

Yuehan Zhang

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RESEARCH INTERESTS Epidemiologic methodology
Quantitative analysis
Outcome research

EDUCATION

April 2022 (Expected) **Doctor of Philosophy**, Department of Epidemiology
Johns Hopkins Bloomberg School of Public Health
Area of Concentration: Cancer Epidemiology
Dissertation: Impacting Oropharyngeal Cancer Rates: Vaccination and Oral Human Papillomavirus Infection
Advisors: Gypsyamber D’Souza, Ph.D., Carole Fakhry, M.D.

April 2022 (Expected) **Master of Health Science**, Department of Biostatistics
Johns Hopkins Bloomberg School of Public Health
Thesis: Association of Oral Microbiome with Prevalent Oral HPV
Advisor: Ni Zhao, M.D., Ph.D.

2015 **Master of Science**, Department of Epidemiology
Johns Hopkins Bloomberg School of Public Health (JHSPH)
Certificate: Pharmacoepidemiology and Drug Safety
Thesis: The Impact of Substance Use on Adherence to Antiretroviral Therapy Among HIV-Infected Women in the United States
Advisor: Elizabeth Golub, Ph.D.

2009 **Bachelor of Science**, Biotechnology
Shanghai Jiao Tong University, China

PROFESSIONAL EXPERIENCE

Research Experience

2020 – Present **PhD Candidate**
Department of Epidemiology, JHSPH
Design and implement three observational research studies, develop study proposals and statistical analysis plans. Construct age-period-cohort models to estimate vaccination impact on disease burdens using real-world SEER registries and national health surveys. Implement epidemiologic and high-dimensional statistical methods to identify biomarkers associated with infection. First author publications in *JAMA Oncology* and *Journal of Infectious Diseases*.

2020 – Present **Graduate Research Associate (part-time: 20 hours/week)**
Department of Epidemiology, JHSPH (PI: Dr. Lorraine Dean)
Perform epidemiologic study design and statistical analysis (including modeling healthcare expenditures through two-part models) for research projects on racial disparities in health and healthcare use. Identify and integrate data into models from multiple data sources, including provider and disease registries, large-scale national health surveys and census data. Write papers, study reports and present study findings at an international cancer research conference.

- 2016 – 2019 **Senior Statistical Analyst (full-time)**
Division of General Internal Medicine, University of Pennsylvania (PI: Dr. Daniel Polsky)
Developed and implemented statistical analysis plans and co-authored four peer-reviewed papers on health insurance and provider networks. Applied SAS programming to manage large datasets including registries, healthcare claims (Medicare Provider Analysis and Review data), and geospatial data. Collaborated with data vendors and cross-functional teams for the integration of real-world health insurance data into the development of research studies.
- 2015 – 2016 **Research Data Analyst (full-time)**
Department of Epidemiology, JHSPH (PI: Dr. Gypsyamber D'Souza)
Conducted molecular epidemiologic studies to examine biomarkers in the natural history of oropharyngeal cancers; published two first-author peer-reviewed papers. Performed survival analysis to evaluate prognostic factors for head and neck cancers in a retrospective, multi-institution study.

Teaching Experience

- 2020 – 2021 **Teaching Assistant**, 4-course Epidemiologic Methods series
Department of Epidemiology, JHSPH
- 2020 March **Teaching Assistant**, Fighting COVID-19 with Epidemiology
A Johns Hopkins Teach-Out, Coursera
- 2014 June – July **Teaching Assistant**, Principles of Epidemiology
Graduate Summer Institute of Epidemiology and Biostatistics, JHSPH

Community and Departmental Services

- 2021 – 2022 Co-Vice President of the Oral Health Group, JHSPH
- 2020 – 2021 Facilitator of the Cancer Epidemiology, Prevention, and Control Journal Club, JHSPH
- 2020 – 2021 Student Assembly Departmental Representative, JHSPH
- 2020 – 2021 JHU 2020 Planning Student Advisory Committee, JHU
- 2014 – 2015 President of Chinese Public Health Forum (student organization), JHSPH

HONORS AND AWARDS

- 2021 Kocherlakota Award, Biostatistics, JHSPH
- 2021 Jean Coombs Fund, Epidemiology, JHSPH
- 2021 Leon Gordis Centennial Scholarship, Epidemiology, JHSPH
- 2020 – 2021 Leon Gordis Teaching Assistantship, Epidemiology, JHSPH
- 2020 Delta Omega Scholarship Award (Applied Research), JHSPH
- 2019 – 2020 Harvey M. Meyerhoff Fellowship in Cancer Prevention, Epidemiology, JHSPH
- 2015 The Delta Omega Public Health Honor Society, Alpha Chapter
- 2015 AAAS/Science Program for Excellence in Science, American Association for the Advancement of Science
- 2015 Dorothy and Arthur Samet Student Support Fund in Epidemiology, JHSPH
- 2014 – 2015 Master's Tuition Scholarship, JHSPH
- 2009 – 2012 Academic Excellence Scholarship of Shanghai Jiao Tong University, China

PEER-REVIEWED PUBLICATIONS

1. **Zhang Y**, D'Souza G, Fakhry C, Bigelow EO, Mykhaylo U, Burk RD, et al. Oral HPV infection associated with changes in oral microbiota beta diversity and microbiota abundance. *Journal of Infectious Diseases*. In press.
2. **Zhang Y**, Fakhry C, D'Souza G. Is 2045 Optimistic? – Concerns regarding rising vaccine hesitancy – reply. *JAMA Oncology*. 2022 Jan 20
3. **Zhang Y**, Fakhry C, D'Souza G. Projected association of human papillomavirus vaccination with oropharynx cancer incidence in the US, 2020-2045. *JAMA oncology*. 2021 Sep 2:e212907-.
4. Drake C, Jarlenski M, **Zhang Y**, Polsky D. Market share of US catholic hospitals and associated geographic network access to reproductive health services. *JAMA Network Open*. 2020 Jan 3;3(1):e1920053-.
5. Drake C, **Zhang Y**, Chaiyachati KH, Polsky D. The limitations of poor broadband internet access for telemedicine use in rural America: an observational study. *Annals of Internal Medicine*. 2019 Sep 3;171:382-4.
6. Dean LT, Ransome Y, Frasso-Jaramillo L, Moss SL, **Zhang Y**, Ashing K, Denis GV, Frick KD, Visvanathan K, Schmitz KH. Drivers of cost differences between US breast cancer survivors with or without lymphedema. *Journal of Cancer Survivorship*. 2019 Oct;13(5):804-14.
7. Dean LT, Moss SL, Ransome Y, Frasso-Jaramillo L, **Zhang Y**, Visvanathan K, et al. “It still affects our economic situation”: long-term economic burden of breast cancer and lymphedema. *Supportive Care in Cancer*. 2018 Aug 18.doi: 10.1007/s00520-018-4418-4
8. Dean LT, Schmitz KH, Frick KD, Nicholas LH, **Zhang Y**, Subramanian SV, et al. Consumer credit as a novel marker for economic burden and health after cancer in a diverse population of breast cancer survivors in the USA. *Journal of Cancer Survivorship*. 2018 Jun 1;12(3):306-15.
9. Rettig EM, Fakhry C, Hales RK, Kisuule F, Quon H, Kiess AP, Yin LX, **Zhang Y**, Blackford AL, Drummond MB, Gourin CG. Pilot randomized controlled trial of a comprehensive smoking cessation intervention for patients with upper aerodigestive cancer undergoing radiotherapy. *Head & Neck*. 2018 Jul;40(7):1534-47.
10. Yin LX, D'Souza G, Westra WH, Wang SJ, van Zante A, **Zhang Y**, et al. Prognostic factors for human papillomavirus–positive and negative oropharyngeal carcinomas. *Laryngoscope*. 2018 Mar 14;128(8):E288-E296.
11. **Zhang Y**, Wilson TE, Adedimeji A, Merenstein D, Milam J, Cohen J, et al. The impact of substance use on adherence to antiretroviral therapy among HIV-infected women in the United States. *AIDS and Behavior*. 2018 Mar 1;22(3):896-908.
12. Zhu JM, **Zhang Y**, Wu B, Polsky D. Association between number of insurers and premium rates in the Affordable Care Act marketplace. *JAMA Internal Medicine*. 2017 Nov 1;177(11):1684-6.
13. Zhu JM, **Zhang Y**, Polsky D. Networks in ACA marketplaces are narrower for mental health care than for primary care. *Health Affairs*. 2017 Sep 1;36(9):1624-31.
14. Fakhry C, Westra WH, Wang SJ, van Zante A, **Zhang Y**, Rettig E, et al. The prognostic role of sex, race, and human papillomavirus in oropharyngeal and nonoropharyngeal head and neck squamous cell cancer. *Cancer*. 2017 May 1;123(9):1566-75.
15. **Zhang Y**, Waterboer T, Haddad RI, Miles BA, Wentz A, Gross ND, et al. Human papillomavirus (HPV) 16 antibodies at diagnosis of HPV-related oropharyngeal cancer and antibody trajectories after treatment. *Oral Oncology*. 2017 Apr 1;67:77-82.
16. D'Souza G, **Zhang Y**, Merritt S, Gold D, Robbins HA, Buckman V, et al. Patient experience and anxiety during and after treatment for an HPV-related oropharyngeal cancer. *Oral Oncology*. 2016 Sep 1;60:90-5.
17. **Zhang Y**, Waterboer T, Pawlita M, Sugar E, Minkoff H, Cranston RD, et al. Human papillomavirus (HPV) 16 E6 seropositivity is elevated in subjects with oral HPV16 infection. *Cancer Epidemiology*. 2016 Aug 1;43:30-4.

18. D'Souza G, Wentz A, Kluz N, **Zhang Y**, Sugar E, Youngfellow RM, et al. Sex differences in risk factors and natural history of oral human papillomavirus infection. *Journal of Infectious Diseases*. 2016 Feb 10;213(12):1893-6.

PRACTICE ACTIVITIES

Media Reports and Interviews

1. Media coverage including **Zhang Y** quotation by ScienceDaily, MedicalXpress, Newswise, Technology Networks, Sciencenewsnet.in, and Pharmatutor. Press release “[HPV vaccination will reduce throat and mouth cancers, but overall impact will take 25-plus years to see](#)” Johns Hopkins Bloomberg School of Public Health. 2021 Sept 2.
2. MedicalResearch.com interview and quotes by **Zhang Y**. “[HPV vaccination will gradually prevent many oropharynx cancers](#)” 2021 Sept 7.
3. Healio Gastroenterology interview and quotes by **Zhang Y**. “[HPV vaccinations will slow oropharynx cancer rates but may take 25 years to see impact](#)” 2021 Sept 8. Rated [top 10 news stores](#) from September 2021.

Presentations

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| Oct 2021 | “Does greater oncologist density reduce estimates of Black-White disparities in cancer mortality”
Poster presentation at 2021 14 th AACR Conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved, Virtual |
| May 2021 | “Projected impact of HPV vaccination on oropharynx cancer incidence in the United States: 2020-2045”
Oral presentation at 2021 Sidney Kimmel Comprehensive Cancer Center Trainee Research Day, Baltimore, MD (named finalist in Trainee Research Day presentation) |
| Oct 2015 | “HPV16 E6 seropositivity elevated in subjects with oral HPV16 infection”
Poster presentation at International Conference on Malignancies in AIDS and other Acquired Immunodeficiencies, Baltimore, MD |
| June 2015 | “The impact of illicit drug use on antiretroviral therapy (ART) adherence among HIV-infected women in the United States”
Oral presentation at Annual Meeting of the Society for Epidemiologic Research, Denver, CO |

PROFESSIONAL SERVICES AND SKILLS

Peer Review Activities

Cancer Control (2022), Reviewer for Society of Epidemiologic Research Digital (2015)

Professional Membership

Delta Omega Public Health Honor Society (2015-present), American Association for the Advancement of Science (2015-present), Society for Epidemiologic Research (2015-present)

Skills

SAS (Certified Advanced Programmer), SAS SQL, R, STATA, Bash