

Ryan Richard Ruff, PhD, MPH

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RESEARCH SUMMARY	My primary investigator-initiated research focuses on school health system evaluation and the impacts on child development. Within the College I am director of the Biostatistics Core, which supports additional collaborations in pediatrics, molecular pathobiology, and oncology.	
EDUCATION	University of Virginia , Charlottesville, VA USA PhD in Research, Statistics, & Evaluation, December 2009 BAMT in Education, May 2005 Cambridge University , Cambridge, UK MPhil in Education Policy, July 2010 Harvard University , Cambridge, MA USA MPH in Epidemiology, May 2017	
HONORS AND AWARDS	2024 Cuspie Award, Scientific Paper of the Year 2022 Fellow of the American College of Epidemiology 2021 Sigma Xi Scientific 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 "Paper Highlight of 2018", <i>BMC Oral Health</i> 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	New York University College of Dentistry , New York, NY Department of Epidemiology & Health Promotion <i>Associate Professor (tenure track)</i> 2019 - Pres <i>Assistant Professor (tenure track)</i> 2017 - 2019 <i>Research Assistant Professor</i> 2014 - 2017 Director, Biostatistics Core (2017-Present), Director, MS Program in Clinical Research (2017-Present), Head of the Statistics & Data Unit (2015-2017)	

PROFESSIONAL EXPERIENCE	New York University School of Global Public Health, New York, NY		
	<i>Associated Professor</i>		2014 - Pres
	<i>Adjunct Associate Professor</i>		2012 - 2014
	Uniformed Services University of the Health Sciences		
	<i>Adjunct Associate Professor</i>		2022 - Pres
RESEARCH EXPERIENCE	R³ Methodology Consulting, New York, NY		
	<i>Principal Consultant</i>		2023 - Pres
	Columbia Epidemiology & Population Health Institute, New York, NY		
	<i>Instructor</i>		2012 - 2021
	New York City Department of Health, New York, NY		
<i>Director, Research & Evaluation Unit</i>		2011 - 2014	
New York City Department of Education, New York, NY			
<i>Director of Research & Evaluation</i>		2010 - 2011	
Funded Research - As Principal Investigator			
2024 - 2026		Supplementary award, Patient-Centered Outcomes Research Institute (parent award #PCS160936724). “Optimizing school-based oral health programs that use silver diamine fluoride.” \$394,472	
2018 - 2026		PCS160936724, Patient-Centered Outcomes Research Institute, “Comparative effectiveness of school-based caries prevention for children: A cluster randomized pragmatic clinical trial.” \$13,052,988 (MPI)	
2023 - 2024		JSI22-1529, JSI Research & Training Institute and NH Department of Health & Human Services, “Sustainability of a school-based caries prevention program.” \$249,022	
2023 - 2023		C38355GG, New York State Department of Health School-Based Dental Home Program (SBDHP), “CariedAway: A sustainable model for school-based dental programs in New York City.” \$50,000.	
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	
2017 - 2024		R01 MD011526, National Institute on Minority Health and Health Disparities, “Statewide implementation and evaluation of a rural caries prevention program.” \$3,617,644 (MPI)	

2016 - 2018 R03 DE025289, National Institute of Dental and Craniofacial Research, "Analysis of longitudinal data from a school-based caries prevention program." \$317,000

As co-investigator or other role

2024 - 2028 R01 NS102722, National Institute of Neurological Disorders and Stroke, "Endosomal platforms for signaling pain" \$3,062,710 (Bunnett & Schmidt, PIs)

2024 - 2026 R01 DE031319, National Institute of Dental and Craniofacial Research, "A multi-center prospective cohort study of malignant transformation risk in oral epithelial dysplasia and cancer recurrence risk in oral squamous cell carcinoma" \$3,699,333 (McDevitt, PI)

2024 - 2026 RM1 DE033491, National Institute of Dental and Craniofacial Research, "Endosomal mechanisms signaling oral cancer pain" \$4,820,611 (Schmidt & Bunnett, PIs)

2024 - 2026 R01 NS125413, National Institute of Neurological Disorders and Stroke, "Mechanisms of Endosomal Signaling of Itch" \$1,959,966 (Jensen, PI)

2024 - 2026 R01 CA231396, National Cancer Institute, "TRPV1 nociceptors in oral carcinogenesis and pain" \$3,101,649 (Albertson & Schmidt, PIs)

2024 - 2025 UG3 NS128148 (sub-award), National Institute of Neurological Disorders and Stroke, "Peripherally-restricted non-addictive cannabinoids for cancer pain treatment" \$301,369 (Spigelman, PI)

2024 - 2025 R01 DE029694, National Institute for Dental and Craniofacial Research, "Intra-tumor co-delivery of DNA and RNA to relieve cancer pain" \$2,905,693 (Schmidt & Yamano, PIs)

2024 - 2025 W81XWH-22-1, Department of Defense, "Receptors in endosomes mediate chronic pain associated with trauma and stress: Non-opioid targets for pain" \$936,199 (Schmidt, PI)

2024 - 2025 R01 CA228525, National Cancer Institute, "Artemin overexpression in oral cancer pain and carcinogenesis" \$2,567,300 (Albertson, PI)

2024 - 2025 R01 DE029951, National Institute for Dental and Craniofacial Research, "Targeting endosomal receptors for treatment of chronic pain". \$3,385,528 (Bunnett & Schmidt, PIs)

2024 - 2024 R01 DE026806 (NCE), National Institute of Dental and Craniofacial Research, "Protease PAR TRPV4 Axis and Oral Cancer Pain" \$3,917,007 (Schmidt & Bunnett, PIs)

2024 - 2024 R03 DE030996, National Institute of Dental and Craniofacial Research, "TRPA1 regulation of oral cancer nociception" \$317,000 (Bhattacharya, PI)

2022 - 2023 JSI22-1529, US Department of Health & Human Services, "Situation analysis, planning, and proposal for a statewide school-based cavity prevention program" \$50,000 (Niederman, PI)

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| 2015 - 2016 | R01 DE018729, National Institute of Dental and Craniofacial Research, “Quality of life in children with cleft.” \$3,231,498 (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 (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 (Duncan, PI) |
| 2013 - 2014 | RWJF71637, 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) |

Other research funding

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

Grants under review or under development

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| Submitted | Pragmatic Research to Implement Sustainable Medicine in Schools (PRISMS), National Institute of Dental and Craniofacial Research (PI, R01) |
| Submitted | Making caries prevention SMART: A personalized approach to school-based oral medicine, National Institute on Minority Health and Health Disparities (PI, R01) |
| Submitted | School-based dental programs and the effects on academic performance and student attendance, Spencer Foundation (PI, Large Research Grants on Education) |
| Submitted | Marijuana-induced dysbiosis in experimental gingivitis, National Institute of Dental and Craniofacial Research (Co-I, UG3/UH3) |
| Submitted | Gut microbiome alterations as a mechanism of immune dysregulation in new onset refractory status epilepticus, National Institute of Dental and Craniofacial Research (Co-I, R01) |
| Submitted | Defining TRPV4 contribution of Schwann cells to oral cancer pain, National Institute of Dental and Craniofacial Research (Mentor, no salary requested, K23) |
| In progress | Adult transition support for oral health in adolescents with cognitive and intellectual disabilities, institute TBD (PI, R01). |

PUBLICATIONS

- [56] **Ruff RR**, Barry-Godin T, Niederman R. Noninferiority of silver diamine fluoride vs sealants for reducing dental caries prevalence and incidence: A randomized clinical trial. *JAMA Pediatrics*. 2024; doi: 10.1001/jamapediatrics.2023.6770.

- [55] Rajendra A, Veitz-Keenan A, Oliveira BHM, **Ruff RR**, Wong MCM, Innes NPT, Radford J, Seifo N, Niederman R, Huang SS, Yang C. Topical silver diamine fluoride for managing dental caries in children and adults. *Cochrane Database of Systematic Reviews* TBD, Issue TBD. Art. No.: CD012718. DOI: 10.1002/14651858.CD012718.pub2.
- [54] Poudel SB, **Ruff RR**, Yildirim G, Miller RA, Harrison DE, Strong RL, Kirsch T, Yakar S. Development of primary osteoarthritis during aging in genetically diverse UM-HET3 mice. *bioRxiv*. 2024. doi: 10.1101/2023.12.16.571693.
- [53] **Ruff RR**. Minimally invasive treatments for dental caries applied in a school-based model: The CariedAway pragmatic randomized trial. Washington, DC: Patient-Centered Outcomes Research Institute (PCORI); 2024.
- [52] **Ruff RR**, Barry-Godin T, Whittemore R, Small TM, Santiago-Galvin N, Sharma P. Unmet dental needs in children following suspension of school-based oral health services due to COVID-19. *J School Health*. 2024; doi: 10.1002/JOSH.13433.
- [51] Poudel SB, **Ruff RR**, Yildirim G, Dixit M, et al. Excess Growth Hormone Triggers Inflammation-Associated Arthropathy, Subchondral Bone Loss, and Arthralgia. *American Journal of Pathology*. 2023; 193(6):829-842. doi: 10.1016/j.ajpath.2023.02.010.
- [50] Yildiri G, Bergamo ETP, Poudel S, **Ruff RR**, et al. Effects of canagliflozin on skeletal morphology, bone mineral composition, and nano-mechanical properties in UM-HET3 mice. *GeroScience*. 2023; 45(3):1933-1951. doi: 10.1007/s11357-023-00803-8.
- [49] **Ruff RR**, Habib R, Barry-Godin T, Niederman R. School-based caries prevention and the impact on acute and chronic student absenteeism. *Journal of the American Dental Association*. 2023; 154(8):753-759. doi: 10.1016/j.adaj.2023.05.007.
- [48] **Ruff RR**, Barry-Godin T, Niederman R. Effect of silver diamine fluoride on caries arrest and prevention: the CariedAway school-based randomized clinical trial. *JAMA Netw Open*. 2023; 6(2). doi: 10.1001/jamanetworkopen.2022.55458.
- [47] Poudel SB, Frikha-Benayed D, **Ruff RR**, Yildirim G, Dixit M, Korstanje R, Robinson L, Miller RA, Harrison DE, Strong JR, Schaffler MB, Yakar S. Targeting mitochondrial dysfunction using methylene blue or mitoquinone to improve skeletal aging. *Aging*. 2023;15. doi: 10.18632/aging.
- [46] **Ruff RR**, Barry-Godin T, Niederman R. The effectiveness of medical nurses in treating children with silver diamine fluoride in a school-based caries prevention program. *Community Dentistry & Oral Epidemiology*. 2023;00:1-8. doi: 10.1111/CDOE.12925.
- [45] Dixit M, Louis LD, Basta-Lkjakic J, ... **Ruff RR**, Schaffler MB, Yakar S. Lifelong excess in GH elicits sexual dimorphic effects on skeletal morphology and bone mechanical properties. *J Bone Miner Res*. 2022; 37(11). doi: 10.1002/jbmr.4699.
- [44] Choi M, Ibrahim F, **Ruff RR**, Giugliano T. Digital Analysis of the Dimensional Change Of an Irreversible Hydrocolloid Impression Material (Alginate) with Varying Storage Times. *Primary Dental Journal*. 2022; 11(4). doi: 10.1177/20501684221133417.
- [43] Ellis AW, Kosaraju A, **Ruff RR**, Miller CB, Francis JM, Vandewalle KS. Dental erosion as an indicator for gastroesophageal reflux disease. *General Dentistry*. 2022; 70(6):46-51.
- [42] **Ruff RR**, Barry-Godin T, Murray T, Niederman R. Silver diamine fluoride, atraumatic restorations, and oral health-related quality of life in children aged 5-13 years: Results from the Caried-

Away school-based cluster randomized trial, *BMC Oral Health*. 2022; 22(125). doi: 10.1101/2021.04.19.21255478.

[41] **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;51(2):219-227. doi: 10.1111/cdoe.12729.

[40] **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

[39] **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.

[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**, Senth 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.
- [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.

[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

Niederman R, Ruff RR. Primary prevention of dental caries in children using silver diamine fluoride and fluoride varnish: A randomized clinical trial.

Ruff RR. Average school performance following the introduction of a school-based caries prevention program.

Barry Godin T, Hawthorn G, Ruff RR. Treatment time requirements for school-based caries prevention.

He K, Barry Godin T, Ruff RR. Surface-level caries incidence in school-based caries prevention.

He K, Barry Godin T, Ruff RR. Transition probabilities of caries in teeth treated with silver diamine fluoride in a pragmatic clinical trial.

Kosaraju A, Vader V, Ruff RR, Vandewalle K. Evaluating the Diagnostic Interrater Reliability between Virtual and In-person Sick-call Examinations at a Military Dental Treatment Facility.

Huang, S.S., R.R. Ruff, S. Wang, and H.T. Gold. 2022. The impact of school-based caries prevention programs on health care system burden from dental needs among children during COVID-19: a NY Medicaid claims analysis.

Huang, S.S., S. Wang, R.R. Ruff, and H.T. Gold. 2022. Do school-based caries prevention programs really treat the highest risk children? A NY Medicaid claims data analysis.

Huang, S.S., S. Wang, R.R. Ruff, T. Barry-Godin and H.T. Gold. 2022. The Impact of Heterogeneity in Resource Use in School-Based Caries Prevention Programs on Implementation Decisions.

Ruff RR. Making school-based caries prevention SMART: Reducing health inequities through adaptive interventions.

Barry Godin T, Ruff RR. Using delayed silver modified atraumatic restorations in a school oral health program.

INVITED TALKS

Oct 2023 “The promise of engagement for school-based oral health”. Invited speaker for the 2023 Annual Meeting of the Patient-Centered Outcomes Research Institute, session “Practicalities of Conducting Meaningful Engagement: A Menu of Tips and Resources from Experience”. Washington, DC.

Jun 2023 “School-based strategies to prevent dental caries in high-risk populations”. Invited speaker for the 29th Congress of the International Association of Paediatric Dentistry, session “Joining forces in prevention: Global initiatives for caries preventive programs”. Maastricht, the Netherlands.

May 2023 Findings and implications from our 2023 paper in *JAMA Network Open* were presented by invitation to the Medicaid/Medicare/CHIP Services Dental Association (MSDA) Annual Symposium, Clinical Perspectives and Evidence Update session (team invitation). Washington, DC.

Sep 2022 “Research and development in school-based health”. Invited lecture given to the Medicine Grand Rounds speaker series, Vanderbilt University Medical Center, Division of Epidemiology. Nashville, TN, USA.

	Jun 2021	“Applications of machine learning in oral health: predicting treatment nonresponse in children receiving nonsurgical caries treatment”. Invited speaker for the 9th International Conference on Methodological Issues in Oral Health Research, New York, USA
	Oct 2017	“Assessing additional options for school-based caries prevention: Improving determinants of child development”. Invited speaker for the 11th IADR World Congress on Preventive Dentistry, New Delhi, India
ORAL PRESENTATIONS AND SYMPOSIA	Jun 2023	CariedAway: One solution for a global disease. Oral presentation given at the 2023 National School-Based Health Care Conference, Washington, D.C., USA
	Jun 2023	Essential oral healthcare in a school context. Oral presentation given by invitation at the 2023 International Association for Dental Research (invited presentation, senior author), Bogotá, Colombia
	Nov 2022	Building Sustainable, Effective School-Based Oral Health Programs. Oral Symposium. Three abstracts accepted as senior author, one as first author titled “School-based caries prevention with minimally invasive treatments: Results from phase one of the CariedAway cluster randomized pragmatic trial”. Presented at the 2022 American Public Health Association Meeting, Boston, USA
	Sep 2020	Silver diamine fluoride for school-based caries prevention. Oral presentation accepted at the PED-IADR Congress, Marseille, France (Conference cancelled due to COVID-19)
	Sep 2019	Measuring responsiveness to preventative treatments for dental caries: Towards a predictive model using machine learning. Oral presentation given at the CED-IADR Oral Health Research Congress, Madrid, Spain
	May 2018	Research to optimize school-based caries prevention. Oral presentation given at the 8th International Conference on Methodological Issues in Oral Health Research, Hong Kong
INTERNAL TALKS	Dec 2023	Adaptive interventions in support of personalized medicine. New York University Faculty Development Program, New York, USA.
	Jun 2018	Applications of virtual reality in training oral and maxillofacial surgery techniques. NYU Academy of Distinguished Educators Teaching and Learning seminar, New York, USA
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
	Apr 2018	Development and validation of the Child Oral Health Impact Profile Preschool Version. 75th Meeting of the American Cleft Palate Craniofacial Association
	Apr 2017	Analysis of school-based caries prevention programs. New York University Faculty Research Symposium, New York, USA

Mar 2017	CariedAway: Outcomes of school-based caries prevention. 95th General Session of the IADR, California, USA
Mar 2017	SDF for Caries Prevention in Primary Teeth: A systematic review. 95th General Session of the IADR, California, USA
Feb 2015	Spatial stigma and drug use among low-income housing residents in NYC. New York City Epidemiology Forum, New York, NY
Sep 2014	Estimating the effects of sugar-sweetened beverage taxes on weight and obesity in NYC. American College of Epidemiology annual meeting, Maryland, USA
Mar 2014	An analysis of the bodega food environment in New York City. 24th Annual Art and Science of Health Promotion Conference, Denver, CO
Feb 2014	Dietary sources of sugar and drink-specific calorie intake in New York City Adults. New York City Epidemiology Forum, New York, NY
Aug 2023	By ounce or by calorie: The different effects of alternative sugar-sweetened beverage tax strategies (with C. Zhen). 2013 meeting of the Agricultural and Applied Economics Association, Washington, DC
Jun 2013	Segregation, neighborhood poverty, and diet: Findings from a population-based survey of NYC adults (with S. Yi). 46th meeting of the Society for Epidemiologic Research, Boston, MA

PRESS & MEDIA COVERAGE

Local and National

The Washington Post, Dentistry Today, Daily Mail, Semafor, Decisions in Dentistry, Dr. Bicuspid, Dentistry IQ, The New York Post, Brooklyn Eagle, HealthDay, AAAS Newswire. Television coverage in News 1, News 12 New York, NBC Boston, NBC Connecticut, and Spectrum 1 (research site visit)

Global

Dental News (Pakistan), *Bite Magazine* (Australia), *Asharq Al-Awsat* (Egypt)

Interviews

News 1 New York, ADHA Official Podcast

TRADEMARKS & INTELLECTUAL PROPERTY

Trademarks

CariedAway, Secondary Innovator
PRISMS, Primary Innovator

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), 4 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

SERVICE &
COMMITTEE
ACTIVITIES

New York University

2024	Community-Engaged Scholarship Task Force
2023-Pres	Strategies to Reduce Inequality Research Working Group
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

2024	DDenSci Development Committee
2024-2026	Curriculum Committee
2019-2023	Faculty Council
2017-2023	NYU Academy of Distinguished Educators
2018-2022	Curriculum Committee
2016-Pres	Director, MS Program in Clinical Research
2016-Pres	Director, Biostatistics Core
2016-Pres	Graduate Council on Ethics and Professionalism
2016-2019	Council on Humanitarianism and Culture Change
2017-2018	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

Fall 2022	Chair, Faculty Search Committee (tenure track)
Fall 2022	Chair, Faculty Search Committee (research track)
2020-Pres	Director, Research & Analysis in School Health (RASH) Lab

Fall 2021	Faculty Search Committee
2019-2020	Planning Committee, 2020 Methodology in Oral Health Research Conference
Spring 2017	Faculty Search 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

Community & Professional Service

2024	Virginia MCH-IOHI Alliance Member. Content expert in public health surveillance, analysis, and evaluation; sponsored by the Virginia Health Catalyst.
2024	Delphi Panelist for the ChatGPT, Generative Artificial Intelligence, and Natural Large Language Models for Accountable Reporting and Use (CANGARU) Project.
2024	Reviewer, Health Research Board of Ireland (HRB). Content expert for dental public health interventions and child development.
2023	World Workshop of Oral Medicine IX (WWOM). Project Consultant for Group 5: Predoctoral Oral Medicine Curriculum.
2023	Oral Health Disparities and Inequities (OHDI) Research Think Tank participant, National Institute of Dental and Craniofacial Research. Summary results published online at https://www.nidcr.nih.gov/grants-funding/grant-programs/health-disparities-research-program/think-tank
2022	Study Section, National Institute of Dental and Craniofacial Research. Review panel for Oral Health Data Analysis and Statistical Methodology Development and Analyses of Existing Genomics Data applications.
2022	Study Section, National Institute of Dental and Craniofacial Research. Special Grants Review Committee (DSR).
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.

REVIEWING & EDITORIAL

Reviewer

JAMA Network Open, American Journal of Preventive Medicine, PLOS One, BMJ Open, Preventive Medicine, JDR Clinical and Translational Research, BMC Oral Health, Journal of Pub-

lic Health Dentistry, Community Dentistry & Oral Epidemiology, Evidence-Based Medicine, BMC Public Health, BMJ 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, Journal of American College Health, British Dental Journal

Editorial

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

Medicine (Academic Editor, 2016-2019)

MENTORING AND ADVISING

Thesis or capstone supervisor

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)

Intermittent fasting and oral health (Jillian Bateson, Furman University Undergraduate Capstone Project, 2019 - later admitted to dental school)

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, Master of Science capstone in Clinical Research - 2016)

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

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- American College of Epidemiology (Fellow)
- American Statistical Association, Statistics in Epidemiology Section
- American Educational Research Association
- American Public Health Association
- New York Academy of Medicine (Fellow)
- New York Academy of Sciences
- Cochrane Collaboration
- Previously the Society for Epidemiologic Research, the International Association for Dental Research, the American Dental Education Association, and the Royal Society of Public Health

SOFTWARE

- Statistical Packages: R, Stata, LISREL, AMOS, BUGS; SAS (rusty), SPSS.
- Applications: EpiMouth (built in R Shiny), L^AT_EX, R-Markdown, REDCap, N'Vivo, EndNote, JMP, common Windows database, spreadsheet, and presentation software