The Determinants of Health

- Health Care
- Social
- Environmental
- Genetics
- Behavior

Tri-County Health Department

2016 Annual Report • Published June 2017
FROM THE EXECUTIVE DIRECTOR

Dear Friends,

I am pleased to present Tri-County Health Department’s 2016 Annual Report and share with you examples of the many ways we are working to help improve the health of the residents of Adams, Arapahoe and Douglas Counties.

The theme of this Annual Report is “The Determinants of Health.” As depicted on the cover and in this pie chart, there are five groups of factors that contribute to an individual’s health – individual behavior, social factors, the environment, health care, and genetics. At TCHD, we have opportunities to impact the first four of these areas, each of which can make a difference in an individual’s opportunity to achieve optimal health.

Unfortunately, these opportunities vary dramatically for different groups of people, creating health inequities between different populations and communities. While a person’s choices have the greatest impact in the area of behavior, they can be limited by the options that exist in their community. For example, a person might want to eat healthier foods, but if their community does not have a grocery store that sells affordable fresh fruits and vegetables, it is harder to make healthy choices. Social factors—such as education, employment, and income—directly influence where and how people live, work, and play. People with fewer resources tend to live in environments that are less conducive to good health; it is more difficult to exercise safely when your neighborhood doesn’t have sidewalks or has frequent incidents of gun violence. Finally, while many uninsured people have gained health insurance over the past several years, they can’t receive health care if they don’t know how to sign up or if they can’t find providers in their community who will accept their newly acquired insurance.

Throughout this Annual Report, you will find examples of the work we are doing to help address these determinants of health, thus increasing the opportunities for all of our residents to live healthier lives. In some cases, we provide services that directly impact individual opportunities, such as assisting people to enroll in Medicaid. In other cases, we are serving in a broader role of “Chief Community Health Strategist,” in which we “work to mobilize community action, strengthen infrastructure, and form strategic partnerships across sectors and jurisdictions.” In order to most effectively serve in this role, TCHD is working to strengthen our infrastructure in areas such as informatics and data analytics; strategic communication; partnership development; and performance management and quality improvement.

These efforts are called out in our agency Strategic Plan, which also features focused work on five high priority population health issues identified through our Community Health Assessment, with recent highlights of this work summarized on the facing page.

As always, we look forward to working with our communities to address these determinants of health and carry out the important work entrusted to us to promote, protect, and improve the health of the residents of Adams, Arapahoe, and Douglas Counties.

Sincerely,

John M. Douglas, Jr., MD
Executive Director

AGENCY VISION
Optimal health across the lifespan for the populations we serve.

AGENCY MISSION
Promote, protect and improve the lifelong health of individuals and communities in Adams, Arapahoe and Douglas Counties through the effective use of data, evidence-based prevention strategies, leadership, advocacy, partnerships, and the promotion of health equity.

Pie chart: McGinnis JM, Russo PG, Knickman JR. Health Affairs April 2002
TCHD Strategic Plan Update

In our five-year strategic plan, TCHD is focusing on five population health priorities that have the potential to have the greatest impact on the health of the communities we serve. The following are some of the highlights from our work in these areas in 2016:

**Obesity and Chronic Disease Prevention**
- TCHD is partnering with other local health departments in the Denver metro area to implement the Healthy Beverage Partnership, which developed a campaign to raise awareness of the high sugar content of many of the beverages that parents give to their children.
- TCHD is working with a coalition of community organizations, health care providers and businesses to produce the Healthy Food Pantry Toolkit to increase the number of food banks/pantries that provide healthy food and beverage options, as well as appropriate foods for people with chronic diseases, specific dietary preferences, and those who are homeless.

**Tobacco and Substance Abuse Prevention**
- TCHD worked with many community partners to launch the Aurora Syringe Access Services, where people who inject drugs are provided clean injection supplies, to help prevent transmission of diseases such as HIV and Hepatitis C, as well as naloxone, to help reverse potentially fatal overdoses.
- TCHD is leading the development of community coalitions—including law enforcement, hospitals, mental health, school districts, faith-based organizations, civic groups, and community members—that are working on preventing youth use/abuse of alcohol, marijuana, and other illegal and prescription drugs. To date, the partners have accomplished a needs assessment; evaluated factors that drive youth to use substances; and identified tactics needed to reduce the likelihood that a teen will use drugs.

**Enhancing Interactions with the Health Care Delivery System**
- Human Papillomavirus (HPV) causes several types of cancer in men and women, and TCHD is part of a Metro-Denver regional partnership that created a campaign to promote HPV vaccination of teens. We also support health care providers in their effort to encourage parents to get their children vaccinated.
- TCHD continued our work with the nine not-for-profit hospitals in our jurisdiction as they developed their Community Benefit Plans, which had identified mental health and/or obesity prevention as priorities. All of the hospitals joined our mental health stigma reduction campaign partnership and many also included obesity prevention components.

**Healthy Human Environments**
- TCHD worked collaboratively with the Denver Regional Council of Governments and three other local health departments on the recent update of DRCOG’s Metro Vision planning process, incorporating community health into the plan for the first time in the history of Metro Vision.
- TCHD is partnering with Boulder, Denver, Jefferson and Broomfield County health departments on a three-year regional radon grant targeting realtors, building officials, home builders, and new home-buyers and sellers with the goal of reducing the number of homes in the region in which occupants are exposed to radon.

**Mental Health Promotion**
- As part of Colorado’s State Innovation Model grant, TCHD is leading a partnership that includes local public health agencies, community mental health centers, health care providers, hospitals and others to develop the “Let’s Talk Colorado” campaign to help reduce the stigma associated with mental health issues, so that people who need treatment are more likely to seek it.
- Similarly, TCHD is collaborating in a statewide partnership to disseminate the “You Are Not Alone” campaign to raise awareness of pregnancy-related depression among the public and health care providers, and encourage new mothers to get help.
Giving birth during the teen years has been linked with increased medical risks as well as emotional, social, and financial costs to the mother, her children, and to society. TCHD works to reduce these impacts by offering long acting reversible contraception (LARC) in its Family Planning clinics, which has contributed to the dramatic reductions in teen births reflected in the graph above.

Improving education, employment and income are factors that greatly improve health, and TCHD programs help address other factors including access to healthy foods through our WIC program; improved access to care for vulnerable populations such as children, older adults, and low-income individuals; and nurse home visits that improve family stability, mental and physical health, and economic self-sufficiency.

Social Factors
Growing up in poverty sets kids up for a lifetime of health issues. Poverty is a potent risk factor for infant mortality, teen pregnancy, chronic diseases, poor nutrition, smoking, substance abuse, inadequate access to health care, and decreased life expectancy.

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a federal assistance program that provides nutrition counseling, breastfeeding support, referrals, and eWIC debit cards to buy nutritious foods. WIC contributes to improved pregnancies and healthier children, resulting in better health and dramatic savings in Medicaid costs.

TCHD has the largest network of WIC clinics in Colorado, and in 2016, TCHD’s 22,943 WIC clients received a monthly average of $56.53 worth of healthy groceries with a retail value of $16,021,349 which also benefits our local economy.

Giving birth during the teen years has been linked with increased medical risks as well as emotional, social, and financial costs to the mother, her children, and to society. TCHD works to reduce these impacts by offering long acting reversible contraception (LARC) in its Family Planning clinics, which has contributed to the dramatic reductions in teen births reflected in the graph above.

In 2016, TCHD nurses made 15,130 home visits for prenatal education, child development, parenting skill building and community referrals through two TCHD programs: Nurse Family Partnership (NFP) and Nurse Support. Also, TCHD nurses work closely with Human Services’ child protection units to investigate and resolve child neglect and abuse.

The NFP program pairs a TCHD nurse with low-income women who are pregnant with their first child. Based on three decades of extensive research, this nationwide program has been proven to reduce child abuse/neglect, behavioral/intellectual problems, and maternal and child mortality. Overall, it nurtures successful parents, improves child development, leads to improved mental and physical health, and increases economic self-sufficiency. In 2016, our Nurse-Family Partnership provided 7,565 home visits to 687 clients.
Environmental Factors

Your ZIP code can be more important to your health than your genetic code! The environment in which we live, work, play and age has a profound effect on our health. The way a community is planned and built—including its buildings, housing, sidewalks, public spaces and transportation—is a key determinant of health, affecting threats such as obesity, diabetes, asthma, and stress.

TCHD improves environmental factors through land development and comprehensive plan reviews; air and water quality programs; inspections of restaurants and child care centers; lead poisoning education; radon testing; community household chemical roundup events; the promotion of smoke-free environments; issuing health alerts; conducting disease outbreak investigations; all-hazards preparedness and response; and supporting community-driven policies that improve health.

In 2016, TCHD conducted 79 disease outbreak investigations. 1,987 individuals were investigated for conditions as diverse as influenza, *Shigella, E. Coli*, norovirus, *Salmonella* and Zika virus.

Noteworthy efforts included preventing the spread of measles to the community from an unvaccinated infant following a visit to a foreign country; investigating the first-ever progression of skunk rabies from rural areas into numerous locations inside of the metro Denver area; and educating providers about prevention of complications of Zika virus infection.

In 2016, TCHD performed a total of 10,606 restaurant, foodservice, child care center, and public pool/spa inspections; as well as 450 land development and land use plan reviews.

TCHD provides multi-disciplinary Emergency Preparedness and Response services, including community trainings, support services and preparedness fairs. In 2016, 39 health alerts were sent to our network of 5,026 partners including municipalities, schools, hospitals, health care providers, and emergency response agencies.
Behavioral Factors
Positive changes to individual behavior can reduce the risk for developing a variety of diseases, and have a huge impact on physical health, mental health, and lifelong well-being.

TCHD and our community partners provide services that promote healthy eating and active living; breastfeeding support; injury prevention; mental health; and worksite wellness. We also provide services that combat the causes of major illness and disability in the United States: tobacco use; substance abuse; sugary drinks; obesity; and the chronic diseases such as heart disease, cancer and stroke.

15.1% of U.S. adults currently smoke, and smoking remains the leading cause of preventable disease, disability, and death.

TCHD works with community partners to develop or advocate for policies and programs designed to decrease youth initiation and access to all types of tobacco; increase tobacco-free environments; reduce exposure to secondhand smoke; increase cessation across the lifespan; and promote community awareness through the use of paid media and events such as “Kick Butts Day!”

In response to growing concern about the epidemic of opioid overdose deaths, TCHD facilitates the Tri-County Overdose Prevention Partnership, with goals of preventing overdose deaths through six strategy areas: youth prevention, public awareness, provider education, safe disposal, naloxone drug-overdose antidote, and addiction treatment. The darker areas on the map to the right indicate higher concentrations of opioid deaths.

There were 475 opioid-related deaths in the TCHD region from 2010–2015:
- Adams County: 259
- Arapahoe County: 142
- Douglas County: 74
- Colorado: 1,788

To combat obesity, TCHD works with our communities to maximize residents’ access to healthy foods and opportunities for physical activity for all ages and abilities. We accomplish this through numerous diverse programs including WIC services for 22,943 clients; 77 nutritional community educational outreach events with 4,186 attendees; 70 Worksite Wellness partnerships benefiting 20,551 employees; 24 balance classes for 296 older adults; and by incorporating health considerations into policies that can help improve community walkability, traffic safety, increased healthy food access, and active living areas. Notably, there has been a significant reduction in Colorado children enrolled in WIC who are overweight or obese over the last five years.
Health Care Access

Individuals need to take responsibility for their own health, but they also need access to a health care system that can prevent unhealthy conditions and help maintain their health, not just treat illness and disease.

TCHD helps improve the health of the entire population by providing access to health care for vulnerable populations; linkages to Medicaid and Child Health Plan Plus for uninsured individuals; and preventive health services such as family planning and immunizations.

Vaccines prevent disease and save lives.

22,379 immunizations were given by TCHD in 2016 for influenza; measles, mumps and rubella; hepatitis A and B; meningitis; polio; tetanus, diphtheria and pertussis; HPV; pneumonia; chickenpox; and shingles.

TCHD helps enhance clients’ interactions with the health care system by facilitating applications to health insurance, and through our work with key community partners.

Enrollment in Colorado Medicaid and Child Health Plan Plus has expanded dramatically in the last few years, and the TCHD jurisdiction now accounts for 336,669 insured individuals—24% of all Colorado individuals covered by these programs.

Improved access to health insurance enables more people to get the health care they need, leading to longer, healthier lives. We have seen a decrease in the number of uninsured residents through greater access to medical and preventive health services. In 2016, TCHD provided 45,953 linkages to Medicaid enrollment and efficient utilization of health care. We coordinate care for clients including complicated medications, multiple appointments, or even solving transportation issues.

In 2016, 9,991 TCHD Family Planning clients were provided 12,141 individual exams or visits, and received 681 long-acting reversible contraceptives (LARC).

In addition, 66,535 free condoms were distributed to prevent disease and unplanned pregnancy. TCHD nurses also provided 62 sexual health presentations to area high schools, reaching over 2,000 students.
**Administration:**

John M. Douglas, Jr., MD
Executive Director

Michele Asknezai, MPH, CHES
Director of Emergency Preparedness and Response

Jill Bonczynski, MS, RD
Director of Nutrition

Ronnae Brockman
Executive Assistant

Patty Buckle, MBA
Interim Director of Administration and Finance

Bob Flores, MBA, CPA
Director of Administration and Finance - In Memoriam: 2/18/1955 - 3/30/2017

Mame Fuhrman
Director of Human Resources

Brian Hvacecek, MAS, REHS
Director of Environmental Health

Jennifer Ludwig, MS
Deputy Director

Jeanne North, RN, MS
Director of Nursing

Stacy Weinberg, MA
Director of Epidemiology, Planning and Communication

**Board of Health:**

Carole Adducci, RN, BS
Adams County

Jan Brainard, RN, BS
Arapahoe County

Thomas Fawell, MD
Arapahoe County

Kaia Gallagher, PhD
Arapahoe County, President

Marsha Jaroch, NP
Douglas County

Paulette Joswick, RN, BSN
Douglas County, Secretary

Zachary Nannestad, MPH
Douglas County

Rosanna Reyes, RN, MPA
Adams County

Naomi Steenson, MS, RD
Adams County, Vice President

**Annual Report:**

Gary Sky
Public Information Officer and Head of Creative Services – Annual report author/designer

We welcome your comments. Contact: gsky@tchd.org

For individual county health profiles, to read a yearly review of each division, or for more information visit www.tchd.org

---

**Select Public Health Services Provided in 2016**

**Communicable Disease Control:**
Disease outbreak investigations – incidents 79
Communicable disease investigations – individuals 1,987
Outbreaks – Child Care Centers 17
Outbreaks – Long-Term Care Facilities 43
Outbreaks – Restaurants 10
Outbreaks – Other (Church potlucks, catering, etc.) 9

**Emergency Preparedness and Response:**
Health alerts sent/network recipients 39 / 5,026

**Environmental Health Services:**
Childcare center inspections 1,001
Land use plan reviews 450
Pounds of household hazardous waste recycled 478,339
Public swimming pool/spa inspections 696
Restaurant/retail food establishment inspections 8,909
Septic system permits 591

**Healthcare Access:**
Medicaid/CHP+ applications: 1,659
Medicaid linkage and educational interactions 45,953

**Nursing Services:**
Family Planning program clients/visits 9,991 / 12,141
Immunizations given 22,379
Nurse-Family Partnership clients/visits 687 / 7,565

**Nutrition Services:**
Breastfeeding peer counseling contacts 10,524
Community nutrition class attendees 4,186
WIC food vouchers – retail value $16,021,349
WIC – Total clients/contacts 22,943 / 107,127

**Public Health Communications:**
Twitter followers 1,587
Website visits 231,307

**Tobacco Prevention and Cessation:**
Youth-created media campaign impressions 15,695,948
Students impacted by TCHD tobacco prevention efforts 207,984

**Vital Records:**
Birth certificates 24,381
Death certificates 61,870

---

Information sources and credits: American Community Survey, U.S. Census Bureau; American Public Health Association; Behavioral Risk Factor Surveillance System; CDC; Colorado Department of Public Health and Environment; Colorado Health Institute; DRCOG; Hopkins Bloomberg Public Health; Thinkstock; Tri-County Health Department; and U.S. Department of Health and Human Services.

©2017 Tri-County Health Department. All statistics reflect the most recent data available. Please contact us with any corrections or omissions. Tri-County Health Department values and welcomes people of all ages; ethnicities; genders and gender identities/expressions; sexual orientations; languages spoken; nationalities and cultures; physical, mental and developmental abilities; races; religions; and socio-economic, insurance and immigration status.

---

**2016 County Appropriations**

Adams County $3,244,298
Arapahoe County $4,147,820
Douglas County $2,104,227

**Total County Appropriations $9,496,345**

(A per capita contribution of $6.51)

**2016 Population Base**

Adams County 498,356
Arapahoe County 637,146
Douglas County 322,230

**Estimated Total Population 1,458,732**

**2016 Statement of Revenue and Expenses**

(Audited)

Total Revenue $37,975,668
Total Expense $37,808,911
Change in Fund Balance $166,757

**TCHD Balance Sheet**

Total Assets $23,634,005
Total Liabilities $3,945,163
Fund Balance $19,688,842

---

**2016 Total Revenue $37,975,668**

State and federal appropriations and grant funds $19,613,614
Grants and contracts $937,356
County revenue $11,172,892

**2016 Total Expenses $37,808,911**

Salaries, wages and benefits $20,585,298
Operating costs $8,599,514
Capital improvements $2,112,054

---

Information printed on recycled paper by Tewell Warren Printing, a printer with Forest Stewardship Council® certification, the industry’s highest social and environmental standard. www.fsc.org