

2015-2016 Annual Report





Better health is central to
human happiness and well-being.

– World Health Organization

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LETTER TO KNOX COUNTY



Martha Buchanan, MD
Director, Knox County
Health Department

We engage with and educate our community to improve population health. We assess our community's priority health issues and respond to its needs. We provide preventive clinical care and treatment as well as connect those in need to other community services. We enforce public health laws designed to reduce disease and protect health. As you'll read about in this report, our work to improve health covers a wide range.

This past year, we doubled down on our efforts to incorporate more evidence and quality data into our decision making. We advanced our strategic planning efforts so that we're better positioned to address the challenges that lie ahead. And, we solidified a culture among our staff that promotes continuous quality improvement at all levels – thus making our interventions, programs and services more efficient and effective.

How people think of health is essential in creating a community where everyone has the opportunity to be healthy. So we're pleased to see that the public's perception of health has continued to evolve into an understanding that education, income, the built environment and cultural factors all affect our health. And, conversely, that health greatly impacts education and the economy.

As you'll read about in this report, we accomplished a great deal last year. But we still have considerable challenges to address, especially related to physical inactivity, substance use, hepatitis C and mental health. This fiscal year, we also saw the emergence of Zika virus disease and the heartbreaking birth defects it can cause. While we moved the needle in the right direction on these challenges, some of which is outlined in this report, much more still has to be done.

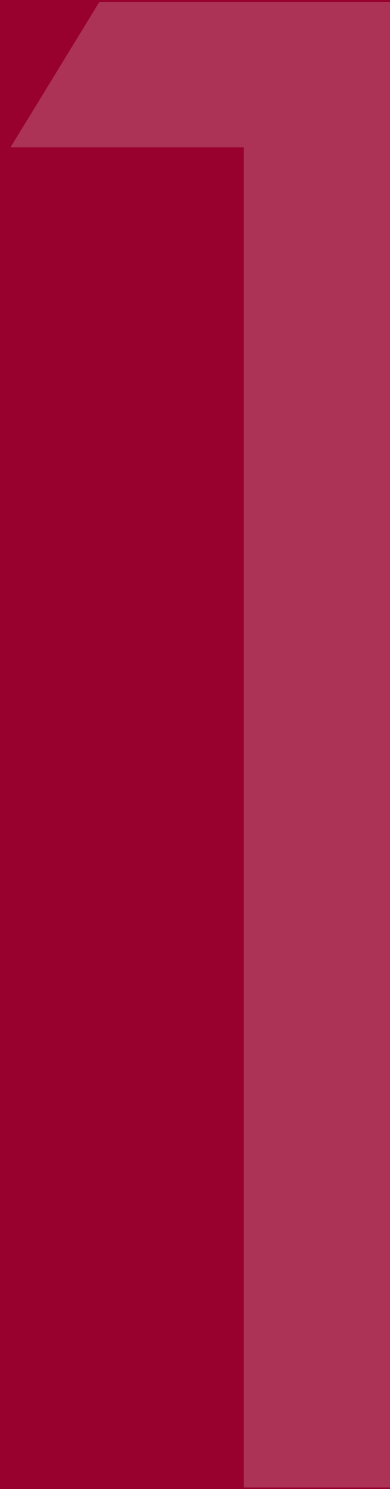
As we plan for the future and the challenges that lie ahead, I encourage you to join us. Tell us what you think about our work, let your friends and family know what we're doing and what we offer, and most importantly, I encourage you to explore this comprehensive definition of health, and what it means for your family and community.

We consider it a great honor to serve Knox County, and we will continue to search for better, even more effective ways to improve community health. I welcome any suggestions or questions you may have. Please feel free to contact me directly at 865-215-5273, or you may email health@knoxcounty.org.

Gratefully yours,

A handwritten signature in blue ink, appearing to read 'Martha Buchanan'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Martha Buchanan, MD
Director, Knox County Health Department



WHO WE ARE

As a public health agency, we work to promote and protect the health of our community where people live, learn, work and play. From education to regulation and from emergency preparedness to preventive clinical care, our broad scope of work mirrors the World Health Organization's comprehensive definition of health: "a state of complete physical, mental and social well-being – not merely the absence of disease or infirmity."



VISION

Every Person, A Healthy Person

MISSION

To encourage, promote and assure the development of an active, healthy community through innovative public health practices

CORE VALUES

- Responsiveness and commitment to our community
- Excellence through evidence-based and innovative practices
- Accountability and integrity in our operation
- Leading by example

STRATEGIC PRIORITIES

- How do we continually assure that the Knox County Health Department infrastructure empowers us to be at the forefront of public health?
- How do we facilitate a community approach to better health?
- How do we establish communitywide understanding and value for public health?
- How do we respond effectively to our community's public health issues?



STRUCTURE

The Knox County Health Department is a division of Knox County Government under the supervision of Knox County Mayor Tim Burchett.

The Knox County Board of Health serves an advisory role.

KNOX COUNTY BOARD OF HEALTH

Martha Buchanan, MD
Director, Knox County Health Department

Tim Burchett
Knox County Mayor

Sharon K. Davis, DNP, APRN, WHNP-BC
Clinical Assistant Professor, The University of Tennessee College of Nursing

Dianna C. Drake, Pharm. D
President, District 2, Tennessee Valley Pharmacists Association

Jerry L. Epps, MD
Senior Vice-President and Chief Medical Officer, University Health System, Inc.
Chairman Emeritus, The Department of Anesthesiology, The University of Tennessee Medical Center

Rebecca E. Gompf, DVM, DACVIM
Associate Professor, The University of Tennessee Department of Small Animal Clinical Sciences

Jack E. Gotcher, Jr, DMD, PhD
University Oral and Maxillofacial Surgeons
Professor, The Department of Oral and Maxillofacial Surgery, The University of Tennessee Graduate School of Medicine

John W. Lacey, III, MD
Chief Medical Officer, Emeritus, University Health System, Inc.

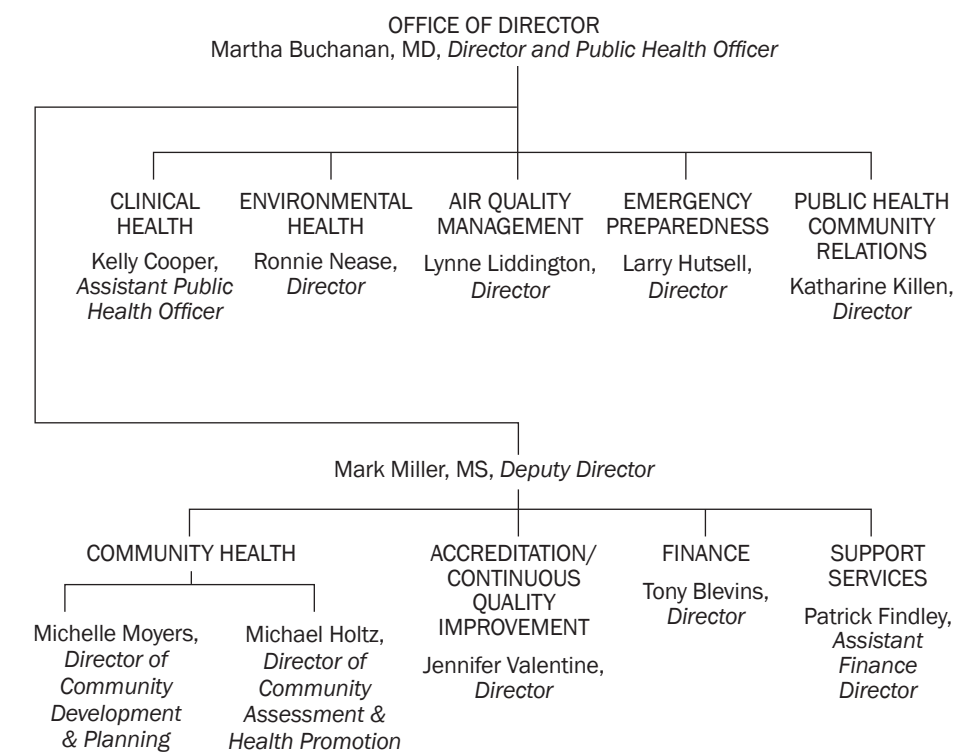
Buzz Thomas
Interim Superintendent, Knox County Schools



ORGANIZATIONAL CHART

KCHD consists of nine divisions and employs more than 260 professionals including epidemiologists, environmental specialists, public health educators, physicians, dentists, nurses, dietitians, emergency preparedness specialists and many others.

KNOX COUNTY HEALTH DEPARTMENT





ABOUT KCHD

GENERAL INFORMATION

- Hours of operation: 8 a.m. – 4:30 p.m.; Days and hours of service may vary per department.
- Main: 865-215-5000
- Email: health@knoxcounty.org
- Online: www.knoxcounty.org/health
- Facebook: @KnoxCountyHealthDepartment
- Twitter: @KnoxCoHealthTN
- Instagram: @KnoxCountyHealthDepartment
- On the first Wednesday of each month, all offices and clinics are closed in the morning for staff in-service. On these days, the main location opens at 10 a.m. The Teague and West clinics open at 10:30 a.m.

LOCATIONS

The Teague Clinic in North Knox County
405 Dante Road
865-215-5500

Main Office and Clinic
140 Dameron Avenue
865-215-5300

KNOXVILLE

The West Clinic in West Knox County
1028 Old Cedar Bluff Road
865-215-5950



WHAT WE DO

We identify and monitor health trends, investigate disease outbreaks, conduct extensive health education and outreach, provide and connect people with medical care, enforce food safety and air quality laws, prepare for public health emergencies, and more — all with the goal to ensure the conditions in which every Knox County resident can be healthy. While a medical provider typically treats those who are sick, most of our work centers on preventing illness and injuries from happening in the first place.

We're working to build a culture where healthy lifestyles are the norm, and where everyone has the opportunity to make healthy choices.



Tire-lifting Olivia is one of the “stars” in our Strong Baby public health campaign.

EDUCATE AND ENGAGE

Our health is most influenced by what happens long before the doctor’s visit. It happens where we live, learn, work and play. A healthy community means everyone not only has access to medical care, but also to healthy, affordable foods, safe places to live and to get physical activity. It means everyone has the knowledge they need to make informed decisions about their health.

Our work to build a culture of health is done, in part, through our extensive education and outreach efforts. Providing accurate and reliable information to the public about health risks and wellness are crucial to improving population health. We have a dedicated team of health educators, outreach workers, epidemiologists, registered dietitians, clinical professionals and experts to carry out this work. Our staff provides education in the community, our clinics, on our social media and in the news media. Each year, we provide data and serve as subject matter experts for hundreds of media stories on various topics including infectious and chronic disease, unintentional injuries, emerging public health threats and the opioid epidemic.

One example of our educational work is our Strong Baby campaign (as seen on the left), which uses fun images of “strong babies” to promote prenatal care, nutrition, immunizations and more. Improving the health of mothers and infants is an important goal for us because their well-being determines that of the next generation.

Another example of our educational work is our Special Supplemental Nutrition Program for Women, Infants and Children (WIC). Funded by the U.S. Department of Agriculture, WIC not only provides growth screenings and vouchers for healthy foods, it also provides nutrition and breastfeeding education to the more than 17,000 local participants. WIC serves eligible families with low and moderate incomes (near \$45,000 for a family of four), and helps improve birth outcomes, decrease anemia, and lower the risk of obesity.

But we don’t stop with education — we also engage the community. We build strategic partnerships with schools, health care providers, nonprofits, law enforcement and many others. We convene coalitions and serve on community groups, including the Knox Adolescent Partners in Prevention Initiative, Knox/East Tennessee Healthcare Coalition, Smoke-Free Knoxville, Senior Safety Task Force, Food Policy Council and more.

Our partnership work recently led to a major step forward – aligning the community around common health priorities. Last year, we worked alongside the Community Health Council to guide the creation of its Community Health Improvement Plan. Teams are working to implement the plan, but what’s also exciting is that this plan is now used by the United Way of Greater Knoxville as part of its funding criteria.

We also provide violence prevention education for youth, work with partners like the Boys & Girls Clubs to promote healthy relationships, partner with faith-based organizations to reduce HIV infection rates, and more.



ASSESS AND RESPOND

Our epidemiology division studies health-related events in society and searches for trends. They collect and analyze data, and share it with the community. This includes determining Knox County's priority health issues as outlined in our Community Health Assessment – information that helps our staff and partners evaluate community needs and program performance, make policy decisions, and plan for the future.

Our epidemiology division also monitors more than 50 infectious diseases considered to be hazardous to the community. In accordance with state law, medical providers must report all cases of these diseases to us, as the local public health authority. All reported cases are investigated to prevent further spread of illness. A disease investigation may consist of one epidemiology nurse or a special team of experts. Specific protocols ensure a rapid and effective response.

An outbreak is defined as two or more cases of similar illness that have a common exposure. Our epidemiologists investigate on average six to 12 outbreaks each year. The primary causes of the most recent outbreaks included norovirus, E. coli and cryptosporidium. The variation in setting and source of infection sends an important message to our community: Good hand hygiene and safe food-handling practices are important measures for reducing illness.

In addition to assessing health trends and responding to outbreaks, our Emergency Preparedness division helps ensure our community stands ready to respond to a public health threat. We conduct outreach and education for businesses, churches, schools and child care facilities. We also help plan, organize and execute exercises with local hospital systems, including drills last year that helped our health care community consider how it would respond to a water contamination or scarcity event. The original planning for these exercises occurred before the Flint, Michigan, water crisis, and as the real-world event evolved, we were able to fully recognize the significance of our efforts. As a result of these planning efforts, numerous partners are better prepared to both mitigate and respond to such threats.

Our emergency preparedness staff was also deeply involved in our multi-platform communication on Zika virus disease. In 2016, our subject matter experts conducted more than 70 interviews about Zika with the news media. We developed a weekly social media campaign supported by up-to-date information from the Centers for Disease Control and Prevention. We launched a door-to-door response effort to encourage neighbors of Zika travel-related cases to prevent mosquito bites and local transmission. We coordinated an exercise with area health care agencies to plan and prepare should the number of cases increase or become locally acquired. And we reached out to travel agencies and those planning mission trips to arm them with Zika prevention information, going so far as to place signage at the airport to educate people traveling to or from areas where Zika is known to be prevalent.

To effectively respond to our community's health issues, we must have a deep understanding of the challenges we face as well as plans in place to respond.

“The health of the individual is almost inseparable from the health of the larger community....”

– Howard K. Koh, MD, MPH

PROVIDE AND CONNECT CARE

An essential service of public health agencies is to provide and connect people to needed medical care. Our clinical services include a broad range of preventive care and treatment. This includes women’s wellness, family planning and gynecological care, such as pregnancy testing and breast and cervical cancer screenings; HIV/AIDS testing and treatment, including health assessment, case management and nutrition counseling; and primary prevention dental care, including emergency dentistry, oral health education and oral surgical procedures. We also provide routine and travel immunizations as well as screening and treatment for sexually transmitted infections and tuberculosis (TB). We serve thousands each year, reducing the human and economic costs of illness, and ultimately the burden of disease in our community.

Our clinical work extends beyond our clinical walls. One example is our Home Visiting Services, which consists of social counselors and nurses who promote child health, safety and development, while also working to prevent child abuse. This group offers several programs, including Children’s Special Services (CSS), Help Us Grow Successfully (HUGS), newborn screening follow-ups and others.

Another example is our TennCare Kids program. Outreach workers help ensure TennCare eligible children and young adults receive important screenings, medical care and health education. They do this through home visits, community events, education in schools and more.

Our dedicated group of clinical experts work diligently to not only meet the ever-evolving needs of our community, but to continue to advance the services we provide. For example, to improve customer service we restructured our entire back-to-school vaccination process during the 2015/2016 fiscal year, setting up appointments, temporarily relocating staff to be more convenient for the public and extending our operating hours. This dramatically reduced wait time and improved the customer experience. During this time, we provided nearly 3,500 vaccines to school children to help give them a healthy and safe start to school.

As the hepatitis C epidemic spread across Appalachia, we worked to secure grant funding to launch a hepatitis C (HCV) screening and linkage-to-care program. As the first health department in East Tennessee to offer universal HCV testing, we are pioneering an effort to quantify and address the HCV epidemic locally. The program offers free HCV testing, post-test counseling and helps link patients to medical care.

In addition to providing clinical care, we help ensure access to health care for at-risk members of our community. Through a partnership with Cherokee Health Systems, we’re helping ensure quality primary care to low-income residents. And our Social Services division provides crucial case management for those served through this partnership, a service that is helping improve patient health outcomes.

We invite you to learn more about our clinical services by visiting knoxcounty.org/health.



A vital tool in protecting and promoting the health and safety of a community, public health laws help ensure the conditions in which every resident can be healthy.

PROTECT HEALTH

Part of our role as a public health agency is to enforce public health laws, which are designed to prevent injury and illness. This helps ensure the conditions, such as safe food and clean air, in which every resident can be healthy. Our two main divisions tasked with this are Air Quality Management and Environmental Health.

The primary responsibility of Air Quality Management is to achieve and maintain the U.S. Environmental Protection Agency's National Ambient Air Quality Standards in Knox County. This is accomplished in many ways, including the continuous monitoring of fine particulate matter and ozone in the outdoor air; issuance of air quality health alerts and daily forecasts; and permitting of air contaminant sources, such as manufacturers, gas stations, dry cleaners and many others. This work culminated in October 2015, as the air quality in Knox County met the EPA guidelines for attainment of the criteria pollutant ozone, meaning that our air quality meets the national standard.

Our Air Quality Management division also encourages the public to understand the Air Quality Index (AQI), which is available on our website. Similar to the weather forecast, the AQI forecast can help you know how clean or polluted your air is expected to be, and what associated health effects might be a concern for you. In addition, this division also performs compliance and complaint investigations, takes enforcement action against violators, issues residential open burning permits, and provides technical and educational services.

The Environmental Health division enforces state regulations of permitted facilities including tattoo studios, public swimming pools, restaurants, school cafeterias, hotels and others. We conduct more than 11,600 food-related regulatory inspections each year and provide extensive food safety education. Together, this work helps ensure our food is prepared, stored and served properly.

In 2015, the state updated the Tennessee Food Code for the first time in nearly 30 years. Our Environmental Health staff continues to work with every Knox County restaurant, grocery and convenience store to educate them on the primary risk factors that can cause foodborne illness.

Our staff also enforces Tennessee's Groundwater Rules and Regulations, which includes issuing permits for subsurface sewage disposal systems and investigating complaints related to failing septic systems. Maintaining efficient sewage disposal systems helps protect our groundwater and property from contamination.

Environmental Health also conducts rabies vaccination clinics each May, as well as a seasonal monitoring program to prevent the spread of mosquito-borne disease. In 2016, this division implemented a plan to monitor the type of mosquito capable of transmitting Zika virus (*Aedes*) – in addition to monitoring the type of mosquito that can carry West Nile virus. Thanks to our staff and the support of the University of Tennessee's Entomology and Plant Pathology Department, we have better population data on the *Aedes* mosquito, which is important in preventing disease.



2015/2016 ACCOMPLISHMENTS

2015/2016 ACCOMPLISHMENTS

- Responding to the substance use epidemic, we partnered with Helen Ross McNabb, the Detention Center and Renaissance Recovery Group to launch a new outreach program to reduce Neonatal Abstinence Syndrome (NAS).
- In October 2015, the air quality in Knox County met the EPA guidelines for attainment of the criteria pollutant ozone, meaning that our air quality now meets the national standard.
- In November 2015, we became the first health department in Tennessee to achieve national, voluntary accreditation through the Public Health Accreditation Board. At the time, less than four percent of all health departments in the country were accredited. This process and the requirements help us demonstrate increased accountability and credibility to the people of Knox County.
- Released in January 2016, our most recent Behavioral Risk Factor Survey provides crucial information about our community's health-related risk behaviors, the availability of preventive care and prevalence of chronic health conditions. This 168-page report required a year of data collection from more than 4,000 Knox County adults, and another year to analyze and report the findings.
- After successfully obtaining funding, we launched a hepatitis C (HCV) screening and linkage-to-care program, becoming

the first health department in East Tennessee to offer universal HCV testing. The HCV program is collaborating across our divisions and with external partners, such as substance abuse treatment facilities and other health care providers, to educate and serve populations who are at risk for HCV exposure.

- We co-convened the Community Coalition to Protect Children. This new community group is working to educate parents and the community on how to prevent child sexual and physical abuse.
- To help combat our state's high cervical cancer rates, we launched a human papillomavirus (HPV) education and outreach program that focused on increasing awareness of HPV-related cancer and improving vaccination rates. We provided professional educational sessions for more than 250 medical providers, social workers and pharmacists. We created a multi-platform educational campaign, and we took a more proactive approach in offering HPV vaccination to our own patients, which increased our vaccination rates by 40 percent.
- We coordinated a major response to Zika virus disease that included targeted door-to-door education, a communitywide educational campaign, a preparedness exercise for our hospital partners, and new mosquito surveillance and control measures. We now have more

population data on Aedes mosquitoes and will be able to determine trends in these mosquitoes in the future.

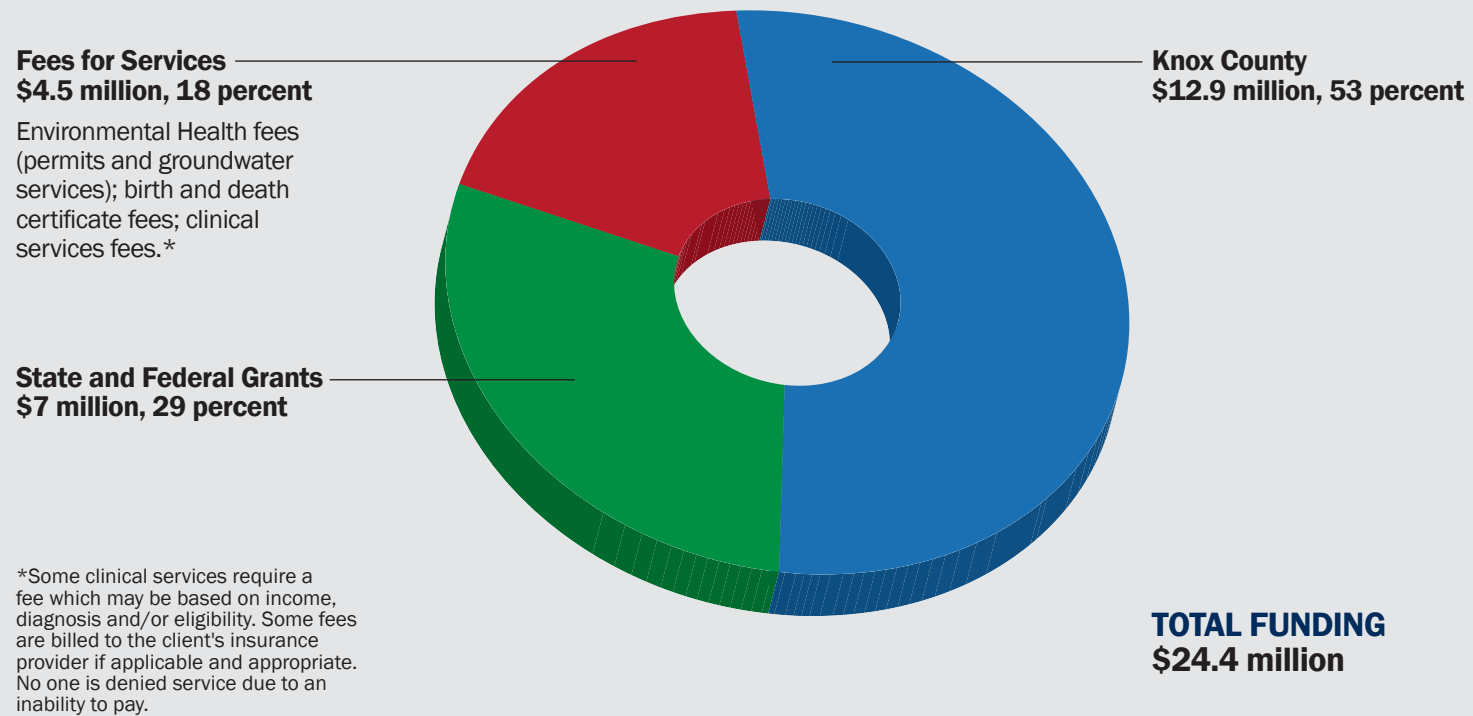
- Our Healthy Weight Program Manager Cheryl Hill was appointed to the Emerging Leaders in Maternal and Child Health Training Institute. Hill is one of only eight nutrition professionals in the nation selected to be part of this 12-month program.
- We partnered with the University of Tennessee Medical Center and Parkwest Medical Center to help them foster an environment supportive to breastfeeding. They are implementing evidence-based practices that have been shown to increase breastfeeding initiation and duration. Breastfeeding is a public health priority not only because of the health benefits for mom and baby, but also for the profound societal and economic benefits.
- We were the only health department in the state to have been awarded a Category A Project Diabetes Grant, a competitive prevention grant funded by the Tennessee Department of Health. Category A funding is \$150,000 per year over a three-year period and was awarded because of our evidence-based work to reduce the incidence of diabetes.
- We partnered with the Metro Drug Coalition to create

a curriculum called Unfiltered. Based on best practices, input from educators and current research, the curriculum includes presentations, learning games, quizzes, tutorials and resource references for teachers and other instructors/volunteers. This curriculum has been disseminated to Knox County educators, and with the help of Smoke-Free Knoxville, was shared with other organizations.

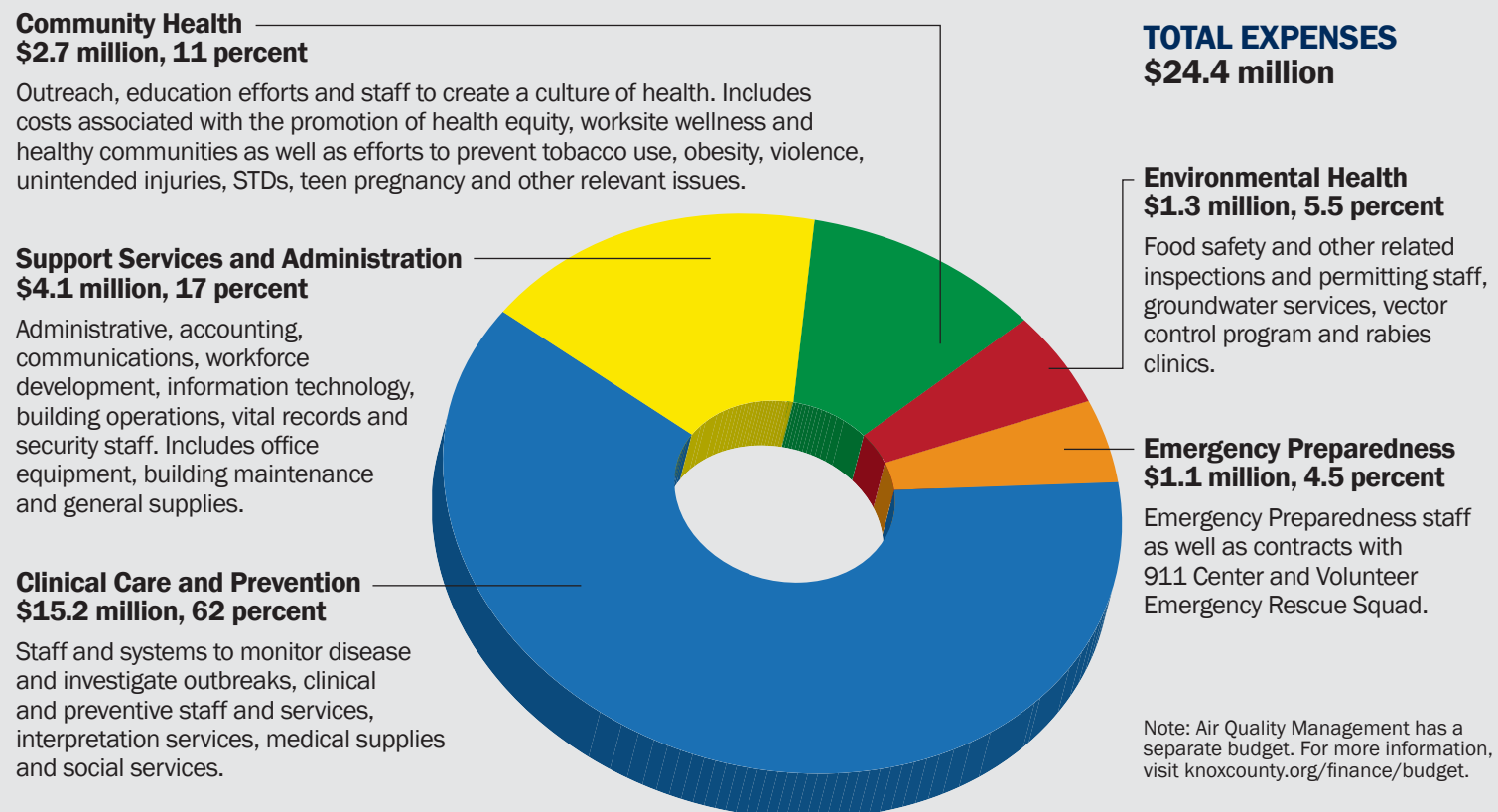
- We conducted a Community Supported Agriculture Fair in Knox County with about a dozen participating area farmers and more than 100 attendees. This fair helped more residents gain access to healthy, local fruits and vegetables.
- We partnered with East Tennessee Children's Hospital and the Great Schools Partnership to develop an intramural program for community schools titled Knox Rocks! This program aims to help students be more physically active and improve their skills in working with others. For many students, this intramural experience is their first time participating on a sports team.
- We partnered with Dogwood Elementary School and other community partners to begin construction of a trail and outdoor classroom on school grounds. This classroom will be utilized to not only enhance a student's learning experience but also help them be more physically active.



2015/2016 KCHD FUNDING SOURCES



2015/2016 KCHD OPERATING EXPENSES



FINANCE

The Knox County Health Department served a population of 451,444 people in 2015, and 456,122 people in 2016 (U.S. Census population estimates). In the 2015/2016 fiscal year, KCHD had an operating budget of approximately \$24.4 million.

For more detailed budget information, please visit knoxcounty.org/finance/budget.

Every \$1 spent on prevention saves \$5.60 in health spending.

-American Public Health Association

