county health departments as telehealth presentation sites, allowing patients to receive behavioral healthcare closer to home. Alabama's 35 small, rural hospitals are also assisted under federal grants targeted at improving operational efficiency, quality, and hospital sustainability.





Video Communications and Distance Learning

The division provides departmental training, educational resources, public information, and emergency response to health professionals through live broadcasts and production services. One important way the division provides relevant information is by partnering with other agencies in the state. This not only ensures that department staff are properly trained, but also improves the quality of public health by providing information and awareness on important topics to Alabama citizens.

Activities:

• Became a community-based training (CBT) partner with the Region IV Public Health Training Center located at the Rollins School of Public Health at Emory University. The division will work collectively as a network with Emory, along with other CBTs and technical assistance providers, to improve the ability of the public health workforce to meet national, state, and local needs using satellite and web technologies.

 Continued to support the Office of Telehealth by building and deploying 24 custom telehealth carts in 2018.
 Staff delivered the carts to county health departments throughout the state, where they also provided training and support to county personnel as part of the deployment initiative. In addition to the subspecialty services offered by telehealth, the department encourages cost savings and efficiency by using the telehealth technology to facilitate staff meetings, training, and educational programs via video conferencing.

Wellness

Public Education Employees' Health Insurance Plan Wellness

Public Education Employees' Health Insurance Plan (PEEHIP) Wellness is a joint project of the department and PEEHIP. In FY2015, PEEHIP mandated that members be screened or pay more for their medical insurance. Members had the opportunity to get a screening without being penalized. Department nurses performed 73,472 screenings at the worksite and physicians conducted an additional 50,831 screenings. During this same time frame, 28,513 received an influenza vaccine.

State Employees Insurance Board Wellness Program

During FY2018, 15,842 state employees were screened by Wellness Program staff for the State Employees' Insurance Board (SEIB). A total of 6,572 SEIB employees received an influenza vaccine.

Local Government Health Insurance Board

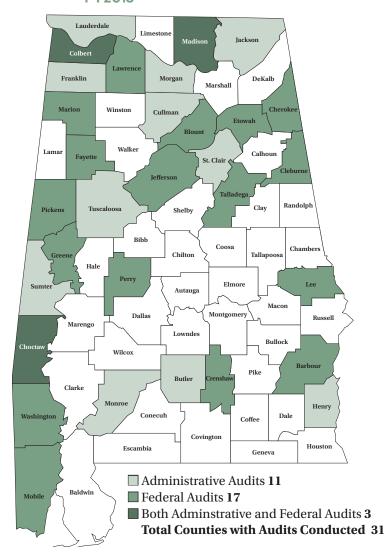
During FY2018, 197 local employees were screened by Wellness Program staff for the Local Government Health Insurance Board (LGHIB). A total of 1,886 LGHIB employees received an influenza vaccine. The Wellness Program has had a contractual agreement with LGHIB since 2017.

Office of Program Integrity

The Office of Program Integrity is an independent appraisal arm of the department. The office serves the State Health Officer to provide assurances regarding the integrity of the department's financial systems, compliance with federal requirements, and compliance with applicable state laws and regulations. The office also serves as consultant for the programs, services, and functions of the department.

The primary mission of the office is to assist directors, managers, and administrators in effectively discharging their duties by reviewing various activities and functions within the department, presenting reports on deficiencies, and providing recommendations for corrective actions concerning those activities.

Figure 53. Accomplishments by Audit Category, FY2018



During 2018, the office continued its mission of objectively evaluating county health departments and central office units in the areas of financial and administrative activities and federal compliance.

Figure 54. Accomplishments by Audit Category, FY2018			
Financial/Administrative Audits			
County Health Departments	14		
State Level Audits 2			
Property Audits 16			
Federal Program Audits			
County Health Departments	20		
Private/Local WIC Agency Audits 3			
Special Reviews and Consulting			
SAFE (Security for Alabama Funds Enhancement) Program Compliance Monitoring			

Subrecipient Compliance and Monitoring

Office of Radiation Control

The mission of the Office of Radiation Control is to protect the public and occupationally exposed workers from unnecessary exposure to ionizing radiation. This is accomplished by registering, licensing, and inspecting the day-to-day use of ionizing radiation in the state of Alabama; working with registrants and licensees to assist them in developing and implementing programs to maintain radiation doses as low as reasonably achievable; performing routine monitoring for radioactivity in the environment; responding to incidents involving radioactive material; and conducting formal public and professional education programs.

Notable Achievements for FY2018

- Radioactive Material Program: Inspections were performed on 231 regulated facilities, 31 competency examinations were conducted, 30 competency cards were issued, and more than 800 license and registration actions were performed.
- **Medical X-Ray:** The X-Ray Compliance Branch inspected more than 2,100 X-ray tubes at more than 1,050 facilities

- and continues to review new uses of X-rays in medicine to help assure the health and safety of the patient and the operators of X-ray equipment.
- Emergency Planning: The Emergency Planning Branch provided radiation safety and emergency response training to almost 2,200 individuals. Those receiving training included individuals from the department, hospitals, EMS, police, fire, and sheriff's departments, as well as volunteer members of the public.
- Environmental: The Environmental Radiation Branch collected almost 800 ambient, air, water, soil, and vegetation samples from areas surrounding various radioactive material licensees and the two nuclear power plants located within Alabama. Approximately 2,400 radiation detection devices were calibrated during FY2018. This branch also distributed more than 2,300 radon information packets and almost 3,000 radon test kits to the public.

Figure 55. Service Activities, FY2018

Type of License or Registration	Number of Facilities	Number of License and Registration Actions	Number of Inspections
Medical X-Ray	1,568	230	654
Dental X-Ray	1,293	105	271
Veterinary X-Ray	457	40	139
Academic/Other X-Ray	123	6	0
Non-Medical X-Ray	347	121	87
Radioactive Material – Industrial	201	74	90
Radioactive Material – Medical	147	117	58
Radioactive Material - Academic/Other	24	10	8
Particle Accelerators	48	39	13
Radioactive Material - General Licenses	196	N/A	55

County Health Department Services

Public Health services in Alabama are primarily delivered through county health departments. Larger counties and counties with specific needs have more than one county health department location. A wide variety of services is provided at county health departments, as well as valuable information.

Typical services and information include the following:

- Alabama Breast and Cervical Cancer Early Detection Program
- Bio Monitoring Services
- Birth, Death, Marriage, and Divorce Certificates
- Cancer Detection
- · Child Health
- CHIP
- Dental Services/Health Education and Community Fluoridation Programs
- Diabetes
- Disease Surveillance and Outbreak Investigations
- Family Planning

- Food and Lodging Protection
- HIV/AIDS
- Home Care Services
- Immunization
- Insect and Animal Nuisances That Can Transmit Disease to Humans
- Laboratory
- · Maternity
- Nursing Services
- Nutrition Services
- Onsite Sewage Disposal Systems
- STDs
- Solid Waste
- · Telehealth
- Tuberculosis
- Water Supply in Individual Residential Wells
- WIC

Public Health Districts

East Central District

Richard Burleson, District Administrator 3060 Mobile Highway Montgomery, AL 36108 (334) 293-6400 Connie King, Assistant District Administrator 1850 Crawford Rd. Phenix City, AL 36867 (334) 297-0251

Jefferson County

Mark E. Wilson, M.D., County Health Officer David Hicks, D.O., M.P.H., Deputy Health Officer 1400 Sixth Ave. S. Birmingham, AL 35233 (205) 933-9110

Mobile County

Bernard H. Eichold, II, M.D. County Health Officer Susan Stiegler, Assistant Health Officer 251 N. Bayou St. Mobile, AL 36603 (251) 690-8827

Northeastern District

Karen Landers, M.D., District Medical Officer Mary Gomillion, District Administrator Mark Johnson, Assistant District Administrator 709 E. Broad St. Gadsden, AL 35903 (256) 547-6311

Northern District

Karen Landers, M.D., District Medical Officer 1000 S. Jackson Hwy. Sheffield, AL 35660 (256) 383-1231 Judy Smith, District Administrator Michael Glenn, Assistant District Administrator 3821 Highway 31 South Decatur, AL 35603 (256) 340-2113

Southeastern District

Corey Kirkland, District Administrator 1781 E. Cottonwood Rd. Dothan, AL 36301 (334) 792-9070

Southwestern District

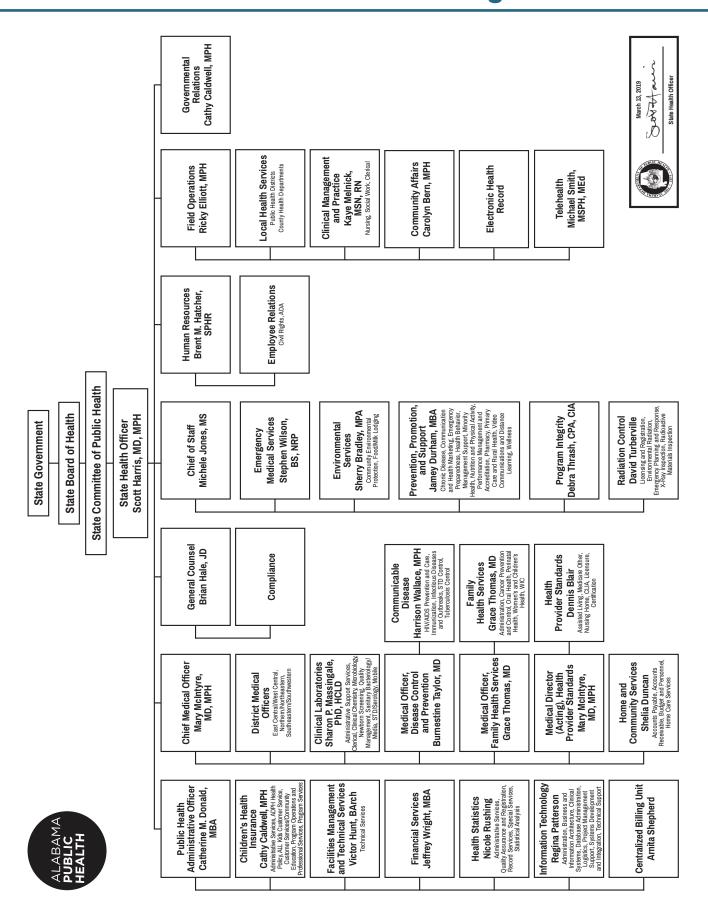
Chad Kent, District Administrator Suzanne Terrell, Assistant District Administrator 1115 Azalea Place Brewton, AL 36426 (251) 947-1645 303 Industrial Drive Linden, AL 36748 (334) 295-1000

West Central District

Stacey Adams, District Administrator Florine Croxton, Assistant District Administrator 2350 Hargrove Rd., E. Tuscaloosa, AL 35405 (205) 554-4500



ADPH Organizational Chart



The Alabama Department of Public Health Annual Report is published by the Bureau of Prevention, Promotion, and Support.

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Informational materials in additional formats will be made available upon request.

This document may also be obtained through the Alabama Department of Public Health's Web site at alabamapublichealth.gov.

