



# Ashley May Hernandez, MSPH, PhD(c)

## Current Position

Health Scientist I

## Discipline Areas

- > Epidemiology
- > Biostatistics
- > Health Policy

## Years' Experience

6

## Joined Cardno

2020

## Education

- > PhD(c), Environmental Health Sciences, University of Minnesota School of Public Health, 2020
- > MSPH, Public Health, University of Texas School of Public Health, 2016
- > BS, Biology, Texas Tech University, 2008
- > BA, English and Spanish, Texas Tech University, 2008

## Summary of Experience

Ashley May Hernandez is a Health Scientist I with Cardno ChemRisk in the Houston, Texas office. She received a Bachelor's of Arts in English and Spanish as well as a Bachelor's of Science in Biology at Texas Tech University and a Master's of Science in Public Health (MSPH) from the University of Texas School of Public Health in San Antonio, Texas. Currently, she is completing her doctorate in Environmental Health Sciences from the University of Minnesota School of Public Health. Her Master's thesis focused on the association between air pollution (particulate matter 2.5 and ozone) with the prevalence of diabetes mellitus within the United States. Following her Master's, Ashley began her graduate studies at the University of Minnesota School of Public Health where her dissertation work focused on the association between respirable dust with ischemic heart disease and chronic obstructive pulmonary disease mortality among taconite (ie, iron) workers in Minnesota. While at the University of Minnesota, she also had opportunities to explore a variety of projects in addition to her dissertation work. She has worked on a range of projects involving health policy, rural health and health disparities in rural areas, the implementation of and effects of anti-bullying policies on adolescents, research related to firearms, and environmental and occupational research related to pesticides among farm families in the United States and pulmonary effects due to air pollution in China.

## Significant Projects

### Epidemiology & Biostatistics

Conducted survey weighted analyses including Poisson regression to determine the association between PM2.5 and ozone with diabetes mellitus in the United States. Used data from the Behavioral Risk Factor Surveillance System Selected Metropolitan/Micropolitan Area Risk Trends (SMART BRFSS) for county-level diabetes prevalence and air pollution data from the CDC's Downscaler model for county-level estimates of PM2.5 and ozone. Utilized multiple imputation using a Markov Chain Monte Carlo procedure to account for missing data within the dataset.

Conducted a nested case-control study on an occupational cohort in Minnesota. Abstracted work history data from employment records in order to assign exposures to workers based on similar exposure groups (SEGs). Utilized conditional logistic regression to assess the association between employment duration and respirable dust exposure with mortality due to ischemic heart disease and chronic obstructive pulmonary disease.

Developed policy briefs and outlined actionable policy objectives aimed to improve access to care and reduce disparities in care within rural populations.

Utilized survey weighted analysis to analyze data for projects using Medicare Current Beneficiary Survey (MCBS) and National Health Interview Survey (NHIS) data. Performed statistical analysis utilizing mixed models to account for correlated data for projects involving pesticides, air pollution, and bullying. Generated maps and conducted spatial

analysis using geographic information systems (GIS). Collected primary interview data which informed the development of surveys and were analyzed using qualitative data analysis techniques. Utilized statistical analysis software including SAS, R, Stata, and ArcGIS.

#### Regulatory Support

Reviewed and synthesized literature related to nicotine-containing products and health outcomes to inform a Pre-Market Tobacco Application (PMTA). Assisted in the development of a PMTA for a tobacco product company.

#### Litigation Support

Prepared case summaries related to occupational exposure to asbestos-containing products after reviewing and summarizing case materials.

#### Professional Honors/Awards

- > CDC/NIOSH (MCOHS-ERC Pilot Grant)
- > NIOSH Traineeship Grant
- > Dinnaken Fellowship
- > UTHealth Dean's Excellence Scholarship

#### Membership and Service to Professional Societies

- > Society for Epidemiologic Research (SER): 2018-2019
- > International Society for Environmental Epidemiology (ISEE): 2019-present
- > Peer-reviewer: Environmental Pollution, Global Epidemiology, Environmental Research

#### Publications

##### Peer-Reviewed Publications

- > Henning-Smith C, Hernandez AM, Neprash H, Lahr M. Differences by Rurality in Satisfaction with Care Among Medicare Beneficiaries. *Journal of Rural Health*. 2020 May.
- > Drake C, Hernandez AM, Liu Y, Schwartz AH, Sundaram ME. Evidence of a Background Checks in An Online Firearms Marketplace. *American Journal of Preventive Medicine*. 2019 Sep [E-pub ahead of print].
- > Henning-Smith C, Hernandez AM, Hardeman RR, Ramirez MR, Kozhimannil KB. Rural Counties With Majority Black Or Indigenous Populations Suffer The Highest Rates Of Premature Death In The US. *Health Affairs*. 2019 Dec; 38(12): 2019-2026.
- > Hernandez AM, Gimeno Ruiz de Porras D, Marko D, Withworth KW. The Association between PM2.5 and Ozone and the Prevalence of Diabetes Mellitus in the United States, 2002-2008. *Journal of Occupational and Environmental Medicine*. 2018 Jul; 60(7): 594-602.
- > Whitworth KW, De LaRosa E, Mackay T, Hernandez A, Martin MK, Lopez J, Small M, Winkler P, Valerio MA. Exploring perceptions of fracking and environmental health in a 3-county population in South Texas. *Journal of Epidemiological Research*. 2017; 3(1): 61-68.

- > Chitnis NS, Paul ER, Lawrence PK, Henderson CW, Ganapahty S, Taylor PV, Viridi KS, D'Costa SM, May AR, Bilimoria SL. A Virion-Associated Protein Kinase Induces Apoptosis. *Journal of Virology*. 2011; 85(24): 13144-52.

#### Policy Briefs

- > Lahr M, Henning-Smith C, Hernandez AM, Neprash H. Access and Capacity to Care for Medicare Beneficiaries in Rural Health Clinics. Minneapolis, MN: University of Minnesota Rural Health Research Center, December 2019.
- > Lahr M, Neprash H, Henning-Smith C, Tuttle MS, Hernandez AM. Access to Specialty Care for Medicare Beneficiaries in Rural Communities. Minneapolis, MN: University of Minnesota Rural Health Research Center, December 2019.
- > Henning-Smith C, Hernandez AM, Lahr M. Rural-Urban Differences in Access to and Attitudes Toward Care for Medicare Beneficiaries. Minneapolis, MN: University of Minnesota Rural Health Research Center, December 2019.
- > Henning-Smith C, Ramirez MR, Hernandez AM, Hardeman R, Kozhimannil KB. Differences in Preventive Care Among Rural Residents by Race and Ethnicity. Minneapolis, MN: University of Minnesota Rural Health Research Center, November 2019.
- > Henning-Smith C, Hernandez AM, Ramirez M, Hardeman R, Kozhimannil K. Dying Too Soon: County-level Disparities in Premature Death by Rurality, Race, and Ethnicity. Minneapolis, MN: University of Minnesota Rural Health Research Center, March 2019.
- > Henning-Smith C, Hernandez AM, Neprash H, Lahr M. Measuring Access to Care in National Surveys: Implications for Rural Health. Minneapolis, MN: University of Minnesota Rural Health Research Center, June 2019.

#### Presentations

##### Oral Presentations

- > The Relationship between Bullying Incidents and Anti-Bullying Policies in Maine School Districts. International Bullying Prevention Association (IBPA) Conference. November 2019.
- > Evidence of Background Checks in an Online Firearms Marketplace. Society for Epidemiologic Research (SER) Conference. Minneapolis, Minnesota. June 2019.
- > Indirect Parent-Mediated Pathways of Child Exposure to 2,4-dichlorophenoxyacetic acid (2,4-D) and Chlorpyrifos in Farm Families. 26th International Epidemiology in Occupational Health (EPICOH) Conference. Edinburgh, United Kingdom. September 2017.

##### Poster Presentations

- > Hernandez AM, Zhou Y, Chen W, Mandel JH. Ambient and Personal PM<sub>2.5</sub> Measurements: What's the Difference when Determining Associations with Individual Health Effects? International Society for Environmental Epidemiology (ISEE) Conference. August 2019.
- > Henning-Smith C, Hernandez AM, Ramirez M, Hardeman R, Kozhimannil K. Dying Too Soon: County-level Disparities in Premature Death by Rurality, Race, and Ethnicity. Academy Health Annual Research Meeting. Washington, D.C. June 2019.

- > Hernandez AM, Nam Y-S, Ramirez M, Young R, Tully M. Effect of Parent-Child Communication on Responses to Electronic Aggression among Parent-Child Dyads. American Public Health Association (APHA). San Diego, CA. November 2018.
- > Hernandez AM, Gimeno Ruiz de Porras D, Marko D, Whitworth KW. The Association of PM<sub>2.5</sub> and Ozone with Diabetes Prevalence in the US, 2002-2008. University of Minnesota School of Public Health Research Day. Minneapolis, Minnesota. April 2017.
- > Small M, Valerio MA, Hernandez AM, De LaRosa E, Martin MK. Atascosa Health Center, Inc. (AHC) Community Health Needs Assessment (CHNA) 2014-2015. Institute for Integration of Medicine & Science 2016 Community Engagement Symposium. San Antonio, TX. May 2016.
- > Martin MK, Hernandez AM, Whitworth KW, Stigler-Granados PE, Mackay TM, De La Rosa E, Valerio MA. Health Literacy and Environmental Health among Residents of South Texas Counties Affected by Unconventional Oil and Gas Development (UOGD) in the Eagle Ford Shale. 11<sup>th</sup> Annual Texas Health Literacy Conference. San Antonio, TX. October 2015.
- > May AR, Townsend J, Paul ER, Chitnis NS, Bilimoria SL. A Novel Viral Protein Induces Apoptosis in Boll Weevil Cells. Texas Tech Student Research Days. Lubbock, TX. April 2007.