

Something Old, Something New

Summit County Public Health ANNUAL REPORT 2015

MESSAGE FROM THE DIRECTOR

Good health does not happen by chance. It is shaped and nurtured. It is connected to the air we breathe, the water we drink, the food we eat, and the places we live, work and play. Public health is defined as the science of protecting the safety and improving the health of families and communities. Those of us at Summit County Public Health feel privileged to do that work in this community.

Each April, during National Public Health Week, we report to you about the programs and initiatives we're undertaking, the progress we're making and some of the challenges our community faces in the arena of public health. This year, we're also taking you back in time to provide a glimpse at past public-health milestones and some historical context for how far we've come.

The science of public health is one of humankind's most ancient activities. From the beginning of human history, communities and tribes have worked to ensure their collective survival. In ancient times, many societies believed that ill health was caused by an imbalance between humans and environment. Hippocrates described a causal relationship between disease and factors like climate, soil, water, lifestyle and nutrition. The Greeks understood the importance of washing hands, bathing, exercising and eating good food. The Romans built aqueducts and collected taxes to support public services that protected public health.

During the Middle Ages, a widespread decline in hygiene and sanitation practices gave rise to the Black Death (bubonic plague), which killed one-third of the population in Europe and spread across the world. But during the Renaissance and

the Age of Enlightenment, there was renewed interest in scientific exploration. This laid the foundation for a tremendous growth in understanding of health risks and impacts, which led to modern public health practices, including the control of infectious diseases, reduction of environmental hazards and provision of safe drinking water. During the 20th century, public health priorities expanded to address risks from behaviors and lifestyles that led to chronic disease and mortality.

In the 1900s, population-based prevention strategies, such as vaccinations, workplace safety, food safety and disease prevention, resulted in major gains in life expectancy. However, despite many great achievements, the work of public health agencies and professionals is never done. And it continues to evolve as new threats to health are identified and better understood. For example, the fight against Big Tobacco was a huge success in the late 1900s, yet there are new tobacco products like e-cigarettes that require continued education on the addictive nature of nicotine. Another 20th century public health victory was the enactment of policies requiring the use of car seats and seatbelts, which have greatly decreased fatalities from motor vehicle collisions. But the recent use of mobile phones while driving has become a new focus for public health education and policy.

In the 21st century, the public health community in the United States is embracing a wider field of view: We're working to help our country become the healthiest nation on the planet within one generation. To achieve this goal, it's not enough to ask people to make healthy choices when they face other challenges outside their immediate control, such as poverty, poor education, inadequate housing and environmental threats, which have profound impacts on health. Improving our health means ensuring conditions that give everyone the opportunity to be healthy. Please join us in celebrating National Public Health Week 2016, April 4-10, and to become a part of the movement for change, visit www.nphw.org.

Amy Wineland, RN, MSN, ND, CPNP
Director, Summit County Public Health Department

The first County Public Nurse was appointed in 1967. The services provided have grown over the years and in 2008, the Public Health Department was established.



County Nursing Services, 1990



County Nursing Services, 1987



Public Health Staff, 2015



Early Intervention

Identifying developmental delays in infants and toddlers

Something Old: Today, American society emphasizes inclusion and independent living for people with developmental disabilities. But that was not always the case, and for much of history, it was common across the world to segregate disabled people from the rest of society. This included placing people in institutions or in segregated schools or workplaces. This resulted in isolation from family, friends and communities, preventing these individuals from learning, participating and contributing to society.

In 1918, as states began creating a nationwide public school system, children with disabilities were usually excluded. Between 1850 and 1950, parents and teachers of those with developmental disabilities started forming their own schools and programs. This movement started to positively change ideas and attitudes about teaching these children. The Rehabilitation Act of 1973 and its amendments in 1986 and 1992 guaranteed employment and educational rights for people with disabilities from institutions that received federal funding. Then in 1997, Congress passed the Individuals with Disabilities Education Act (IDEA), and all schools were required to provide free, appropriate education for all children, including those with developmental disabilities. The onset of inclusion has resulted in over 90 percent of students with disabilities receiving education in typical schools.

Something New: The Early Intervention (EI) program became part of IDEA when the law was reauthorized in 1986 and further amended in 2004. The act acknowledges that significant brain development occurs during a child's first three years of life. It recognizes the need to enhance the development of infants and toddlers with disabilities to minimize the potential for developmental delay; decrease the educational costs to society by catching infants and toddlers with developmental delays early and decrease the need for special education before they reach school age; and enhance the capacity of families to meet the needs of their children with developmental disabilities.

Seventeen percent of children have a developmental delay of some kind before the age of 3. Summit County Public Health's Early Intervention Program works with community partners to identify these children through screenings, referrals and assessments. Eligible families receive service coordination and a family service delivery plan to provide intervention services that address the needs of the child and family. Seventy percent of children who participate in EI achieve age-level success within six months to one year. Children with complex diagnoses are provided treatment to improve functional levels and school readiness.

Child Care Inspection Program

Working to keep our children safe from communicable diseases

Something Old: In previous eras, mothers and nearby grandparents often took on all child rearing responsibilities. As more and more nuclear families have moved farther from their extended families, and two working parents have become the norm, child care facilities have played an increasingly greater role.

Something New: High-quality child care centers are essential in facilitating dual-income households in high cost areas such as Summit County. Today, our child care centers include full-service centers, pre-schools, after-school programs, summer camps and guest ski child care facilities. Our goal at Summit County Public Health is to keep children safe and free from communicable diseases during these formative years.

Young children require regular diaper changes and frequent feedings, and hands and toys constantly make their way into mouths. These high-risk behaviors and tasks can facilitate the spread of diseases. In 2015, our community experienced a widespread outbreak of norovirus, a common, highly contagious gastrointestinal illness. Public Health and child care staff worked together to contain this outbreak through cleaning and disinfection strategies, exclusion of sick individuals and in one case, a temporary closure of a center. Public Health continues to work with child care facilities to foster safe environments that allow parents to work and children to thrive.

There are 27 child care centers in Summit County, including full-service centers, guest centers for skiers and preschools.



Retail Food Establishment Inspections

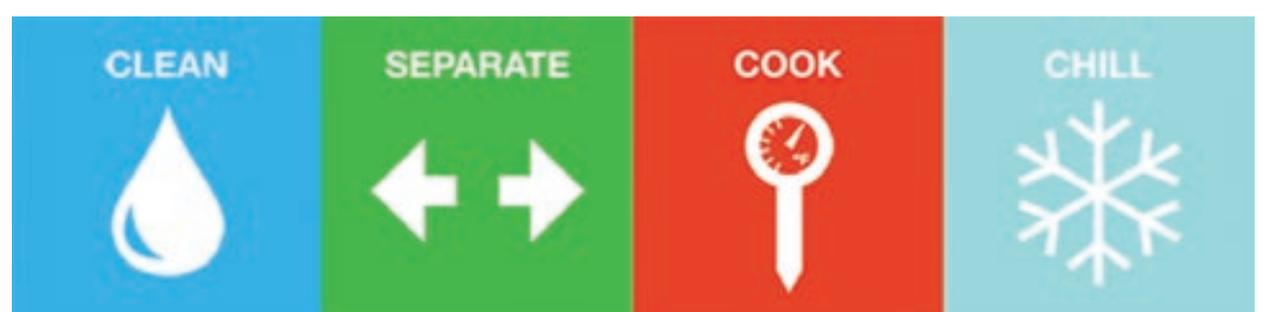
Enforcing regulations to prevent foodborne illness



Something Old: Beginning in 1948, every licensed restaurant in Colorado has received inspections by either a state or local health department sanitarian. Prior to these inspections, foodborne illnesses were a part of everyday life. In the early days of restaurant inspections, commercial-grade refrigeration was only a dream, and sanitarians mainly focused on basic hygiene strategies and control of pests like rats or mice.

Something New: With the advent of modern technology and new scientific knowledge, restaurant inspections bear little resemblance to those of the mid-1900s. And Colorado took a major step forward in 2015, with the help of one of Summit County's own environmental health specialists. Steve Prosis was part of an award-winning team focused on standardizing and analyzing data statewide for violations incurred during inspections. This standardized data will allow inspectors across Colorado to focus on recurring critical violations with much greater precision. Last year, Summit County Public Health implemented new technology to increase the efficiency of retail food inspections and increase the availability of reports to the public on our website (www.SummitCountyCO.gov/RestaurantInspections).

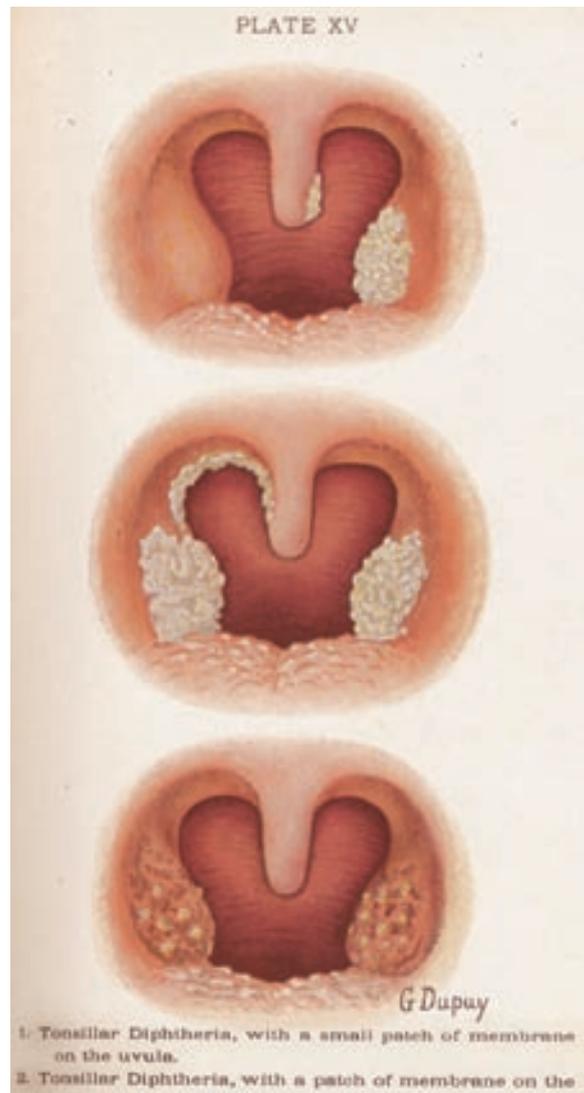
In 2015, Summit County Public Health conducted 648 retail food inspections.



Immunizations

How a disease outbreak inspired Alaska's famous Iditarod dog sled race

Something Old: The word "diphtheria" was coined in 1826, taken from the Greek word diphtherite, meaning "leather" or "hide," which resembles the coating that appears in the throat of a person who has contracted this bacterial infection.



In 1826, French physician Pierre Bretonneau first called the disease diphthérie, derived from the Greek word for "leather" or "hide," which describes the coating that appears in the throat. Source: HistoryofVaccines.org

teams were dispatched into temperatures below minus 60 F, to embark on a furious relay race from Nenana to Nome that took five-and-a-half days, cutting previous records in half. The journey enlisted 20 mushers and 150 dogs. Residents were immediately injected with the antitoxin, and three weeks later, the town's quarantine was lifted. Since 1973, the celebrated Iditarod race has been run annually in memory of this original sled dog relay.

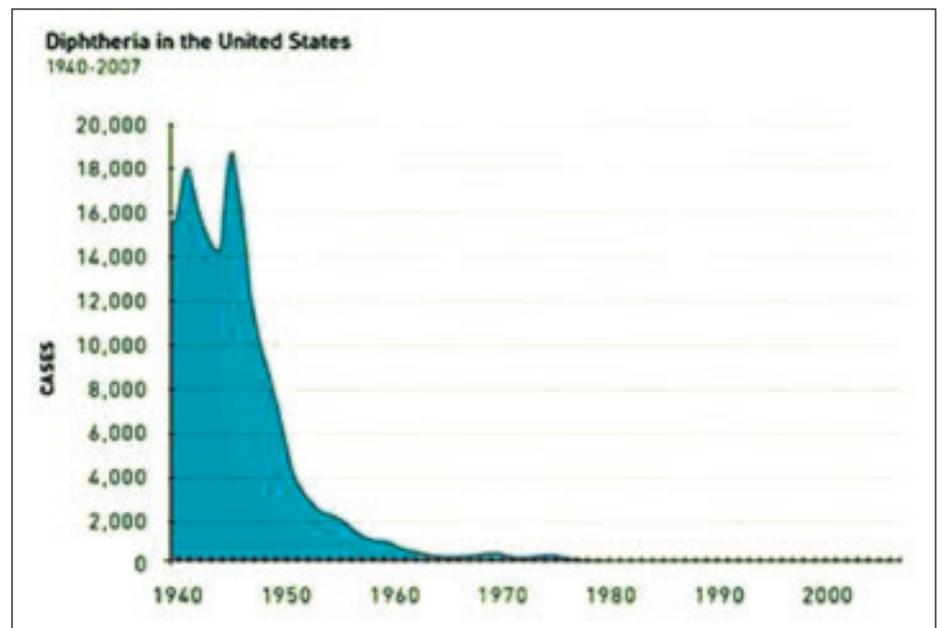
Prior to preventative immunization, diphtheria was a major cause of illness and death among children around the world. During the 1920s, 100,000-200,000 cases and 13,000-15,000 diphtheria-related deaths were reported every year in the United States alone.

In January 1925, children were dying in Nome, Alaska: Infected with diphtheria, they wheezed and gasped for air. Every day, new cases were diagnosed. In desperation, the town pleaded for the anti-toxin that could control the outbreak and save its children's lives. But the closest remedy was 1,000 miles away in Anchorage, and travel by plane, train and sea vessel was suspended for the harsh winter.

In response, dog sled



Balto led a sled team carrying diphtheria anti-toxin to Nome, Alaska in 1925. The inscription on the plaque below this bronze statue in New York's Central Park commemorates this feat.



Diphtheria cases in the United States have decreased from almost 20,000 cases per year in the 1940s to almost none today. Immunization for diphtheria has greatly reduced the spread of a disease, which once was called the "plague among children."

Something New: Five cases of diphtheria have been reported in the United States since 2000. The diphtheria immunization, routinely given since the 1940s, was hailed in our country as the end of the "plague among children." Globally, reported cases of diphtheria declined from 11,625 in 2000 to 4,880 cases in 2011. But because the disease still exists in the population, and global travel is constant, it is important to continue to immunize children and adults against diphtheria. There are four vaccines used to prevent diphtheria (DTaP, Tdap, DT and Td), which are also used to prevent tetanus and pertussis.

In 2015, Summit County administered 192 Tdap vaccinations to protect against diphtheria.

TOP 10 ACHIEVEMENTS IN PUBLIC HEALTH



1. Vaccination
2. Motor-vehicle safety
3. Safer workplaces
4. Control of infectious diseases
5. Decline in deaths from coronary heart disease and stroke
6. Safer and healthier foods
7. Healthier mothers and babies
8. Family planning
9. Fluoridation of drinking water
10. Recognition of tobacco use as a health hazard

Source: Centers for Disease Control & Prevention

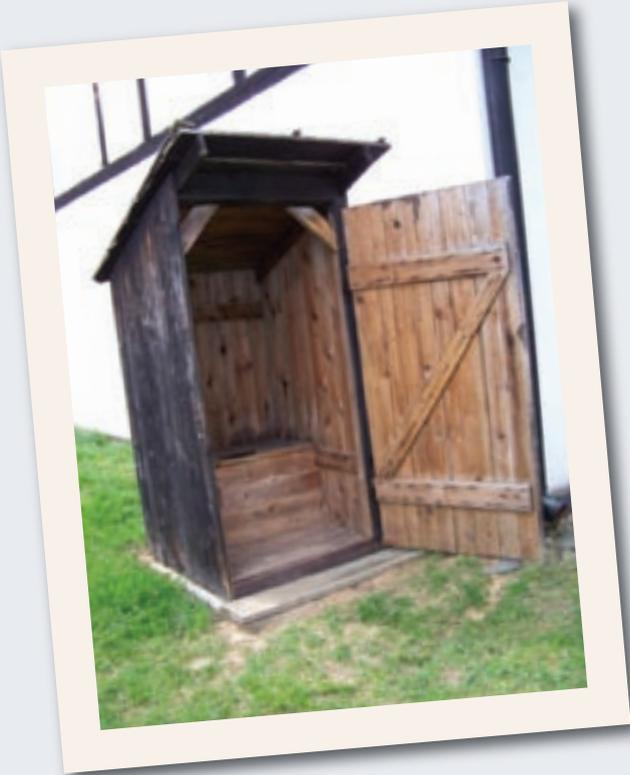
Wastewater Treatment System Oversight

Preventing wastewater-related health hazards

Something Old: Human waste and wastewater management have always been a challenge for civilizations. Throughout human history, improper management of wastewater has led to outbreaks of diarrheal illness and death. In 800 B.C., the Romans recognized this problem and developed trenches and ditches that carried wastewater out of the city. This worked well for the occupants of Rome, but not so well for people downstream. Colorado cities employed this same practice until the mid-20th century when Denver began treating its wastewater before discharging it to the South Platte River.

In Colorado's rural areas, the outhouse was the common method for human waste disposal. These were installed until the 1960s in Summit County and are still found in older neighborhoods, although they are rarely used. Outhouses weren't a bad idea at the time, but as plumbing systems in homes became more elaborate people dumped increasing volumes of water into their outhouses, creating cesspools. Water dumped into the outhouse subsequently carried waste into groundwater, rivers and lakes, causing contamination.

Something New: Modern wastewater systems focus on treatment rather than merely disposal. A modern septic system removes bacteria, viruses and 85-95 percent of phosphorus. It cleans wastewater through both physical and biological processes. The septic tank separates water from sludge and grease. Further treatment occurs in the drainfield so that any water reaching underground aquifers or streams is clean.

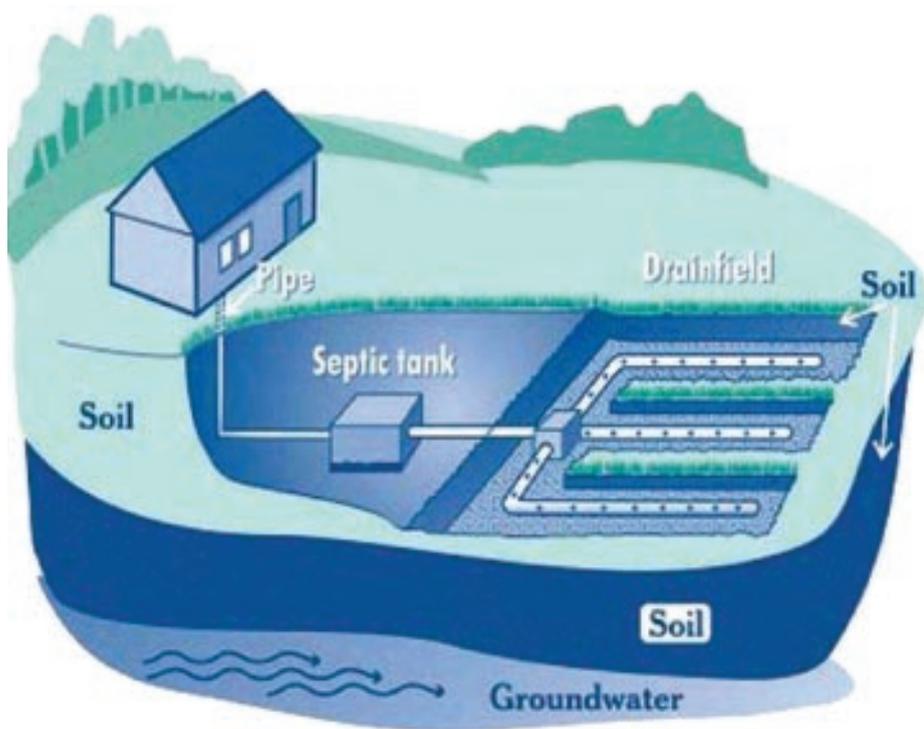


Diseases from Contaminated Water

In the late 1800s, **diarrheal diseases** were the sixth-leading cause of death in Denver.

An outbreak of **typhoid fever** in 1879 sickened 1,200 of Denver's 34,000 residents. The Board of Health partially blamed improper wastewater treatment.

In 2010, a **cholera outbreak** in Haiti sickened an estimated 665,000 Haitians and caused more than 8,000 deaths. The outbreak was blamed on poor wastewater treatment, exacerbated by a powerful earthquake and a hurricane.



To determine the appropriate size for a system, it's important to consider the number of users and the soil type. Systems must be designed to treat the amount of waste generated in the soils present. Sandy soil can treat more water than clay can. When wells or wetlands are close by, a higher level of treatment is required. If the system is not designed, installed and used properly, it will fail, resulting in serious potential impacts to water quality and human health.

Be Septic Smart!

- Public Health oversees the design and use of septic systems.
- All properties served by a septic system must be inspected at the point of sale.
- Be sure to pump septic tanks every 3-5 years, clean filters and repair any leaking plumbing fixtures to avoid stressing your septic system with extra water.



Public Health Nurse Deb Crook, 1992



Historically nurse home visits were presumed to make a difference for families. There is now a large body of evidence confirming this to be true.

Nurse Home Visitation

Changing the world one family at a time

Something Old: In 1993, Summit County had a prenatal program and "The Family Visitors Center," staffed by volunteers. The program provided support to pregnant and new mothers, including nutrition and child health information. Mothers received "Baby Bundles" made by Marilyn Burger, which included clothes, blankets, and shoes for the infants.

Something New: Studies have now confirmed that providing support to women during pregnancy and after an infant is born has significant positive impacts on the lives of both mothers and their children. Nurse-Family Partnership began serving Summit County and three surrounding counties (Lake, Gilpin and Clear Creek) in 2001. Our nurses visit each participating family for over two years. Program participation results in children who are better prepared for kindergarten, fewer unintended second pregnancies and mothers' increased ability to reach personal and work goals. Our program has grown during its 15-year history, adding Park, Chaffee and Grand counties to our service area.



For more than 23 years, Marilyn Burger has been making Baby Bundles for Summit County Public Health to distribute to families.

In 2015, Intermountain Nurse-Family Partnership served 201 clients; 36 mothers graduated from the program.



NFP Nurses: Sonata Ridzvanaviciute, Fran Jimenez and Jill Vesner



Communicable Disease/ Outbreak Investigation

Identifying the source of disease outbreaks

Something Old: Colorado's public health departments have a long history investigating communicable diseases and epidemics, dating back to the mid 1800s. In Colorado's infancy, the territory was described as a Mecca for those with tuberculosis and other communicable diseases who were seeking a more healthful environment. Even famed gunslinger Doc Holliday came to Colorado for its dry air, healing mineral waters and sparkling streams. But the boom of new arrivals created unsanitary conditions managed by underfunded health organizations. Communicable disease outbreaks and widespread illness were investigated through word of mouth or information gathered by church clergy, making it difficult to accurately report and control illness.

Something New: Today, we don't see large outbreaks of illnesses like diphtheria, typhoid fever or scarlet fever, which afflicted Colorado in its early days. This is largely because of the groundwork laid by local and state health departments over the past 100 years. Communicable disease investigations serve to identify the sources of disease and possible routes of exposure to the public. Through immunizations, modern medicine and information shared via disease reporting networks, public health professionals have much greater control over communicable disease, even as populations grow.

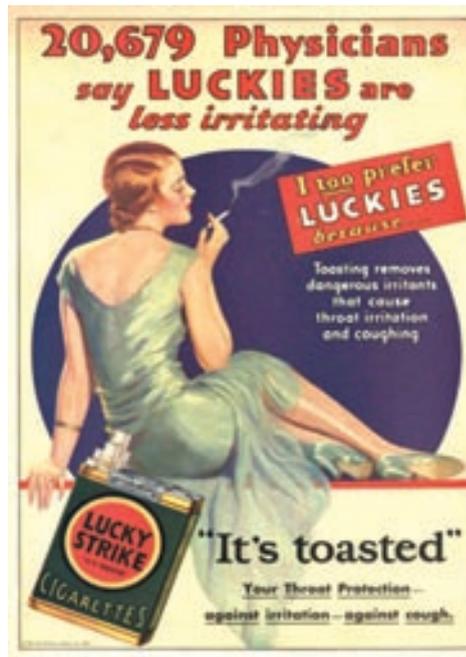
In 2015, Summit County Public Health investigated 42 communicable disease cases, ranging from giardia to pertussis, and we investigated 28 cases of possible food-borne illness at local restaurants.

Tobacco Prevention

Community education and updating policy

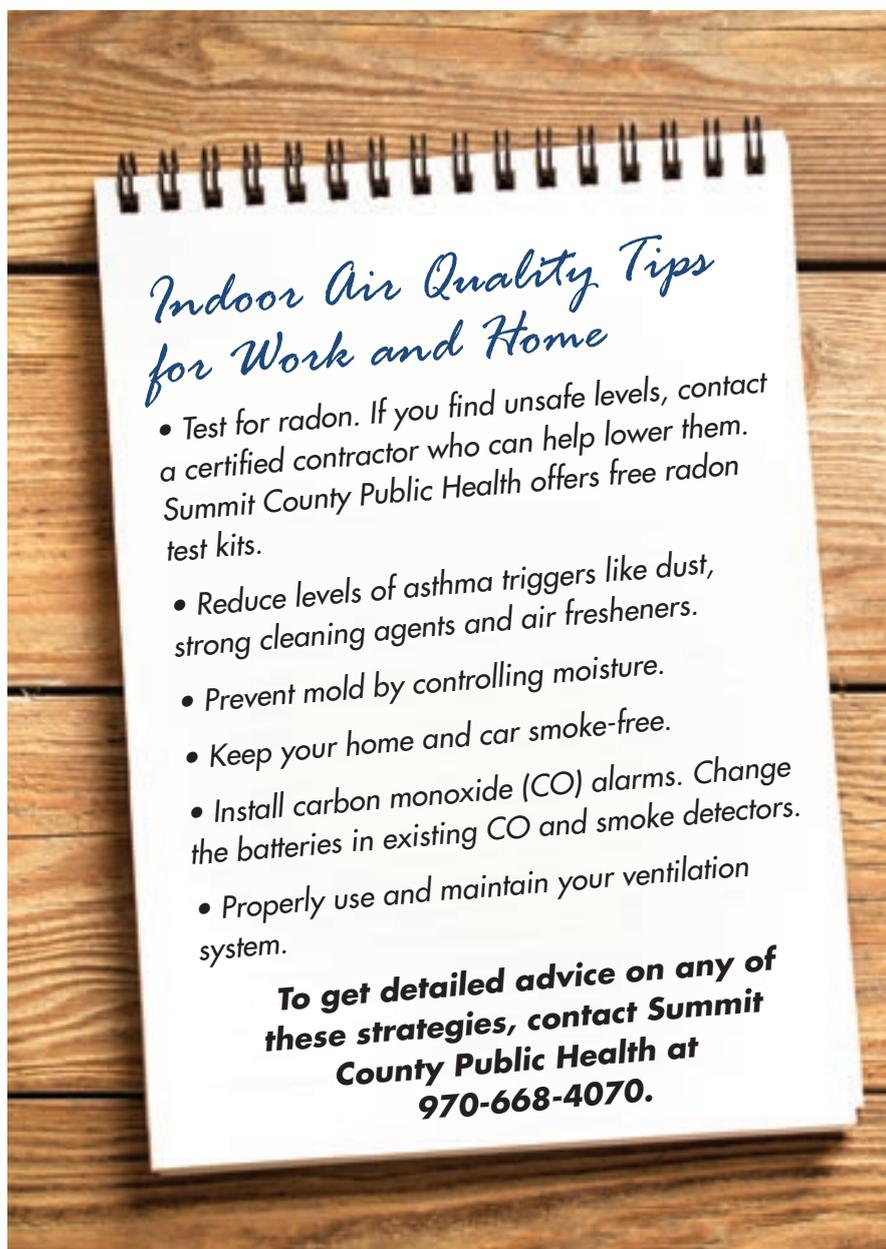
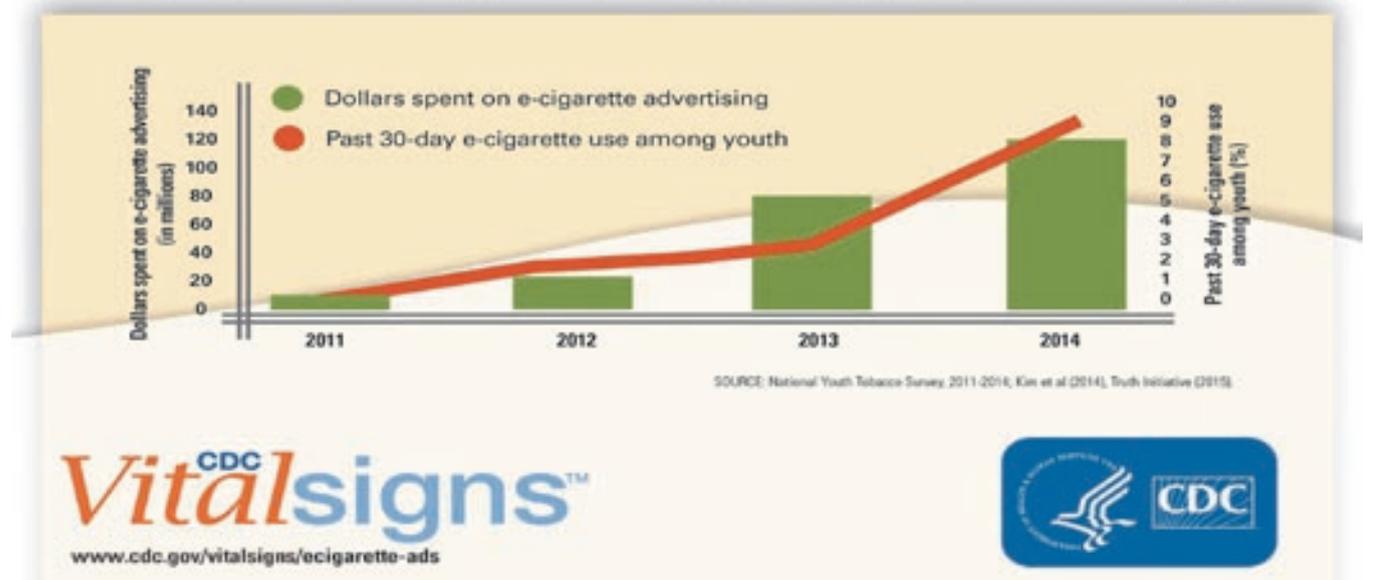
Big tobacco companies are resurrecting advertising tactics of old to entice a new generation of young people to use its addictive products: E-cigarette ads employ familiar themes of rugged independence, rebellion and sex appeal to market these new nicotine-delivery devices. Advertising of tobacco products has been shown to spur use by youth, which is troubling, given the recent rise in e-cigarette advertising. According to a new Vital Signs report from the Centers for Disease Control and Prevention, approximately 7 in 10 middle- and high-school students (more than 18 million young people) see e-cigarette advertising, whether in stores, online, in newspapers and magazines, on television or in movies. The unrestricted marketing of e-cigarettes has the potential to undo decades of progress in preventing tobacco use among youth.

The Summit County Public Health anti-tobacco teen coalition and adult task force have been working toward the common goal of promoting policy and education in our community to guard against the dangers of tobacco and other nicotine products.



Pictures of ads courtesy of Tobacco Free Kids www.tobaccofreekids.org

E-cigarette use among youth is rising as e-cigarette advertising grows



Indoor Air Quality

Helping Summit County residents and visitors breathe more easily

Something Old: Indoor air pollution has been a significant health threat throughout human history. Factors like poor ventilation, wood- and coal-fired heating and cooking, gas lighting and overcrowding have all contributed to unsafe indoor air conditions. Compounding this, it was once believed that coal smoke had antiseptic properties when breathed, which led to many carbon-monoxide-related deaths in the 1800s. Overcrowded living spaces gave rise to the term "crowd poison," as disease spread rampantly among those in close quarters with improper ventilation.

Something New: Today, we know that indoor air quality is one of the top five environmental risks to public health. We spend 60-90 percent of our time indoors, potentially exposing ourselves to a wide range of contaminants. Studies of these issues prompted the development of proper occupancy limits for buildings, better air-exchange and ventilation systems and cleaner heating and cooling solutions. Building materials such as lead and asbestos have been banned, resulting in healthier homes, schools, hospitals and workplaces. Likewise, modifying homes to properly vent deadly radon gas has life-saving implications.

Though many indoor air quality issues have been remedied, concerns persist. As we build tighter, more energy-efficient buildings, pollutants are trapped inside. Chemical cleaners, air fresheners, radon, cigarette smoke and pollutants from building materials and furniture continue to contribute to sick building syndrome, asthma, allergies, airway infections and cancers.

Summit County Public Health provides free residential radon test kits to the public. In 2015, we distributed 524 short-term kits and 12 long-term kits to local residents.



WIC

Supplemental Nutrition Program for Women, Infants and Children

Something Old: Motherhood has always been one big job. Choosing healthy foods while pregnant, learning how to breastfeed, finding the right resources for herself and her children and getting kids ready to enter school really does require a village. WIC has been providing all this support and more to mothers and families since 1974.

Something New: Those familiar with WIC likely know that the program provides families with vouchers for nutritious foods to ensure good health and development. In 2015, the monthly fruit and vegetable voucher was increased to \$11 for fresh or frozen fruits and vegetables for all women participants. Each child continues to receive an \$8 fruits and veggies voucher per month. In 2016, WIC will no longer be providing vouchers to take to the grocery store; instead, it will transition to an electronic debit card system that will streamline the shopping experience for our WIC participants.

In 2015, WIC provided grocery store tours, Spanish breastfeeding classes, and garden classes, in addition to one-on-one nutrition and breastfeeding consultations in the office.

Car Seat Safety

Personalized education and safety inspections

Something Old: Life without a car seat is unimaginable for most parents today. But when car seats first came onto the scene in the 1930s, they were used merely as the automotive equivalent of a playpen: The goal was convenience for parents – not safety. Back then, car seats were constructed of burlap sacks and drawstrings. The lack of emphasis on safety continued through the 1940s, as the seats “boosted” children up so that parents could keep an eye on their children and allow them to look out the window. Many of these models featured a toy steering wheel so Junior could pretend to drive.

The three-point seatbelt was introduced in 1959, paving the way for a new approach in car seat design in 1962, with safety as the primary goal. By 1968, several auto companies began designing car seats for crash protection. The first federal standards for car seats took effect in 1971, and Tennessee implemented the first child restraint law 1979. By 1985, all other states had followed suit. According to the Centers for Disease Control and Prevention, car seat use reduces the risk of death among infants by 71 percent and among toddlers by 54 percent; booster seat use reduces the risk of serious injury by 45 percent among children ages 4–8 when compared with seatbelt use alone.

Something New: Despite our progress, motor vehicle accidents continue to be a leading cause of death among children in the United States. CDC reports that of children under 12 who died in a crash in 2013, 38 percent were not buckled up. Additionally, child restraint systems are often used incorrectly. An estimated 59 percent of car seats and 20 percent of booster seats are misused in a way that could reduce their effectiveness.

Summit County Public Health provides personalized education and car seat safety inspections by a certified car seat safety technician. In addition to individual inspections, we provide community education at schools, child care centers and community events.



1960s Car Seat

Using the correct car seat or booster seat can be a lifesaver: make sure your child is always buckled in an age- and size-appropriate car seat or booster seat.

Age Group	Car Seat Type	Key Instructions
Birth up to Age 2*	Rear-facing Car Seat	Buckle children in a rear-facing seat until age 2 or when they reach the upper weight or height limit of that seat.
Age 2 up to at least age 5*	Forward-facing Car Seat	When children outgrow their rear-facing seat, they should be buckled in a forward-facing car seat until at least age 5 or when they reach the upper weight or height limit of that seat.
Age 5 up until seat belts fit properly*	Booster Seat	Once children outgrow their forward-facing seat, they should be buckled in a booster seat until seat belts fit properly. The recommended height for proper seat belt fit is 57 inches tall.
Once seat belts fit properly without a booster seat	Seat Belt	Children no longer need to use a booster seat once seat belts fit properly. Seat belts fit properly when the lap belt lays across the upper thighs (not the stomach) and the shoulder belt lays across the chest (not the neck).

Keep children ages 12 and under in the back seat. Never place a rear-facing car seat in front of an active air bag.

*Recommended age ranges for each seat type vary to account for differences in child growth and height/weight limits of car seats and booster seats. Use the car seat or booster seat owner's manual to check installation and the seat height/weight limits, and proper seat use.

Child safety seat recommendations: American Academy of Pediatrics. Graphic design: adapted from National Highway Traffic Safety Administration. www.cdc.gov/motorvehiclesafety/cps



Child care consultations: **138**

Child care consultation hours: **267**

Car seat inspections: **17**



Pool/hot tub complaints investigated: **5**

Restaurant complaints investigated: **57**



Free radon test kits distributed: **536**

Private wells tested: **67**



Early Intervention participants: **53**



Tobacco Free Baby and Me participants: **12**

Tobacco Free Baby and Me counseling sessions: **76**

Foodborne illness investigations: **28**



Prenatal care coordination appointments: **46**

Healthy Communities contacts: **600**



Onsite wastewater treatment (septic) systems:

- Failures corrected: **23**
- Inspections: **488**
- Construction permits issued: **83**



Child care inspections: **37**

Communicable disease investigations: **42**



Immunizations administered: **1,793** immunizations to **1,213** individuals

Intermountain Nurse-Family Partnership clients: **201** families



Intermountain Nurse Family Partnership visits: **1,702**

WIC clients: **320**

WIC appointments: **1,501**



Restaurant inspections: **648**

Temporary food vendor inspections: **190**

Child hearing screenings: **352**



Child vision screenings: **314**



Public Health
Prevent. Promote. Protect.



GROW TO SHARE

A partnership of High County Conservation Center, the Family and Intercultural Resource Center and WIC



In 2015, we distributed 265 pounds of locally grown, fresh produce to Summit County families, including 156 WIC families.

