

## Ryan Richard Ruff, MPH, PhD

---

CONTACT INFORMATION	433 First Avenue, Room 712 Department of Epidemiology & Health Promotion New York University College of Dentistry	Voice: (212) 998-9663 E-mail: ryan.ruff@nyu.edu Web: www.ryanruff.com
RESEARCH INTERESTS	I study the association between oral health and child development, with particular interest in educational performance and psychosocial functioning. This primarily manifests as research into school-based health: effectiveness of interventions, optimization of programs, and machine learning applications for precision care. I also sometimes publish purely in the field of education policy.	
EDUCATION	<b>University of Virginia</b> , Charlottesville, VA USA PhD in Research, Statistics, & Evaluation, December 2009 BAMT in Education, May 2005  <b>Harvard University</b> , Cambridge, MA USA MPH in Epidemiology, May 2017  <b>Cambridge University</b> , Cambridge, UK MPhil in Education, July 2010	
HONORS AND AWARDS	2021 Sigma Xi Honor Society 2021 Elected Fellow, New York Academy of Medicine 2020 Goddard Junior Faculty Fellowship 2020 Dean's Honor, NYU College of Dentistry (2020, 2018, and 2017) 2019 Selected as one of top five papers published in 2018 in BMC Oral Health 2018 Delta Omega Honor Society, New York University 2018 NYU Faculty Honoree, New York University 2017 Elected to Academy of Distinguished Educators, NYU College of Dentistry 2012 Distinguished Service Award, NYC Department of Health 2008 DuPont Fellow, University of Virginia 2007 Doctoral Fellowship, University of Virginia (2007 and 2006)	
ACADEMIC EXPERIENCE	<b>New York University College of Dentistry</b> , New York, NY <i>Associate Professor (tenure track)</i> <b>2019 - Pres</b> <ul style="list-style-type: none"><li>• Director, Oral Health &amp; Epidemiology Analysis Lab, 2020 - Pres</li><li>• Director, Biostatistics Core, 2017 - Pres</li><li>• Director, MS Program in Clinical Research, 2017 - Pres</li></ul> <i>Assistant Professor (tenure track)</i> <b>2017 - 2019</b> <i>Research Assistant Professor</i> <b>2014 - 2017</b> <ul style="list-style-type: none"><li>• Statistics Unit Head, 2015-2017</li></ul> <b>New York University School of Global Public Health</b> , New York, NY <i>Associated Professor</i> <b>2014 - Pres</b>	

	<i>Adjunct Associate Professor</i>	<b>2012 - 2014</b>
	<b>Uniformed Services University of the Health Sciences</b>	
	<i>Adjunct Associate Professor</i>	<b>2021 - Pres</b>
PROFESSIONAL EXPERIENCE	<b>Columbia University, Epidemiology &amp; Health Institute, New York, NY</b>	
	<i>Instructor</i>	<b>2012 - 2021</b>
	<b>New York City Department of Health, New York, NY</b>	
	<i>Director, Research &amp; Evaluation Unit</i>	<b>2011 - 2014</b>
	<b>New York City Department of Education, New York, NY</b>	
	<i>Director of Research &amp; Evaluation</i>	<b>2010 - 2011</b>
RESEARCH EXPERIENCE	<b>Funded Research - As Principal Investigator</b>	
	2020 - 2022 #R56 DE028933, National Institute of Dental and Craniofacial Research, "The role of the oral microbiome in disparities in dental caries and responsiveness to caries prevention." \$517,296	
	2019 - 2020 #RA633, New York University Mega Grant Support Initiative, "The role of the oral microbiome in disparities in dental caries and responsiveness to caries prevention: A pilot study." \$15,000	
	2018 - 2024 #PCS160936724, Patient Centered Outcomes Research Institute, "Comparative effectiveness of school-based caries prevention for children: A cluster randomized pragmatic clinical trial." \$13,352,988	
	2017 - 2023 #R01 MD011526, National Institute on Minority Health and Health Disparities, "Statewide implementation and evaluation of a rural caries prevention program." \$3,617,644	
	2016 - 2018 #R03 DE025289, National Institute of Dental and Craniofacial Research, "Analysis of longitudinal data from a school-based caries prevention program." \$317,000	
	<b>As co-investigator or other role</b>	
	2015 - 2016 #R01 DE018729, National Institute of Dental and Craniofacial Research, "Quality of life in children with cleft." \$3,231,498 (Hillary Broder PI)	
	2014 - 2015 #U24 MD006964, National Institute on Minority Health and Health Disparities, "Effectiveness and improvement of rural, school-based, caries prevention programs." \$7,100,000 (Richard Niederman PI)	
	2013 - 2014 NYU Community and Translational Science Institute, "Understanding obesity among public housing residents in NYC: A community-based geospatial project." \$35,000 (Dustin Duncan PI)	
	2013 - 2014 #71637, Robert Wood Johnson Foundation, "Assessing the impact of food restrictions under the Supplemental Nutrition Assistance Program on food choice by families." \$170,000 (Chen Zhen PI)	

### Grants under review

- Submitted School-based oral health programs and the effects on academic performance and school attendance, National Institute of Dental and Craniofacial Research (R03)
- Submitted Optimization of school-based dental programs towards universal oral health equity, National Institute of Dental and Craniofacial Research (R01)

### Other research funding

- 2018 New Hampshire Women, Infants, and Children Pay for Prevention Program. Served as epidemiologist/biostatistician for program evaluation and reporting (\$9,125)
- 2017-2018 New York City Department of Health and Mental Hygiene. Subject-matter expert regarding oral health data registry and survey system development (\$40,000)

### PUBLICATIONS

- [42] **Ruff RR**, Monse B, Duijster D, Naliponguit E, Benzian H. School-based strategies to prevent tooth decay in a high-risk child population in the Philippines: Results of a longitudinal cohort study. *Community Dentistry and Oral Epidemiology*. 2022;00:1-9. doi: 10.1111/cdoe.12729.
- [41] **Ruff RR**. From Jomtien to Dakar: A quality assessment of Malawian Education for All policy, 1990-2010. *EdArXiv*. 2022. doi: 10.35542/osf.io/y5xfk.
- [40] **Ruff RR**, Barry-Godin T, Murray T, Niederman R. Silver diamine fluoride, atraumatic restorations, and oral health-related quality of life: Results from the CariedAway school-based cluster randomized trial, *medRxiv*. 2022. doi: 10.1101/2021.04.19.21255478.
- [39] **Ruff RR**, Whittemore R, Grocheki M, Bateson J, Barry-Godin T. Silver diamine fluoride and oral-health related quality of life: A network meta-analysis. *PLoS One*. 2022; 17(2). doi: 10.1371/journal.pone.0261627
- [38] **Ruff RR**, Sierra MA, Xu F, Crystal Y, Saxena D. Predicting treatment nonresponse in Hispanic/Latino children receiving silver diamine fluoride for caries arrest: A pilot study using machine learning. *Frontiers in Oral Health*. 2021; 2:695759. doi: 10.3389/froh.2021.695759.
- [37] Paul B, Sierra MA, Xu F, Crystal Y, Li X, Saxena D, **Ruff RR**. Microbial population shift and metabolic characterization of silver diamine fluoride treatment failure on dental caries. *PLoS One*. 2021; 16(3). doi: 10.1371/journal.pone.0242396.
- [36] Aldosari MA, Bukhari OM, **Ruff RR**, Palmisano JN, Nguyen H, Douglass CW, Niederman R, Starr JR. Comprehensive, school-based preventive dentistry: program details and students' unmet dental needs. *Journal of School Health*. 2021; 91(9). doi: 10.1111/josh.13063
- [35] Starr JR, **Ruff RR**, Palmisano J, Goodson JM, Niederman R. Longitudinal caries prevalence in a comprehensive, multi-component, school-based prevention program. *Journal of the American Dental Association*. 2021;152(3). doi: 10.1016/j.adaj.2020.12.005
- [34] **Ruff RR**, Saxena D, Niederman R. School-based caries prevention and longitudinal trends in untreated decay: An updated analysis with Markov chains. *BMC Research Notes*. 2020;13(1). doi: 10.1186/s13104-020-4886-8.

- [33] **Ruff RR**. Street-level research in public health nutrition: A cross-sectional study of dietary behavior in New York City. SAGE Research Methods Cases: Medicine & Health. 2020. doi: 10.4135/ 9781529709698.
- [32] Khouly I, Pardinias-Lopez S, **Ruff RR**, Strauss FJ. Efficacy of growth factors for the treatment of peri-implant diseases: A systematic review and meta-analysis. Clinical Oral Investigations. 2020. 24(7):2141-2161. doi: 10.1007/s00784-020-03240-5
- [31] Qi L, Pushalkar S, Kamer A, Corby P, Mota R, Paul B, Guo Y, **Ruff RR**, Alekseyenko A, Li X, Saxena D. The influences of bioinformatics tools and reference databases in analyzing human saliva microbial community. Genes. 2020;11(878). doi: 10.3390/genes11080878.
- [30] Yang C, Crystal Y, **Ruff RR**, Niederman R. Quality appraisal of child oral health-related quality of life measures: A scoping review. JDR Clinical & Translational Research. 2020;5(2). doi: 10.1177/2380084419855636.
- [29] Huang S, **Ruff RR**, Niederman R. An economic evaluation of a comprehensive school-based caries prevention program. JDR Clinical & Translational Research. 2019;4(4):378-387. doi: 10.1177/ 2380084419837587.
- [28] **Ruff RR**. State-level autonomy in the era of accountability: A comparative analysis of Virginia and Nebraska education policy through No Child Left Behind. Education Policy Analysis Archives. 2019;27(6):1-31. doi: 10.14507/epaa.27.4013.
- [27] **Ruff RR**, Senthil S, Susser S, Tsutsui A. Oral health, academic performance, and school absenteeism in children and adolescents: A systematic review and meta-analysis. J Am Dent Assoc. 2019;150(2):111-121. doi: 10.1016/j.adaj.2018.09.023.
- [26] **Ruff RR**, Niederman R. Silver diamine fluoride versus therapeutic sealants for the arrest and prevention of dental caries in low-income minority children: Study protocol for a cluster randomized controlled trial. Trials. 2018;19(1):523. doi: 10.1186/s13063-018-2891-1.
- [25] **Ruff RR**. Total observed caries experience: Assessing the effectiveness of community-based caries prevention. Journal of Public Health Dentistry. 2018;78(4):287-290. doi: 10.1111/ jphd.12284.
- [24] **Ruff RR**, Niederman R. School-based caries prevention, tooth decay, and the community environment. JDR Clinical & Translational Research. 2018;3(2):180-187. doi: 10.1177/ 2380084417750612.
- [23] **Ruff RR**, Niederman R. Comparative effectiveness of school-based caries prevention: A prospective cohort study. BMC Oral Health. 2018;18(1):53. doi: 10.1186/s12903-018-0514-6. (*Recognized as one of five "Highlights of 2018" published in journal*).
- [22] **Ruff RR**, Crerand CE, Sischo L, et al. Surgical care for school-aged youth with cleft: Results from a multicenter, prospective observational study. The Cleft Palate-Craniofacial Journal. 2018;55(8):1166-1174. doi: 10.1177/1055665618765776.
- [21] **Ruff RR**, Niederman R. Comparative effectiveness of treatments to prevent dental caries given to rural children in school-based settings: Protocol for a cluster randomized controlled trial. BMJ Open. 2018;8(4). doi: 10.1136/bmjopen-2018-022646.
- [20] **Ruff RR**, Sischo L, Chinn CH, Broder HL. Development and validation of the Child Oral Health Impact Profile - Preschool version. Community Dental Health. 2017;34(3):176-182. doi: 10.1922/ CDH\_4110Ruff07.

- [19] Huang SS, **Ruff RR\***, Niederman R. The benefit of early preventive dental care for children. *JAMA Pediatrics*. 2017;171(9):918. doi:10.1001/jamapediatrics.2017.2066.
- [18] Broder HL, Crerand CE, **Ruff RR**, Peshansky A, Sarwer DB, Sischo L. Challenges in conducting multicenter, multidisciplinary, longitudinal studies in children with chronic conditions. *Community Dentistry and Oral Epidemiology*. 2017;45(4):1-6. doi: 10.1111/cdoe.12293.
- [17] Rajendra A, Veitz-Keenan A, Oliveira BH, **Ruff RR**, Wong MCM, Innes NPT, Radford J, Seifo N, Niederman R. Topical silver diamine fluoride for managing dental caries in children and adults (Protocol). *Cochran Database of Systematic Reviews*. 2017;7. doi: 10.1002/14651858.CD012718.
- [16] **Ruff RR**, Sischo L, Broder HL. Minimally important difference of the Child Oral Health Impact Profile for children with orofacial anomalies. *Health and Quality of Life Outcomes*. 2016;14(140). doi: 10.1186/s12955-016-0544-1.
- [15] **Ruff RR**, Broder H, Sischo L. Resiliency and socioemotional functioning in youth receiving surgery for orofacial anomalies. *Community Dentistry and Oral Epidemiology*. 2016;44(4):371-80. doi: 10.1111/cdoe.12222.
- [14] **Ruff RR**. The impacts of retention, expenditures, and class size on primary school completion in Sub-Saharan Africa: A cross-national analysis. *International Journal of Education Policy and Leadership*. 2016;11(8).
- [13] **Ruff RR**, Ng J, Jean-Louis G, Elbel B, Chaix B, Duncan DT. Neighborhood stigma is associated with poor sleep health in a pilot study of low-income housing residents in New York City. *Behavioral Medicine*. 2016;44(1). doi: 10.1080/08964289.2016.1203754.
- [12] Duncan DT, **Ruff RR**, Chaix C, Regan SD, et al. Perceived spatial stigma, body mass index, and blood pressure: A GPS study among low-income housing residents in New York City. *Geospatial Health*. 2016;11(2). doi: 10.4081/gh.2016.399
- [11] **Ruff RR**. Sugar-sweetened beverage consumption is linked to global adult mortality through diabetes mellitus and adiposity-related diseases including cardiovascular disease and cancer. *Evidence Based Medicine*. 2015;20(6):223-4. doi: 10.1136/ebmed-2015-110267.
- [10] **Ruff RR**, Zhen C. Estimating the effects of a calorie-based sugar-sweetened beverage tax on weight and obesity in New York City adults using dynamic loss models. *Annals of Epidemiology*. 2015;25(5):350-357. doi: 10.1016/j.annepidem.2014.12.008.
- [9] **Ruff RR**, Adjoian T, Akhund A. Small convenience stores and the local food environment: An analysis of resident shopping behavior using multilevel modeling. *American Journal of Health Promotion*. 2015;30(3):172-180. doi: 10.4278/ajph.140326-QUAN-121.
- [8] Yi SS, **Ruff RR**, Jung M, Waddell EN. Racial/ethnic residential segregation, neighborhood poverty and urinary biomarkers of diet in New York City adults. *Social Science and Medicine*. 2014;122:122-129. doi: 10.1016/j.socscimed.2014.10.030.
- [7] Duncan DT, Regan SD, Shelley D, Day K, **Ruff RR**, Al-Bayan M, Elbel B. Using Global Positioning System (GPS) methods to study the spatial contexts of obesity and hypertension risk among low-income housing residents in New York City: A feasibility study. *Geospatial Health*. 2014;9(1):57-70.
- [6] Miller-Archie SA, Jordan HT, **Ruff RR**, Chamany S, Cone JE, Brackbill RM, et al. Post-traumatic stress disorder and new-onset diabetes among adult survivors of the World Trade Center

disaster. Preventive Medicine. 2014;66:34-38. doi: 10.1016/j.ypmed.2014.05.016

[5] Zhen C, Brissette I, **Ruff RR**. By ounce or by calorie: The differential effects of alternative sugar-sweetened beverage tax strategies. American Journal of Agricultural Economics. 2014;96(4):1070-1083. doi: 10.1093/ajae/aau052. Published online June 2, 2014.

[4] Day K, Loh R, **Ruff RR**, Rosenblum R, Fischer S, Lee K. Does bus rapid transit promote walking? An examination of New York City's Select Bus Service. Journal of Physical Activity and Health. 2014;11(8):1512-1516. doi: 10.1123/jpah.2012-0382.

[3] **Ruff RR**, Akhund A, Adjoian T, Kansagra SM. Calorie intake, sugar-sweetened beverage consumption, and obesity among New York City Adults: Findings from a 2013 population study using dietary recalls. Journal of Community Health. 2014;39(6):1117-1123. doi: 10.1007/s10900-014-9865-3.

[2] **Ruff RR**, Rosenblum R, Fischer S, Meghani H, Adamic J, Lee KK. Associations between building design, point-of-decision stair prompts, and stair use in urban worksites. Preventive Medicine. 2013;60:60-64. doi: 10.1016/j.ypmed.2013.12.006.

[1] **Ruff RR**. School counselor and school psychologist perceptions of accountability policy: Lessons from Virginia. The Qualitative Report. 2011;16(5):1270-1290.

PAPERS IN  
PREPARATION

Ellis AW, Ruff RR, Kosaraju A. Dental erosion as an early indicator for gastroesophageal reflux disease. Submitted, General Dentistry.

Khoully I, Pardinas-Lopez S, Ruff RR, Strauss FJ. The efficacy of antibiotics in the treatment of peri-implant diseases: a systematic review and meta-analysis. Submitted, Clinical Oral Investigations.

Ibrahim F, Giugliano T, Goldstein GR, Ruff RR, Choi M. Digital analysis of the dimensional change of irreversible hydrocolloid impression material with varying storage times. Submitted, Primary Dental Journal.

Ruff RR, Niederman R. Silver diamine fluoride is non-inferior to therapeutic sealants in the two-year arrest and prevention of dental caries: Results from the CariedAway school-based cluster randomized pragmatic trial.

Ruff RR, Niederman R. Silver diamine fluoride versus glass ionomer sealants for the longitudinal prevention of dental caries: Results from the CariedAway school-based cluster randomized pragmatic trial.

Ruff RR. Nurses are non-inferior to hygienists in the retention and effectiveness of silver diamine fluoride for the arrest of dental caries in a school-based program.

Ruff RR. Average school performance improves following the introduction of a school-based caries prevention program: An interrupted time-series analysis approach.

Ruff RR. Oral health, academic achievement, and the impact of school-based caries prevention: Results from the CariedAway trial.

Ruff RR. Oral health, student attendance, and the impact of school-based caries prevention: Results from the CariedAway trial.

Ruff RR, Barry-Godin T, Whittlemore R, Murray T, Niederman R. Implementation of a large cluster-randomized pragmatic trial for the prevention of dental caries in school-based settings: Lessons from

the CariedAway study.

ORAL  
PRESENTATIONS  
AND SYMPOSIA

- June 2021 Applications of machine learning in oral health: predicting treatment nonresponse in children receiving nonsurgical caries prevention. 9th International Conference on Methodological Issues in Oral Health Research, New York, USA
- Sep 2019 Measuring responsiveness to preventative treatments for dental caries: Towards a predictive model using machine learning (Ruff RR, Saxena D). Oral presentation given at the CED-IADR Oral Health Research Congress, Madrid, Spain
- June 2018 Applications of virtual reality in training oral and maxillofacial surgery techniques (Ruff RR). NYU Academy of Distinguished Educators teaching and learning club, New York, USA
- May 2018 Research to optimize school-based caries prevention (Ruff RR). Oral presentation given at the 8th International Conference on Methodological Issues in Oral Health Research, Hong Kong
- Oct 2017 Assessing additional options for school-based caries prevention (“Improving determinants of child development” Symposium). Presented at the IADR World Congress on Preventive Dentistry, New Delhi, India

SELECTED  
ABSTRACTS

- July 2021 Silver diamine fluoride, dental caries, and quality of life in low-income minority children: Results from the CariedAway school-based cluster randomized trial. IADR/AADR General Session
- Oct 2018 Should dental insurers implement comprehensive school-based caries prevention programs? (Huang S, Ruff RR, Niederman R). 41st Annual Meeting of the Society for Medical Decision Making
- Apr 2018 Development and validation of the Child Oral Health Impact Profile Preschool Version (Broder HL, Sischo L, Ruff RR, et al). 75th Meeting of the American Cleft Palate Craniofacial Association
- Apr 2017 Analysis of school-based caries prevention programs (Ruff RR). New York University Faculty Research Symposium, New York, USA
- Mar 2017 Patient-centered outcomes in periodontitis patients (Rego R, Russell S, Burukunte S, Ruff RR, et al). 95th General Session of the IADR, California, USA
- Mar 2017 CariedAway: Outcomes of school-based caries prevention (Ruff RR, Niederman R). 95th General Session of the IADR, California, USA
- Mar 2017 SDF for Caries Prevention in Primary Teeth: A systematic review (Oliveira B, Rajendra A, Keenan A, Ruff RR, Niederman R). 95th General Session of the IADR, California, USA
- Feb 2015 Spatial stigma and drug use among low-income housing residents in NYC (Ruff RR, Duncan DT). New York City Epidemiology Forum, New York, NY
- Sep 2014 Estimating the effects of sugar-sweetened beverage taxes on weight and obesity in NYC (Ruff RR, Zhen C). American College of Epidemiology annual meeting, Maryland, USA

Feb 2014 Dietary sources of sugar and drink-specific calorie intake in New York City Adults (Adjoian T, Ruff RR, Akhund A). New York City Epidemiology Forum

SERVICE &  
COMMITTEE  
ACTIVITIES

**New York University**

2021-Pres University Graduate Program Committee

Spring 2018 College faculty representative, NYU Faculty Urban Research Day

2014-2016 Teaching fellow, Center for the Promotion of Research Involving Innovative Statistical Methodology (PRIISM)

**College**

2019-Pres Faculty Council

2016-Pres Director, MS Program in Clinical Research

2016-Pres Director, Biostatistics Core

2017-Pres Member, NYU Academy of Distinguished Educators

2018-2022 Member, Curriculum Committee

2016-Pres Member, Graduate Council on Ethics and Professionalism

2016-2019 Member, Council on Humanitarianism and Culture Change

2017-2018 Mentor, Summer D1 Research Experience

2014-2015 Teaching and Learning Club

2014-2015 Statistics Unit Head, College of Dentistry and School of Nursing

2014-2016 Technology Enhanced Learning Committee (NYU SGPH)

**Department**

2020-Pres Chair, Oral Health Epidemiology and Analysis Lab

Fall 2021 Hiring Committee

2019-2020 Planning Committee, 2020 Methodology in Oral Health Research Conference

Spring 2017 Hiring Committee

2015-2016 Chair, Curriculum Committee, MS Program in Clinical Research

2015-2016 Admissions Committee

2014-2015 Curriculum Committee

**Other**

2011-2014 Surveillance and Epidemiology Unit, NYC Incident Command System

2010-2011 Member, NYC Department of Education Institutional Review Board

**Student Advising & Mentoring**

Analyzing the impact of prevention on new dental caries over time in schoolchildren with preexisting untreated decay: The Forsyth Study (Kajal Desai, MPH thesis - 2019)



The comparative performance and appropriateness of caries indices for use in oral epidemiology research: a prospective cohort example (Dhawani Shah, MPH thesis - 2019)

Factors related to periodontitis prevalence and dental care utilization in US Hispanic women with changes in progesterone and estrogen levels (Ifrah Choudhary, MPH thesis - 2017)

Periodontitis and the risk of psoriasis in the US population using the National Health and Nutrition Examination Survey, 2009-2012 (Zhen Li, MS capstone - 2016)

Public health interventions for obesity in New York City (M. Seamans, HRTIP Internship, NYC Department of Health and Mental Hygiene, 2013).

### **Reviewing and Editorial Service**

*Reviewer:* PLOS One, BMJ Open, Preventive Medicine, JDR Clinical and Translational Research, BMC Oral Health, Journal of Public Health Dentistry, Community Dentistry & Oral Epidemiology, Evidence-Based Medicine, BMC Public Health, Journal of Clinical Periodontology, Journal of the American Dental Association, Medicine, International Dental Journal, Clinical Implant Dentistry and Related Research, Pediatrics, International Journal of Paediatric Dentistry, Education Policy Analysis Archives

*Scientific Advisory Board,* JDR Clinical & Translational Research (2021-Present)

*Academic Editor,* Medicine (2016-2019)

### **Community & Professional Service**

2021 Study Section, National Institutes of Health. Oral, Dental, and Craniofacial Sciences (ODCS). Musculoskeletal, Oral, and Skin Sciences IRG.

2017 Grant Reviewer, Oral Disease and Dental Health Review Committee, California Tobacco-Related Research Program (TRDRP). Content expert for oral disease epidemiology and biostatistics.

2014 Consulting, Fiji National University, for the 2014 Fijian Oral Health Survey. Sampling procedures, data management and analysis, and reporting for government release.

### **TEACHING & EDUCATIONAL ACTIVITIES**

#### **Courses Taught**

Epidemiology (MS), 1 semester

Scientific Writing (MS), 1 semester

Epidemiology of Dental Caries (DDS, "Diagnosis and Treatment of Oral Disease" course), 3 semesters

Biostatistics for Public Health (MPH/PhD/DDS), 12 semesters

Data Management using SAS I (MS), 3 semesters

Data Management using SAS II (MS), 3 semesters

Clinical Research Practicum I (MS), 3 semesters

Clinical Research Practicum II (MS), 3 semesters

Biostatistics I (MPH/PhD), 2 semesters

Biostatistics II (MPH/PhD), 2 semesters

Propensity Score Matching (Post-graduate), 6 summer sessions

Methods of Causal Inference (Post-graduate), 2 summer sessions

Survey Research (Post-graduate, co-taught), 1 summer sessions

Qualitative Data Analysis (PhD), 1 semester

## Educational Materials Developed

### *MS Program in Clinical Research, 2016*

In 2016 I was asked to assume the role of Director of the MS Program in Clinical Research in the department of Epidemiology and Health Promotion. In so doing, I evaluated and revised the program curriculum, moving from 50 credits to 30, updated all syllabi for new competencies and state requirements, and successfully applied for state approval. I am responsible for reviewing and admitting outstanding applicants and developing new educational materials each year including advertising and new program options, such as a dual MS/MS with Biomaterials and a joint BS/MS with the NYU College of Arts and Sciences.

### *Biostatistics for Public Health, 2014*

In collaboration with the NYU Global Technology Service and the College of Global Public Health, I created a fully-online course in Biostatistics to be offered to students at CGPH, the College of Dentistry, and the School of Medicine. This project required creating a new syllabus, all educational materials (including lessons, datasets, problem sets, and lab sheets), writing lecture scripts, and recording professional-quality videos for use in the online classroom.

### *Data Management II, 2014*

For Data Management II, I created a new syllabus with updated competencies and focused the core course on a set of skills necessary for students pursuing careers in Clinical Research. Development for this course included a new syllabus, writing new SAS code for every course module, and creating problem sets/projects for student assessment.

### *Propensity Score Matching, 2012*

The PSM course is a fully online course using the Canvas Instructure framework. It is a five-module course on the theory and practice of causal inference and propensity scores to analyze epidemiologic data. Development included syllabus, lessons, lecture videos, datasets, laboratory problem sets, and worksheets.

### *Causal Inference, 2011*

As part of the Columbia Epidemiology & Population Health Institute, I developed a 5-day, 30-hour course in Causal Inference methods. Modules for this course included theories of causal inference, difference in difference methodology, regression discontinuity designs, propensity score analysis, and instrumental variables. Development included syllabus, lessons, datasets, problem sets, and assignments.

## MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Fellow, New York Academy of Medicine
- Member, Cochrane Collaboration
- Fellow, Royal Society of Medicine
- Member, New York Academy of Sciences
- Fellow, Royal Society of Public Health
- Member, International Association of Dental Research
- Member, American Dental Education Association

## SOFTWARE

- Statistical Packages: R, Stata, LISREL, AMOS, BUGS; SAS (rusty), SPSS.
- Applications: EpiMouth (built in R Shiny), L<sup>A</sup>T<sub>E</sub>X, R-Markdown, REDCap, N<sup>o</sup>Vivo, EndNote, JMP, common Windows database, spreadsheet, and presentation software