

CATHERINE HESS, PH.D., M.PHIL

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PROFESSIONAL EXPERIENCE

Substance and Addiction Prevention Branch/California Department of Public Health – Sacramento, CA – April 2024 - present

Chief, Epidemiology and Evaluation Unit

Oversee epidemiological and program evaluation for the California Cannabis Surveillance System, Youth Cannabis Prevention Initiative, and the California Excessive Alcohol Use Prevention Program. Provide technical and supervisory oversight on projects related to alcohol, cannabis, and opioid use, risk factors, social norms, behaviors and attitudes.

Substance and Addiction Prevention Branch/California Department of Public Health – Sacramento, CA – 2020-2024

Research Scientist III/Cannabis Lead

Lead Research Scientist for the California Cannabis Surveillance System. Conduct epidemiological surveillance on cannabis use, abuse, knowledge and attitudes among adults and youth in California. Provide technical consultation and guidance on cannabis, alcohol, opioid measures and measures of social norms, knowledge and attitudes on California surveys. Conduct statistical analysis on cannabis use and related behaviors for dissemination to stakeholders, internal and external partners, and the general public. Design and create public-facing dissemination efforts such as factsheets, data briefs, reports, and presentations. Provide technical and subject matter expertise to internal and external stakeholders. Scientific Officer for the California Youth Cannabis Education and Social Media campaign, overseeing public opinion survey development, formative research, and scientific consultation on a statewide public health messaging campaign.

- Led scientific substantiation of statewide youth cannabis media campaign
- Collaborated to develop and implement the California Cannabis Surveillance System
- Developed a youth survey feasibility study to investigate school-based survey administration methods

UC Davis Health Institute for Population Health Improvement

California Tobacco Control Program/California Department of Public Health – Sacramento, CA – 2017-2020

Research Scientist / Principal Statistician/Project Officer

Assigned to the California Department of Public Health, Tobacco Control Program as permanent contractor. Worked as an in-house research scientist and subject matter expert on evaluation, survey development, and data dissemination. Developed and designed the evaluation of the program's public health media campaign. Coordinated and provided expert scientific consultation to internal and external stakeholders. Served as Project Officer for the California Student Tobacco Survey, a large complex probability survey of California youth. Conducted complex statistical analyses, evaluated findings, and predicted trends in youth tobacco and marijuana use and presented scientific insights to stakeholders such as policy makers, researchers, local lead agencies, and the public. Oversaw data collection, analysis, and report development. Made evidence-based recommendations to CTCP and CDPH senior staff on tobacco-related policy and youth nicotine and marijuana use.

Scientific liaison to internal media team to provide substantiation for media messaging and to ensure consistency with agency narrative and scientific integrity. Collaborated with policy analysts and program staff to disseminate scientific results to stakeholders such as internal and external media experts, policy experts, research scientists, and the lay public.

- Researched, developed, and implemented survey measures for tobacco and marijuana surveillance among California adults and youth.
- Coordinated and lead changes to youth surveillance systems leading to improved measures and increased reliability of youth surveys to enable more accurate evaluation of state anti-tobacco programs.

Catherine A. Hess, LLC – Sacramento, CA – 2017-2021

Public Health Evaluation and Research Consultant

Statistical and evaluation design consultant with major public health client. Provide subject matter expertise and data analysis for a National Institutes of Health funded trial of a youth-focused tobacco cessation program. Responsible for data

analysis for both process and outcome evaluation reports. Scientific advisor for a California-based research project investigating youth-led tobacco harm reduction.

Pacific Institute for Research and Evaluation, Prevention Research Center – Oakland, CA – 2016-2017

Research Associate

Project Coordinator on a qualitative research on young adult tobacco users in California. Recruited participants and conducted one-on-one interviews to understand youth use of vaping products. Reviewed and interpreted qualitative data, writing up results for publication.

Conducted qualitative interviews with marijuana users regarding product choices as consumers, analyzing all findings. Oversaw pilot study of vaping and smoking among young adults in the U.K. for comparison with California. Supervised direct report and managed project budget.

- Conducted secondary analyses of the NESARC III dataset to investigate the relationship between e-cigarette use and excessive alcohol use in adults.
- Published paper highlighting perceptions and attitude towards vaping among young African-Americans; signified as one of the first papers to explore vaping in this population.
- Proposed and secured corporate development funding for a cross-national study of vaping between the U.S. and U.K., including extensive qualitative interviews with smokers and vapers in London.
- Co-authored paper regarding the pathways of vaping initiation among youth in California based on a series of qualitative interviews.

University of California, Berkeley, School of Public Health – Berkeley, CA – 2015-2017

Postdoctoral Fellow

Brought on board to conduct quantitative and qualitative research on alcohol and tobacco use, with the fellowship funded by the National Institutes of Health/National Institute on Alcohol Abuse and Alcoholism.

- Exceeded all core Fellowship objectives in developing and executing independent, comprehensive research on alcohol and tobacco use in the U.S.
- Conducted original research on the co-use of alcohol and e-cigarettes using the National Epidemiologic Survey on Alcohol and Related Conditions Survey.

Johns Hopkins University, School of Public Health – Baltimore, MD – 2014-2015

Postdoctoral Fellow

Hired to conduct inorganic laboratory analyses on environmental pollutants. Co-managed the metals lab and performed chemical analyses on e-cigarettes. Interpreted and reported lab results, writing for publication as needed. Fellowship funded by the National Institutes for Health/National Institute for Environmental Health Sciences.

- Served as a postdoctoral intern in Science Communication in the JHSPH Media and Communications Office writing social media posts and press releases on emerging research in epidemiology
- Served as the primary author on a paper regarding heavy metals in e-cigarettes, with the paper generating significant media attention as a result.
- Co-developed and published novel method for obtaining vapor samples to be used in analyses.

EDUCATION & CREDENTIALS

Doctor of Philosophy, Environmental Anthropology

Bournemouth University, U.K. / British Council Overseas Scholarship / Award for Overseas Research

Master of Philosophy, Biological Anthropology

University of Cambridge, U.K. / English Speaking Union Scholarship, British Council Overseas Trust Scholarship

Bachelor of Arts, High Honors

University of California, Davis, CA / Department of Anthropology Citation

Technology Skills: SAS, SPSS, Atlas.Ti, Nvivo, MS Office, Tableau, Qualtrics, Adobe InDesign

PUBLICATIONS

Shamout, M., Wang, P., Wong, F., Chen, W., Kumagai, K., Pérez, J.J., Watson, C.H., Valentín-Blasini, L., Tanz, L., Herzig, C., Oakley, L.P., Peak, C.O., Heinzerling, A., Williams, R.J., **Hess, C.**, Wang, C., Planche, S., Al-Shawaf, M., Melstrom, P., Marynak, K., Tynan, M.A., Agaku, I.T., King, B.A. 2021. Chemical Composition of JUUL Pods Collected From Students in California High Schools, *Journal of Adolescent Health*, (69)2. **PMID: 33712386**

Shamout M., Tanz L., Herzig C, Oakley L.P., Peak C.M., Heinzerling A, Hast M, McGowan E, Williams R.J., **Hess C**, Wang C, Planche S, Herndon S, Martin J, Kansagra S.M., Al-Shawaf M, Melstrom P, Marynak K, Tynan M.A., Agaku I.T., King B.A. Notes from the Field: Characteristics of E-cigarette, or Vaping, Products Confiscated in Public High Schools in California and North Carolina - March and May 2019. *MMWR Morb Mortal Wkly Rep.* 2020 Oct 23;69(42):1552-1554. **PMCID: PMC7583502**

Elliott, D. R. F., Shah, R., **Hess, C. A.**, Elicker, B., Henry, T. S., Rule, A. M., ... & Jones, K. D. 2019. Giant cell interstitial pneumonia secondary to cobalt exposure from e-cigarette use. *European Respiratory Journal*, 54(6). **PMCID: PMC31801823**

Antin, T; **Hess, CA**, Kaner, E; Lipperman-Kreda, S; Annechino, R; Hunt, G. 2019. Pathways of nicotine product use: a qualitative study of youth and young adults in California. *Nicotine and Tobacco Research*. **PMCID: PMC30829569**

Hess, CA; Antin, TMJ, Annechino, R; Hunt, G. Perceptions of e-cigarettes among Black youth in California. 2017. *International Journal of Environmental Research and Public Health*, 14(1), 60. **PMCID: PMC28085031**

Hess, C; Olmedo, P; Navas-Acien, A; Goessler, W; Cohen, J; Rule, A. 2017. E-cigarettes as a source of toxic and potentially carcinogenic metals. *Environmental Research*, 152, 221-225. **PMCID: PMC27810679**

Olmedo, P.; Navas-Acien, A.; **Hess, C.**, Jarmul, S Rule., A. 2016. A direct method for e-cigarette aerosol sample collection. *Environmental Research*, 149, 151-156. **PMCID: PMC4910690**

Hess, CA; Smith, MJ; Trueman, C; Schutkowski, H. 2015. Longitudinal and contemporaneous manganese exposure in apartheid-era South Africa: Implications for the past and future. *International Journal of Paleopathology* (8) 2015, 1-9.

Hess CA; Cooper MJ; Smith MJ; Trueman C; Schutkowski H. 2013. Lead exposure in adult males in urban Transvaal province, South Africa during the apartheid era. *PLoS One*, 8(3). **PMCID: PMC23505462**

SELECTED CONFERENCE PARTICIPATION

Hess, CA; Safi, SB. Emergency Department Visits for Cannabinoid Hyperemesis Syndrome in California from 2016 to 2021.

Research Society on Marijuana, Long Beach, CA July 21-23, 2023

Hess, CA; Arthur, K; Zhang, X; Williams, R. Perceptions of Peer E-Cigarette Use and Susceptibility to E-Cigarette Use Among Youth in California.

Society for Research on Nicotine and Tobacco, New Orleans, LA, March 11-14, 2020.

Garcia, C; Pinski, E; and **Hess, CA**. Current E-Cigarette Use and Exposure to Pro E-Cigarette Advertisements among California High School Students.

Society for Research on Nicotine and Tobacco, San Francisco, CA, February 20-23, 2019.

Hess, CA; Zhang, X.; and Roeseler, A.; Exposure to Secondhand Marijuana Smoke among California Adults.

American Public Health Association Annual Meeting, November 10-14, 2018.

Hess, CA; Lee, JP. Marijuana Product Choices: Results of Qualitative Pilot Study in Northern California.

Research Society on Marijuana, Fort Collins, CO, July 28-30, 2017.

Hess, CA and Antin, TMJ. Pathways and Perceptions of E-Cigarette Use Among Young Adults in California.

Society for Research on Nicotine and Tobacco, Florence, Italy, March 8-11, 2017

Hess, CA. Associations Between Smoking Status and Daily Ethanol Intake in NESARC Wave III.

Research Society on Alcoholism, Denver, June 24-28, 2017

Olmedo, P; **Hess, CA**; Navas-Acien; A, Rule, A. A High-Yield Method For E-Cigarette Vapor Sample Collection.

International Society for Exposure Science, Henderson, Nevada. October 18-21, 2015.

Hess, CA; Olmedo, P; Navas-Acien, A; Cohen, J; Rule, A. Commercial E-Cigarettes as a Source of Exposure to Toxic and Carcinogenic Metals.

International Society of Environmental Epidemiology, Sao Paulo, Brazil. Aug. 31-Sept. 3, 2015

Hess, CA. Degrees of Freedom: Quantifying the Impact of Apartheid Residential Segregation on Environmental Health in Urban South Africa

83rd Annual Meeting of the American Association of Physical Anthropologists, Calgary, April 8-12, 2013

Hess, CA. Toxic Element Concentrations in Skeletal Material from 20th Century South Africa

Annual Meeting of the British Association of Biological Anthropologists and Osteologists, York, UK, 2012

Hess, CA. Human Skeletal remains as a Tool for Investigating Past Environmental Conditions.

13th Annual Meeting of the Nordic Theoretical Archaeology Group, Reykjavik, Iceland, 2012

Hess, CA. Human Exposure to Heavy Metals in South Africa During the 20th Century: Implications for the Past, Present and Future

Annual meeting of the British Association of Biological Anthropologists and Osteologists, Bournemouth, UK, 2012

Hess, CA. Demographic Trends in Lead Exposure in Urban South Africa During Apartheid

Annual Meeting of the American Anthropological Association, San Francisco, 2012.

BOARD MEMBERSHIP

Committee for the Protection of Human Subjects/Center for Data Insights and Innovation - 2022 - Present
Scientific Board Member

TEACHING

Teaching Assistant, Industrial Hygiene Laboratory
Johns Hopkins School of Public Health, Johns Hopkins University

2015

Lecturer, Applied Anthropology <i>School of Applied Sciences, Bournemouth University</i>	2014
Lecturer, Introduction to British Archaeology <i>School of Conservation Sciences, Bournemouth University</i>	2009
Graduate Teaching Assistant, Advanced Human Osteology (Master's level) <i>School of Applied Sciences, Bournemouth University</i>	2013-2014
Graduate Teaching Assistant, Applied Anthropology <i>School of Applied Sciences, Bournemouth University</i>	2013-2014
Graduate Teaching Assistant, Earth, Environment, and Society <i>School of Applied Sciences, Bournemouth University</i>	2011-2012
Teaching Assistant, Mass Graves Excavation Short Course <i>School of Applied Sciences, Bournemouth University</i>	2010
Graduate Teaching Assistant, Human Osteology <i>School of Conservation Sciences, Bournemouth University</i>	2008-2012
Teaching Assistant, Human Evolution <i>Department of Anthropology, University of California, Davis</i>	1999-2000

GRANTS & AWARDS

Post PhD Research Grant <i>Wenner-Gren Anthropological Research Foundation</i> (Awarded, but declined by applicant)	2014
Wellcome Trust/UK Guardian Science Writing Award	2012
Post-Graduate Development Grant <i>Bournemouth University</i>	2012
Hillary Williams Postgraduate Travel Award, School of Applied Sciences <i>Bournemouth University</i>	2011
Global Citizen Competitive Awards - International Research Award <i>Bournemouth University</i>	2011
UK Overseas Student Research Award <i>Higher Education Funding Council for England</i>	2008-2011
Cambridge University Overseas Trust Award <i>Cambridge University</i>	2000-2001
English Speaking Union Churchill Scholarship for Graduate Study	2000-2001
Department of Anthropology Departmental Citation <i>University of California, Davis</i>	2000

Phi Beta Kappa National Honor Society

1999