

CURRICULUM VITAE

Tessa Crume, PhD, MSPH

Updated January 2023

Current Appointments

- 2018- Associate Professor, Colorado School of Public Health, Department of Epidemiology
- 2018- Associate Professor, University of Colorado School of Medicine, Department of Obstetrics & Gynecology
- 2020- Program Director, Doctoral and Master's Programs in Epidemiology, Colorado School of Public Health

Education

- 1997 Bachelor of Science, Microbiology, Colorado State University, Fort Collins, CO
- 2001 Master of Science in Public Health, University of Colorado Health Sciences Center, Department of Preventive Medicine. Thesis: Under-ascertainment of Child Maltreatment Fatalities by Death Certificates. Advisor: Carolyn DiGuseppi
- 2010 Doctor of Philosophy, Epidemiology, Colorado School of Public Health. Dissertation: The Impact of *In Utero* Exposure to Maternal Diabetes on Childhood Growth Trajectories and Obesity Patterns. Mentor: Dana Dabelea

Academic Appointment and Positions

- 2011-2017 Assistant Professor, Colorado School of Public Health, Department of Epidemiology
- 2013-2020 Program Director, Doctoral and Master's Programs in Epidemiology, Colorado School of Public Health

Professional Positions

- 1997-2000 Professional Research Assistant, University of Colorado Health Sciences Center
- 2000-2007 Epidemiologist, Colorado Department of Public Health and Environment
- 2007-2011 Program Evaluation Consultant, Centers for Disease Control and Prevention, Division of Adolescent and School Health (DASH), Chronic Disease Prevention Branch, Contract through Rocky Mountain Center for Health

Honors and Awards

- 2012 International Society for Developmental Origins of Health and Disease Travel Stipend
- 2016 Alpha Upsilon Chapter of Delta Omega National Honorary Society in Public Health
- 2019 Faculty Excellence in Student-Mentored Research, Colorado School of Public Health
- 2019 Faculty Sponsor Award, Graduate School, University of Colorado

Professional Affiliations

- 2011-12 Member, International Society for Developmental Origins of Health and Disease
- 2015- Member, Society for Epidemiologic Research
- 2015- Member, American Diabetes Association
- 2016- Member, American Society for Nutrition
- 2017- Member, American Heart Association
- 2020- Member, Adult Congenital Heart Association
- 2021- Member, Black Mamas Matter Alliance

Professional Leadership and Service

International/National Service

- 2014-2016 Maternal Child Health Bureau (MCHB), Health Resources & Services Administration (HRSA), U.S. Department of Health and Human Services (US DHHS), MCHB Performance Measures Workgroup
Role: Advisor
- 2016- Centers for Disease Control and Prevention, HRSA, US DHHS, Congenital Heart Public Health Consortium
Role: Scientific Advisor
- 2016- Society for Epidemiology Research, Committee on Diversity and Inclusion in Epidemiology
Role: Member
- 2017 Society for Epidemiologic Research, 50th Anniversary Annual Meeting
Role: Judge for Early Stage Investigators Poster Session
- 2017 American Society of Nutrition, Experimental Biology Conference
Role: Session moderator “Childhood nutritional epidemiology”
- 2017 American Society of Nutrition, Experimental Biology Conference
Role: Judge for Emerging Leader Poster Competition
- 2018 Centers for Disease Control and Prevention, Obesity Prevention and Control Branch, Childhood Obesity Data Initiative
Role: Scientific Advisor
- 2018-20 Society for Epidemiologic Research, Annual Meeting
Role: Abstract Reviewer
- 2020 Adult Congenital Heart Association
Role: Scientific Advisor for the Access to Care Work-group
- 2019-20 International Consortium on Teaching Epidemiology: a multi-national effort to define core competencies for epidemiologists in academic settings. University of Zurich.
Role: Member of International Consortium
- 2021- American Diabetes Association, 81st Scientific Sessions
Role: Abstract Reviewer

State Service

- 2007-08 Colorado Health Data Advisory Group
Role: Chair
- 2016- Colorado Department of Public Health and Environment, Maternal and Child Health Data Advisory Committee
Role: Scientific Advisor

University of Colorado Anschutz Medical Campus (AMC) Committees

- 2014- Program Directors Committee, Graduate School
- 2017- Cannabis Research Committee
- 2017- Perinatal Research Network
- 2020- Graduate Council, Graduate School

Colorado School of Public Health – School-wide Committees

- 2012-16 Maternal Child Health Program Development Committee
Role: Developed epidemiology curriculum for MCH program
- 2012-14 Admissions Committee MPH
Role: Developed guidelines for admissions review for Epidemiology Dept. and reviewed applications
- 2014 Admissions Committee MPH MCH concentration

- 2018- Role: Admissions review
Education and Curriculum Committee (ECC)
- 2020 Role: Chair and Epidemiology Department representative
Search Committee
Position: Associate Dean for Equity and Inclusion
Role: Member
- 2021 Gender Equity in Academia
Role: Member
- Department of Epidemiology*
- 2012- Epidemiology Department Education and Curriculum Committee
Role: Member
- 2013- Admissions Committee, MS and PhD Program in Epidemiology
Role: Chair and reviewer
- 2016 Search Committee
Position: Department Administrator
Role: Member
- 2016-18 Hoffman Infectious Disease Scholarship Selection Committee
Role: Reviewer
- 2018-19 Search Committee
Position: Tenure-track Assistant or Associate Professor
Role: Chair
- 2019- Epidemiology Department Appointment and Promotions Committee (DAPCO)
Role: Member

Review, Referee and Editorial Activities

Editorial

- 2019- Population Health Metrics Journal
Role: Associate Editor

Professional Society Review Activities

- 2014-21 American Diabetes Association
- 2017-19 Society for Epidemiologic Research

Journal Peer Review Activities

- 2011-2020 Diabetes Care
- 2011-2018 Diabetologia
- 2012-2019 Diabetes
- 2013-2014 Journal of Nutrition Education and Behavior
- 2013-2016 Journal of Developmental Origins of Disease
- 2012-2020 Pediatric Obesity
- 2013-2015 Journal of Adolescent Health
- 2014- Maternal Child Health Nutrition
- 2014 Journal of Clinical Endocrinology and Metabolism
- 2013-2016 International Breastfeeding Journal
- 2014-2016 Diabetic Medicine
- 2014-2015 Obesity
- 2015 International Journal of Child Health and Nutrition
- 2015-16 European Journal of Pediatrics
- 2015 Journal of Health Promotion Practice
- 2016 Viral Immunology

2017- International Journal of Obesity
 2017- JAMA Pediatrics
 2017- Journal of Maternal and Child Health
 2017- Journal of Pediatrics
 2018- American Journal of Clinical Nutrition
 2018- American Journal of Epidemiology
 2018 Nature Endocrinology
 2019- American Journal of Obstetrics & Gynecology
 2019 Pediatric Diabetes
 2019 BMC Psychiatry
 2020 American Heart Journal
 2020 Pediatrics
 2020 Pediatric Endocrinology
 2021 Journal of Perinatology

Grant Review

2008 Colorado State Tobacco Education and Prevention Partnership
 2008 Colorado Physical Activity and Nutrition Program
 2016 Research Council United Kingdom – Medical Research Council
 2016 Ohio University Research Committee
 2015-16 Colorado Clinical & Translational Sciences Institute (CCTSI) Maternal and Child Health Pilot Grant
 2015 Health Services Research Development Grant, CU-AMC
 2023 Colorado Clinical & Translational Sciences Institute KTR

Invited Lectures, Presentations and Workshops

International/National

2012 National Symposium on Milk and Lactation: Defining the Critical Questions
 University of Colorado School of Medicine
 Aurora, Colorado, January 18-20, 2012
 Session: Breastfeeding and the At-Risk Neonate
 Title: “Early life programming for obesity and the impact of breastfeeding”
 2014 American Diabetes Association 74th Scientific Sessions
 San Francisco, California, June 13-17, 2014
 Session: Longer-term Consequences of Gestational Diabetes on Offspring
 Title: “Obesity in offspring of diabetic mothers and the impact of breastfeeding”
 2017 International Diabetes Foundation 2017 Congress
 Abu Dhabi, United Arab Emirates, December 4-8, 2017
 Symposium: “Offspring of women with diabetes”
 Title: “Obesity and metabolic syndrome in offspring of women with diabetes”
 2019 Great Wall International Congress of Cardiology
 Beijing, China, October 11, 2019
 Title: “Surveillance of Congenital Heart Defects in Adolescents and Adults in the United States”
 2019 Adult Congenital Heart Association Regional Conference
 Aurora, Colorado, May 4, 2019
 Title: “Adults and Adolescents with CHD and Mental Health Diagnoses”
 2020 24th Annual National Perinatal Diabetes Conference: Changing Times/Changing Care.
 Virtual, November 9th, 2020.

Title: “Long-term impact of breastfeeding on childhood adiposity among children exposed to diabetes in utero.

State/Local

- 2010 Colorado Department of Public Health and Environment
Denver, CO, March 21, 2011
Title: “Obesity, diabetes and pregnancy: the short and long-term consequences for women and their offspring”
- 2011 Perinatal Research Center Seminar Series
Department of Pediatrics, October 12, 2011
Title: “Epidemiological evidence of fetal programming”
- 2011 Program in Reproductive Sciences Lecture, November 1, 2011
Title: “The consequences of fetal over-nutrition and early infant diet on offspring growth and adiposity”
- 2014 Tobacco Education, Prevention and Cessation Grant Program Review Committee, Colorado Department of Public Health and Environment, May 6, 2014
Title: “Secondary analysis of evaluation of the Baby and Me Tobacco Free program”
- 2014 Pediatric Nutrition Seminar Series, Department of Pediatrics, February 13, 2014
Title: “The long-term impact of postnatal diet on growth patterns and body composition”
- 2015 Tobacco Education, Prevention and Cessation Grant Program Review Committee, Colorado Department of Public Health and Environment, June 19, 2015
Title: “Impact of a prenatal smoking cessation program targeting low-income women in Colorado”
- 2018 Public Health in the Rockies, Colorado Public Health Association
Copper Mountain, Colorado, August 29, 2018
Title: “Cigarette, e-cigarette, marijuana and alcohol use among pregnant and postpartum women – Colorado Pregnancy Risk Assessment Monitoring Survey”
- 2018 Tobacco Prevention Advisory Committee, Colorado Department of Public Health and Environment, June 21, 2018
Title: “The impact and cost savings of the Baby and Me Tobacco Free Program in Colorado”
- 2019 Public Health in the Rockies, Keystone, CO, August 29, 2019
Title: “Findings from the Colorado Congenital Heart Defects Surveillance System”
- 2019 Preventative Medicine Residency, Epidemiology Seminar Series, May 9, 2019
Title: “CHORDS: Distributed Query of Electronic Health Record Systems for Surveillance and Research”
- 2019 Change Agent, Center for Improving Value in Health Care, April 30, 2019
Title “Surveillance of Congenital Heart Defects Across the Lifespan”
- 2022 Lifecourse Epidemiology of Adiposity and Diabetes Center, March 14, 2022. Title: “Prenatal cannabis use and the association with neonatal brain morphology”

Teaching Record

Educational Leadership

- 2013-2020 Co-Director, Doctor of Philosophy (PhD) and Masters of Science (MS) Program in Epidemiology
Oversee curriculum, admissions, advising of all PhD and MS students and weekly journal club. I developed a research assistantship policy to support PhD and MS students and lead the department’s efforts in our 2019 application for accreditation by the Council on Education for Public Health (CEPH).

2020- Director, Doctor of Philosophy (PhD) and Masters of Science (MS) Program in Epidemiology
Oversee curriculum, admissions, advising, weekly journal club and supervision of student research assistantship program.

Training Grants

July 2013-June 2016

U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA). Advanced Nursing Education Grants: “Developing Doctorate of Nursing Practice Public Health Nurse Leaders.” HRSA DHHS D09HP25935 Role: ColoradoSPH Co-Lead

Curriculum Development

2012-13 Master’s in Public Health, Maternal Child Health (MCH) concentration
Developed a course of study for the MPH in MCH at the CSPH

2017-18 Medical Scientist Training Program (MD, PhD in Epidemiology)
Developed a course of study for physician-scientist training at the CU SOM and CSPH

Course Development

2011 EPID6630 (Introduction to Epidemiology)
Adapted an existing course to an online format

2013 EPID6644 (Maternal and Child Health Epidemiology)
Developed a novel problem-based learning curriculum for maternal child health epidemiology

2020 EPID6644 (Maternal and Child Health Epidemiology)
Adapted existing in-person class to an asynchronous online course

Course Director/Instructor

2012 (Sum) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 45 students

2014 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 91 students

2014 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 22 students

2015 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 111 students

2015 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 15 students

2016 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 100 students

2016 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 10 students

2017 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 100 students

2017 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 18 students

2018 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 96 students

2018 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 24 students

2019 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 123 students

2019 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 13 students

2019 (Fall) EPID6630 “Introduction to Epidemiology”. CSPH-AMC, 3 credits, 107 students

2020 (Sum) PUBH6691 “Capstone Integration”. CSPH-AMC, 1 credit, 7 students

2020 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 26 students

2020 (Fall) EPID6630 “Introduction to Epidemiology”. CSPH, AMC, 3 credits, 154 students

2021 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH, AMC, 3 credits, 120 students

2021 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 42 students

2022 (Spring) EPID6630 “Introduction to Epidemiology”. CSPH, AMC, 3 credits, 125 students

2022 (Fall) EPID6644 “Maternal Child Health Epidemiology”. CSPH, AMC, 3 credits, 45 students

Independent Study Director:

- 2013 (Fall) EPID6644 “Maternal Child Health Epidemiology” CSPH-AMC, 3 credits. 2 students.
Description: Analyzed public health data to prioritize MCH programs for Boulder County Public Health
- 2016 (Fall and Spring)
Epidemiologic Field Methods, EPID7911. CSPH-AMC, 3 credits. 1 student: Katherine Ziegler . Description: Colorado Multiple Institutional Review Board Protocol Development
- 2018 (Summer & Fall)
Epidemiologic Field Methods, EPID7911. CSPH-AMC, 3 credits. 1 student: Lina Brou
Description: Assessment of the role of chronic pain among adolescents and adults with congenital heart disease.

Small Group Leader/Instructor

- 2011 (Spring) EPID6630 “Introduction to Epidemiology” CSPH-AMC
- 2011-22 (Fall) Molecules to Medicine (M2M) Bench to Bedside. Biostatistics/Epidemiology. Medical School-AMC

Professional Education, Seminars and Workshops

- 2007
American Evaluation Association
Baltimore, Maryland, November 9, 2007
Session Title: Quantitative Methods Skill Building Workshops
“Nonparametric Methods for Program Evaluation Data”
- 2008
American Evaluation Association
Denver, CO November 6, 2008
Session Title: Quantitative Methods Skill Building Workshops
“Linear and Logistic Regression for Program Evaluation”
- 2011
Project TEACH, Center for Public Health Practice
Southwestern Area Health Education Center Durango, CO October 6-8, 2011
“Logic Models for Program Evaluation”
- 2011
How to Practice Evidence-Based Health Care
12th Annual Rocky Mountain Workshop, Vail, CO, August 1-5, 2011
- 2014
Amendment 35 Regional Grant Writing Trainings
Center for Public Health Practice, March 23, 2014
“Program Evaluation”

Advises/Mentees

MPH Capstone Advisor

- 2015
Susan Calcaterra, MPH Epidemiology. Capstone Title: The association between stimulant, opioid and multiple drug use on behavioral care utilization in a safety-net health system.
- 2016
Gebreal Berhe, MPH Epidemiology concentration. Capstone Title: Predictors of smoking relapse in a widely implemented, incentive-based smoking cessation program in Colorado.
- 2018
Rachel Wolff. MPH Health Services Research. Capstone Title: A model for cost effectiveness evaluation of health and economic benefits of the Baby & Me Tobacco Free prenatal smoking cessation program in Colorado.
- 2018
Naga (Sri) Gummadi. MPH Epidemiology. Capstone Title: Comparison of detection of prenatal smoking between medical records and birth certificate data.
- 2020
Diane Garcia. MPH Epidemiology. Capstone Title: The association between maternal stress and prenatal cannabis use.

2022 Marie Hathaway. MPH Maternal Child Health. Capstone Title: Program evaluation of the efficacy of a telehealth smoking cessation service for pregnant women who smoke in Colorado: BABY & Me-Tobacco Free

2022 Kyrsten Hall. MPH Maternal Child Health. Capstone Title: Family structure and gender-biased bias in parental stress for families with a child with Autism Spectrum Disorder

MS Thesis Mentor

2018 Amber Khanna, MS in Clinical Science. Thesis title: The prevalence of mental illness in adolescents and adults with congenital heart disease. *Thesis mentor*

2020 Erika Iisa, MS in Epidemiology. Thesis title: The role of maternal stress and single and poly-substance use during pregnancy. *Thesis mentor*

2020 Alexandra Tillman, MS in Epidemiology. Thesis title: The effect of socioeconomic context on congenital heart disease related outcomes. *Thesis mentor*

MS Thesis Committee Chair

2014 Kathleen Waugh. MS in Epidemiology. Thesis title: “Perinatal factors and childhood adiposity”.

2017 Natasha Kureshi, MS in Epidemiology. Thesis title: The relationship between amino acid and lipid metabolites and islet autoimmunity.

2020 Julia Van Dyke, MS in Epidemiology. Thesis title: Maternal report of severity for children with Autism and other developmental disorders.

MS Thesis Committee Member

2015 Julie Rodriguez. MS in Epidemiology. Thesis title: The associations between physical activity, neighborhood built environment features, and social capital in the rural setting of Colorado’s San Luis Valley. *Thesis Committee Member*

PhD Dissertation Mentor

2019 Lindsey Duca, PhD in Epidemiology. Dissertation title: Investigating bias in a population-level electronic health records surveillance system of individuals with congenital heart defects. *Dissertation Mentor*

2023 Yisha Li, Candidate PhD in Epidemiology. Dissertation title: Multi-morbidity patterns among smokers. *Dissertation Co-Mentor*

Current Lina Brou, Candidate PhD in Epidemiology. Dissertation title: Medication-assisted treatment (MAT) in primary care settings and the risk of subsequent overdose-related ambulatory or inpatient hospitalization for individuals with opioid use disorder (OUD) in Colorado. *Dissertation Mentor*

PhD Dissertation Chair

2017 Christine Hockett, PhD in Epidemiology. Dissertation title: The influence of pubertal timing on the development of cardiometabolic disease in youth exposed to maternal diabetes *in utero*. *Committee Chair*

2018 Lauren Pierpoint, PhD in Epidemiology. Dissertation title: The role of intrinsic and extrinsic factors on injury patterns among recreational skiers and snowboarders at a Colorado ski resort. *Committee Chair*

2018 Evan Carey, PhD in Epidemiology. Dissertation title: Chronic pain and opiate use among US veterans. *Committee Chair*

2019 Randi Johnson, PhD in Epidemiology. Dissertation title: Dietary patterns and metabolomics in the nutritional epidemiology of type 1 diabetes. *Committee Chair*

2020 Kristen Polinski, PhD in Epidemiology. Dissertation title: The role of lipid mediators in pre-clinical rheumatoid arthritis. *Committee Chair*

2020 Amena Keshawarz, PhD in Epidemiology. Dissertation title: The association of sex and menopause with cardiac structure and function: the CARDIA Study. *Committee Chair*

- 2022 Teresa Buckner, PhD in Epidemiology. Dissertation title: “Oxylipins, anti-inflammatory diet and type 1 diabetes. *Committee Chair*
- Current Kaylynn Aiona, PhD in Epidemiology. Dissertation title: “The association of parental migration characteristics with the risk of autism spectrum disorder and intellectual disability”. *Committee Chair*
- Current Kari Rockhill, PhD in Epidemiology. Dissertation title: “Polysubstance drug use in the general population: present day behaviors and critical windows.” *Committee Chair*

PhD Dissertation Committee Mentor

- 2014 Brittni Fredrickson, PhD in Epidemiology. Dissertation title: Age-related heterogeneity in the onset of islet autoimmunity. *Committee Member.*

Research Record

Grants

Active

Sickle Cell Disease Surveillance Project (Sontag, PI)

10/1/21 – 9/30/2024

Centers for Disease Control and Prevention – NCBDD - DD191906

Subcontract with CI International

Total direct costs:

Role: Subcontract PI

A program to create a comprehensive surveillance system for all individuals with sickle cell disease in Colorado.

Comprehensive Long-Term Follow-up for Newborns with Sickle Cell Disease (Sontag, PI)

09/01/2021 – 8/31/2024

Centers for Disease Control and Prevention

Subcontract with CI International

Total direct costs: \$347,176

Role: Subcontract PI

A program to create a long-term follow-up surveillance approach for all infants in Colorado and Wyoming with a positive newborn screening result for sickle cell disease

Colorado SEED Component A - Enhanced Epidemiologic Research and Participant Follow-Up Surveys (DiGuseppi, PI)

7/1/2021 – 6/30/2026

Centers for Disease Control and Prevention - U01 DD001290

Total Direct Costs: \$347,038 (annual)

Role: Co-I

A multisite epidemiologic research study of Autism Spectrum Disorder (ASD) in the U.S. and long-term follow-up of social, emotional and intellectual outcomes.

Surveillance of Diabetes in Children and Adolescents between 0-17 Years of Age (DICAYA) – Component A (Crume and Dabelea, MPI)

09/30/2020 – 09/29/2025

Centers for Disease Control and National Institute of Diabetes, Digestive and Kidney Disorders – U18DP006517-01-00

Total direct costs; \$160,678 (annual)

Role: *Multiple Principal Investigator (MPI) (contact PI)*

A surveillance grant to estimate yearly prevalence and incidence of type 1 and type 2 diabetes in youth aged 0-17 in Colorado using electronic medical records and health insurance claims.

Surveillance of Diabetes in Children and Adolescents ages 18-45 Years of Age (DICAYA) – Component B (Crume and Dabelea, MPI)

09/30/2020 – 09/29/2025

Centers for Disease Control and National Institute of Diabetes, Digestive and Kidney Disorders – U18DP006518-01-00

Total direct costs; \$160,473 (annual)

Role: *MPI (contact PI)*

A surveillance grant to estimate yearly prevalence and incidence of type 1 and type 2 diabetes in adults aged 18-45 years in Colorado using electronic medical records and health insurance claims.

Baby and Me Tobacco Free Impact Study

7/1/2022 – 6/30/2023

Rocky Mountain Health Plans Foundation: 15 FLA 67798

Total direct costs \$62,000 (annual)

Role: *PI*

An impact study of an extended statewide implementation of a pre- and post-natal smoking cessation program designed to improve quit rates, infant outcomes and maternal delivery complications.

Pending

Baby and Me Tobacco Free Smoking Cessation Program

7/1/2023 – 6/30/2027

Colorado Department of Public Health and Environment

Total direct costs \$900,000

Role: *PI*

Implementation of a state-wide pre- and post-natal smoking cessation program designed to improve quit rates, infant outcomes and maternal delivery complications.

Completed

Incremental Privacy-Protected Record Linkage (iPPRL)

2/1/19 – 1/31/22 Patient-Centered Outcomes Research Institute (PCORI): ME-2018C1-11287

Total direct costs: (3-years) \$928,262

Role: *Co-Investigator*

A methods grant meant to expand current patient health record linkage methods for medical research to better address data security and improve the accuracy of linkages of the same patient across healthcare systems.

Study to Explore Early Development (SEED) (Robinson-Rosenberg, PI)

7/1/16 – 6/30/22

Centers for Disease Control and Prevention - U01DD001210

Total direct costs: (yearly) \$710,000

Role: *Co-Investigator*

The largest study in the U.S. to help identify factors that may put children at risk of autism spectrum disorder and other developmental disabilities.

Baby and Me Tobacco Free Impact Study 2

7/1/2018 – 6/30/2021

Rocky Mountain Health Plans Foundation: 15 FLA 67798

Total direct costs \$62,000 (annual)

Role: PI

An impact study of an extended statewide implementation of a pre- and post-natal smoking cessation program designed to improve quit rates, infant outcomes and maternal delivery complications.

Arsenic and Birth and Pregnancy Outcomes Study

6/1/2018 – 5/31/2020

NIH NIEHS - ES028416-01A1

Total direct costs (2 years) \$456,687

Role: Co-investigator

A birth cohort study to elucidate the role of maternal exposure to inorganic arsenic in drinking water on adverse pregnancy outcomes and birth defects, particularly congenital heart defects.

The Influence of *In Utero* Cannabis Exposure on Neonatal Brain Morphology and Structural Connectivity

8/1/2018 – 8/31/2020

NIDA R21 - DAO43833

Total direct costs (2 years) \$275,000

Role: Co-Principal Investigator with Dr. Pilyoung Kim

A high-risk, high-reward pilot study to quantify the impact of *in utero* cannabis exposure on neonate brain morphology and structural connectivity.

Surveillance of Congenital Heart Defects (CHD) Across the Lifespan

9/30/2015 – 9/29/2019

Centers for Disease Control and Prevention - NU50DD004935-01(Crume)

Total direct costs (4 years) \$1,800,000

Role: Principal Investigator

This project will develop a population-based surveillance system for CHD among adolescents and adults in Colorado to quantify and assess the burden of CHDs. Expected outcomes include characterization of health outcomes, patterns of health care usages and long-term outcomes including survival and life expectancy for adolescents and adults with CHDs in Colorado.

Baby and Me Tobacco Free Impact Study 1

7/01/2014 – 06/30/2018

Rocky Mountain Health Plans Foundation - FLA 15-67798 (Crume)

Total direct costs (3 years) \$178,863

Role: Principal Investigator

A program evaluation of widespread implementation of the Baby and Me Tobacco Free program in Colorado. The evaluation will focus on determining reach, fidelity of implementation and impact of the program on cessation metrics, birth outcomes, breastfeeding and secondhand smoke exposure.

SEARCH Nutrition Ancillary Study 2

6/1/2014 – 3/31/2018

NIDDK - 2RO1 DK077949-05 (Mayer-Davis)

Total direct costs (4 years) \$739,656

Role: Site Principal Investigator

SNAS2 examines the influence of nutrition (both early life and childhood) among youth the diabetes on the development of chronic complications of diabetes, markers of CVD, the prevalence and severity of diabetic retinopathy and the prevalence severity and progression of diabetic kidney disease within SEARCH participants with type 1 and type 2 diabetes.

Air Pollution, Subclinical CVD and Inflammatory Markers in the SEARCH Cohort

9/27/2011 - 6/30/2015

NIEHS - R01ES019168 (Pruett)

Total direct costs (4 years) \$40,128

Role: Co-Investigator

This ancillary study of the SEARCH study that explores the role of ambient air pollution in geographically distinct areas in the United States on inflammatory markers and measures of cardiovascular function in youth with type 1 diabetes.

SEARCH for Diabetes in Youth 3, Colorado Center

9/30/2010-9/29/2015

Centers for Disease Control and National Institute of Diabetes, Digestive and Kidney Disorders - U18DP003256 (Dabelea)

Total direct costs (5 years) \$2,448,025

Role: Co-Investigator

This study is one of five centers designated by CDC to conduct surveillance of childhood diabetes. Aims include assessing trends in the incidence of diabetes by type, race/ethnicity, and sex, and conducting longitudinal follow-up to understand the metabolic, behavioral and socio-economic determinants of sub-clinical chronic diabetes complications.

Evaluation Outcomes of the State Tobacco Ed. Prevention Partnership (STEPP)

9/1/2013-6/30/2015

CDPHE - FLA 13-49163 (Crume)

Total direct costs (2 years) \$128,442

Role: Principal Investigator

An impact study prenatal smoking cessation program for low-income women in Colorado designed to improve pre- and postnatal quit rates, neonatal and maternal delivery outcomes.

Exploring the Fuel-Mediated Programming of Neonatal Growth (Healthy Start I)

8/1/2009-7/31/2014

NIDDK - R01DK076648 (Dabelea)

Total direct costs (5 years) \$3,485,505

Role: Co-Investigator

A pre-birth prospective cohort study enrolling 1400 pregnancy women to explore the relationships between maternal obesity, nutrition, intra-partum fuels, and insulin resistance on neonatal body size and fatness.

SEARCH Nutrition Ancillary Study 1

4/1/2008 – 3/31/2013

NIDDK - R01DK077949 (Mayer-Davis)

Total direct costs (5 years) \$3,302,805

Role: Co-Investigator

The overall goal of the SEARCH Nutrition Ancillary Study (SNAS) is to examine associations of nutritional factors with 1) the progression of insulin secretion defects, and 2) the presence of CVD risk factors in youth with T1DM. These two aspects of the metabolic status of youth with T1DM are key determinants of long-term risk for serious complications of diabetes mellitus.

Bibliography

*Publications in Refereed Journals (*publications with a student or trainee)*

1. **Crume TL**, DiGuseppi C, Byers T, Sirotnak AP, Garrett CJ. Underascertainment of child maltreatment fatalities by death certificates, 1990-1998. *Pediatrics* 110(2 Pt 1):w18, 2002.
2. Buller DJ, Foder J, **Crume TL**. The Emperor is Still Undressed. *Trends Cogn Sci.* 9(11):508-10. 2005.
3. Marcus R, Varma JK, Medus C, Boothe EJ, Anderson BJ, **Crume T**, Fullerton KE, Moore MR, White PL, Lyszkowicz E, Voetsch AC, Angulo FJ; for the Emerging Infections Program FoodNet Working Group. Reassessment of risk factors for sporadic Salmonella serotype Enteritidis infections: a case-control study in five FoodNet Sites, 2002-2003. *Epidemiol Infect.* 135(1):84-92. 2006.
4. Varma JK, Marcus R, Stenzel SA, Hanna SS, Gettner S, Anderson BJ, Hayes T, Shiferaw B, **Crume TL**, Joyce K, Fullerton KE, Voetsch AC, Angulo FJ. Highly resistant Salmonella Newport-MDRampC transmitted through the domestic US food supply: a FoodNet case-control study of sporadic Salmonella Newport infections, 2002-2003. *J Infect Dis.* 194(2):222-30. 2006.
5. **Crume TL**, Ogden L, West NA, Vehik KS, Scherzinger A, Daniels S, McDuffie R, Bischoff K, Hamman RF, Norris JM, Dabelea D. Association of exposure to diabetes *in utero* with adiposity and fat distribution in a multi-ethnic population of youth: the EPOCH study. *Diabetologia* 54(1):87-92. 2010.
6. West NA, **Crume TL**, Maligie MA, Dabelea D. Cardiovascular risk factors in children exposed to maternal diabetes in utero. *Diabetologia* 54:504-7. 2010.
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Books and Chapters in Books

1. **Crume TL**, Dabelea D. Exposure to diabetes *in utero*, offspring growth, and risk for obesity. In: Lustig R (ed): *Obesity Before Birth*. Volume 30(3): 193-204. Springer 2011
2. **Crume TL**, Dabelea D. Breastfeeding and obesity: impact on women and their children. In: Ovesen P, Moller Jensen D (ed): *Maternal Obesity and Pregnancy*. Pages 284-295. Springer-Verlag Berlin Heidelberg 2012

Non-Peer Reviewed Technical Reports

1. The impact of heart disease and stroke in Colorado. Colorado Department of Public Health and Environment. 2005. Available at: https://www.colorado.gov/pacific/sites/default/files/DC_Impact-of-Heart-Disease-and-Stroke-in-Colorado.pdf
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Invited Papers/Reviews/Commentaries

1. Dabelea D, **Crume TL**, Maternal environment and the transgenerational cycle of obesity and diabetes. *Diabetes* 40: 1849-1855. 2011
2. **Crume TL**, Harrod C. Childhood obesity, is there effective treatment? *JAMA Peds*. 167:697-9. 2013.
3. **Crume T**. Tobacco use during pregnancy. *Clin Obstet Gynecol*. 62:128-141. 2019
4. **Crume TL**, Power S, Dufford A, Kim P. Cannabis and pregnancy: factors associated with cannabis use among pregnant women and the consequences for offspring neurodevelopment and early postpartum parenting behavior. *Current Addiction Reports*.9:195-202. Doi.10.1007/s40429-022-00419-6. 2022

*Competitive Scientific Abstracts Presented at National or International Meetings (*presentations with a student or trainee):*

1. **Crume TL**, Byers T, DiGuseppi C. Underascertainment of child maltreatment fatalities by death certificates, 1990-1998. *International Congress on Child Abuse & Neglect*. 2002 (oral presentation)

2. **Crume TL.** A statewide assessment of perinatal group B streptococcal disease prevention practices among Colorado obstetrical providers. *International Congress on Emerging Infectious Diseases.* 2004 (oral presentation)
3. **Crume TL,** West N, Scherzinger A, Daniels S, Vehik K, Hamman R, Norris J, Ogden L, Dabelea D. Exposure to diabetes *in utero* and adiposity patterns in a multi-ethnic cohort of youth. *Diabetes.* 259-OR. 2009. (oral presentation)
4. West NA, Vehik K, **Crume T,** Maligie M, Bischoff K, McDuffie R, Dabelea D. Exposure to Diabetes in utero leads to increased adiposity and systolic blood pressure in children. *Diabetes.* 971-P. 2009. (oral presentation)
5. **Crume TL,** Lauer P, Elnicki J. Development of a strategic planning process to complement an existing national evaluation system. *American Evaluation Association.* 2008 (oral presentation)
6. **Crume T,** Duca LM, Ong T, Kraus EM, Scott K, Khanna A, Kao D, Rausch C, McKenzie L, Daley MF, Coleman S, Kahn MG, Davidson AJ. Implications of record linkage and deduplication on surveillance of congenital heart defects among adolescents and adults in Colorado. Society of Epidemiologic Research. 2019. Minneapolis, MN. (poster)
7. **Crume TL,** Brinton JT, Harrod DS, Glueck DH, Martinez M, Friedman JE, Lynch A, Dabelea D. Maternal Lipids and Insulin Resistance Influence Neonatal Body Fat: The Healthy Start Study. *Diabetes* 1313-Pregnancy, 60 (suppl 1). 2011. (poster)
8. **Crume TL,** Andrews J, D'Agostino R Jr., Pettitt DJ, Mayer-Davis EJ, Law JR, Lolan L, Lawrence JM, Saydah S, Greenbaum C, Rodriguez BL, Dabelea D. Exposure to maternal diabetes and rate of beta cell decline in youth with type 2 diabetes: the SEARCH for diabetes in youth study. *International Society for Pediatric and Adolescent Diabetes* poster #968. 2011 (poster)
9. **Crume TL,** West N, Vehik K, Hamman R, Dabelea D. The impact of neonatal breastfeeding on growth trajectories of youth exposed and unexposed to diabetes in utero. *Developmental Origins of Health and Disease.* 2(Suppl S1). 2011. (oral presentation)
10. **Crume T,** Buti, A, Brinton JT, Glueck DH, Harrod CS, Martinez M, Friedman JE, Siega-Riz AM, Dabelea D. Maternal saturated fat intake during pregnancy. *Diabetes.* 2931-A. 2014. (poster)
11. Liese A D, Crandell J L, Tooze J A, Merchant A T, Bell R A, Couch S, Dabelea D, **Crume T,** Mayer-Davis E J. Application of measurement error methodology to the study of sugar-sweetened beverage intake and lipid levels in youth with type 1 diabetes: Findings from the SEARCH Nutrition Ancillary Study. *EDEG,* Potsdam, Germany, 2013. (poster)
12. Couch SA, Crandell JL, Peairs A, Liese AD, Shah AS, Dolan LM, Tooze J, **Crume T,** King I, Mayer-Davis EJ. Polyunsaturated fatty acids (PUFA) and cardiovascular risk factors in youth with type 1 diabetes: SEARCH Nutrition Ancillary Study. *Diabetes* 62(Suppl 1):A346. 2013 (poster)
13. Hamman RF, **Crume TL,** Isom S, Talton J, Divers J, Mayer-Davis EJ, Zhong VW, Liese AD, Saydah S, Staniford D, Lawrence JM, Pihoker C, Dabelea D. Factors influencing time to ascertainment of youth with type 1 and type 2 diabetes in the SEARCH for Diabetes in Youth study. *Diabetes.* 2013 (poster)
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15. The NS, Lamichhane A, Shay C, Wang S, Dabelea D, Lawrence JM, Crandell J, **Crume T**, Mayer-Davis EJ. The association between breastfeeding and insulin sensitivity among youth with diabetes. *Diabetes* 64(Suppl 1) A420. 2015. (oral presentation)
16. **Crume TL**, Buti A, Kaar JL, Siega-Riz AM, Friedman JE, Dabelea D. Maternal saturated fat intake during pregnancy influences neonatal adiposity: the Healthy Start study. *Diabetes* 1438-P. 2015. (poster)
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