

Curriculum Vitae

MELISSA DOWD BEGG

June 2022

PERSONAL STATEMENT

I am a population health scientist committed to developing the strongest possible evidence base for human health and well-being. I have devoted the last 20 years as an academic administrator to convening interdisciplinary scientific teams, developing innovative curricula, creating mentorship programs, and enhancing diversity in the research workforce. I have launched and directed a number of educational and career development programs to support success in clinical research and interdisciplinary team science. I led the implementation of a major redesign of the Columbia public health curriculum, emphasizing interdisciplinary engagement, practical skill-building, and leadership training for health professionals at all levels. I also participated in launching a new cultural competency and self-awareness workshop for Master's students in collaboration with colleagues from social work. I have directed two NIH-funded training programs to promote diversity in the research workforce: one aimed at undergraduates from under-represented groups, and one aimed at under-represented junior faculty. In 2006, I received the University-wide Presidential Award for Outstanding Teaching and the Mailman School Teaching Award from the Graduating Class. I am deeply committed to the pursuit of better science for a better society.

DEMOGRAPHIC INFORMATION

Place of birth: Queens, New York

Citizenship: USA; European Union

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Columbia School of Social Work
1255 Amsterdam Avenue, Suite 615
New York, NY 10027

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ACADEMIC TRAINING

Fairfield University	June, 1985	B.S.	Mathematics
Harvard School of Public Health	June, 1989	Sc.D.	Biostatistics

DOCTORAL DISSERTATION

Title: The Effects of Model Misspecification in Regression, with Application to Bioassay

Sponsor: Stephen W. Lagakos, Professor of Biostatistics, Harvard University

ACADEMIC APPOINTMENTS

1986 - 1988	Teaching Fellow in Biostatistics, Harvard University
1989 - 1996	Assistant Professor of Public Health (Biostatistics), Mailman School of Public Health of Columbia University

1997 - 2001	Research Scientist V, New York State Psychiatric Institute
1996 - 2003	Associate Professor of Clinical Public Health (Biostatistics), Mailman School of Public Health of Columbia University
2000 - 2008	Director of Academic Programs, Department of Biostatistics
2003 - 2013	Professor of Clinical Biostatistics, Mailman School of Public Health
2008 - 2010	Associate Dean for Interdisciplinary Programs, Mailman School of Public Health
2010 - 2014	Vice Dean for Education, Mailman School of Public Health
2007 - 2018	Co-Director, Irving Institute for Clinical and Translational Research (CTSA)
2013 - 2019	Professor of Biostatistics at Columbia University Medical Center
2014 - 2019	Vice Provost for Academic Programs, Columbia University
2019 -	Dean of Social Work; Professor of Social Work and Biostatistics

AWARDS

Nov 2013	Association of Schools and Programs of Public Health (ASPPH)/Pfizer Award for Teaching Excellence (for graduate public health faculty across 50 accredited schools)
Sept 2012	Lagakos Distinguished Alumni Award, Department of Biostatistics, Harvard School of Public Health
June 2012	Fellow of the American Statistical Association
April 2012	Honorary Member, Omicron Kappa Upsilon Dental Honor Society, Columbia University Chapter
Nov 2007	ASPH/Pfizer Public Health Academy of Distinguished teachers
May 2006	Presidential Award for Outstanding Teaching, Columbia University
May 2006	Award for Teaching Excellence, Mailman School of Public Health (awarded by the graduating class)
Nov 2005	Founding Member, Glenda Garvey Teaching Academy, Columbia University
April 1995	FIRST Award, National Institutes of Health (R29 DE11094)
July 1990	Calderone Prize for Junior Faculty Research, Mailman School of Public Health
June 1988	Robert B. Reed Student Prize in Biostatistics, Harvard School of Public Health
May 1985	Mathematics Award & Presidential Scholar, Fairfield University

GRANT SUPPORT

(a) Past Support

1989-1991	Biostatistician (5% effort) on NIMH grant 4387801-A1: Center to Study Youth Depression, Anxiety, and Suicide. D Shaffer, P.I.
1990-1991	Biostatistician (7.5% effort) on NIH grant: HIV Seroprevalence: Rakai District, Uganda. M Wawer, P.I.
1990-1993	Co-investigator (25% effort) on NHLBI grant 45460: Coronary Artery Disease and Postprandial Lipoproteins. HN Ginsberg, P.I.
1990-1993	Biostatistician (20% effort) on NIMH grant 43520: HIV Center for Clinical and Behavioral Studies. AA Ehrhardt, P.I.
1991-1994	Co-investigator (15% effort) on NIH grant: Menstrual Function and Physical and Mental Job Stress. MC Hatch, P.I.

- 1993-1994 Statistician (10% effort) on NIH grant:
Hypothyroxinemia of Prematurity and Neurodevelopment.
ML Reuss, P.I.
- 1994-1995 Co-investigator (50% effort) on NCI grant:
Cancer Center Support Grant.
IB Weinstein, P.I.
- 1991-1996 Co-investigator (20% effort) on NIDR grant DE09545:
Oral Findings in HIV Infection: Different Risk Groups.
IB Lamster, P.I.
- 1995-1997 Co-investigator (5% effort in year 02) on AICR grant:
Vitamin Intervention in Smokers.
RP Santella, P.I.
- 1996-1998 Co-investigator (15% effort) on NIH grant CA96002:
Vitamin Intervention in Smokers.
RP Santella, P.I.
- 1996-1999 Co-investigator (20% effort, 0% salary) on NIH grant MH53147:
Prenatal Determinants of Schizophrenia.
ES Susser, P.I.
- 1997-1999 Co-investigator (15% effort) on NIH grant R01 DE11708:
Dental amalgams and neuropsychological function.
P Factor-Litvak, P.I.
- 1995-2000 **Principal Investigator** (50% effort) on NIH grant R29 DE11094:
Analyzing Clustered Data in Periodontal Research.
MD Begg, P.I.
- 1999-2002 Co-investigator (20% effort) on NIMH grant P30 MH59342:
Mental health clinical research center in schizophrenia studies.
JM Gorman, P.I./ M.D. Begg, Subcontract P.I.
- 1999-2002 Co-investigator (as needed) on NIH K23 Award:
Severe periodontitis as a rheologic modifier
SP Engebretson, P.I.
- 2000-2002 Co-investigator (as needed) on NIH grant R01 MH59114:
Jerusalem Perinatal Cohort Schizophrenia Study.
D Malaspina, P.I./M.D. Begg, Subcontract P.I.
- 2000-2002 Co-investigator (as needed) on NIH grant R01 MH60249:
Developmental Insult and Brain Anomaly in Schizophrenia.
AS Brown, P.I.
- 1999 – 2006 **Principal Investigator** (40% effort) on NIH grant K30 RR022281:
Master's Program in Patient-Oriented Research.
MD Begg, P.I.; HN Ginsberg, Co-P.I.
- 2002 – 2006 **Co-Principal Investigator** (10% effort/0% salary) on NIH grant K12 RR017648:
Mentored Clinical Research Scholar Program.
HN Ginsberg, P.I.; MD Begg, Co-P.I.
- 2003 – 2006 Biostatistician (15% effort) on NIH grant M01 RR000645:
General Clinical Research Center.
H Colten, P.I.
- 2007 – 2008 **Co-Investigator** (8% effort) on NIH grant P50 ES015905:
The Role of Airborne PAHs and DEP in the Pathogenesis of Childhood Asthma.
F Perera, P.I.

- 2010 – 2013 **Principal Investigator** (10% effort) on NIH grant KM1 CA156709: IMMERSE (Innovative Mentoring and MPH Education in Research for Scientific Excellence) in CER Program
MD Begg, P.I.
- 2010 – 2015 **Principal Investigator** (10% effort) on NIH grant R25 HL105401: FIRST in CER (Facilitating Independence in Research through Summer Training In Comparative Effectiveness Research) Diversity Program
MD Begg, P.I.
- 2013 – 2016 **Co-Investigator** (as needed) on NIH grant T15 HL117444: Columbia Summer Institute for Training in Biostatistics (CSIBS)
RD Vaughan, P.I.
- 2006 – 2018 **Co-Principal Investigator** (25% effort) on NIH grant UL1 TR001633: Clinical and Translational Science Award (CTSA).
HN Ginsberg, P.I.; Muredach Reilly, P.I.; MD Begg, Co-P.I.
- 2016 – 2018 **Principal Investigator** (10% effort) on NIH grant KL2 TR001874: Institutional Career Development Core (CTSA KL2 Program)
MD Begg, P.I.
- 2008 – 2019 **Co-Investigator** (as needed) on NIH grant R25 GM062454: IMSD at Columbia's Mailman School of Public Health.
A Abraido-Lanza, P.I.

(b) Active Support

- 2009 – 2024 **Multi-Principal Investigator** (as needed) on NIH grant R25 HL096260: BEST-DP: Biostatistics & Epidemiology Summer Training Diversity Program.
AJ Goldsmith; DM Palmer; MD Begg, Multi-PIs.

UNIVERSITY AND DEPARTMENTAL COMMITTEES AND ADVISORY BOARDS

- 1991 - 1992 Member, Steering Committee, Mailman School of Public Health
1993 - 1996 Faculty Council of the Faculty of Medicine
1993 - 1994 Faculty Review Committee for School of Public Health Accreditation
1996 - 1997 Member, Steering Committee, Mailman School of Public Health
1997 - 1998 **Co-Chair**, Steering Committee, Mailman School of Public Health
2000 - 2001 Member, Search Committee, Head of the Division of Sociomedical Sciences
2000 - 2002 Member, School-wide MS/MPH Admissions Committee
2002 - 2014 **Chair**, Master's Admissions Committee (school-wide committee that reviews Master's applications to all departments), Mailman School of Public Health

NATIONAL COMMITTEES

- 2021 – Grand Challenges for Social Work Leadership Board & Executive Committee
2019 – NADD, National Association of Deans and Directors, Schools of Social Work
2019 – St. Louis Group, Deans & Directors of R1 Schools of Social Work

RESEARCH SERVICE FOR THE NATIONAL INSTITUTES OF HEALTH (NIH) & NATIONAL ACADEMIES

- Jun 1999, Feb 2000, Reviewer for NIH study section on Oral Biology and Medicine (OBM-1)

Apr 2000, Oct 2000, Jun 2001 Jul 1999	Reviewer for NIH study section on Social Science, Nursing, Epidemiology & Methods (SNEM-2)
Jun 2001	Reviewer for NIH study section on K Awards
Jun02/Mar03/Nov03	Reviewer for NIH study section on Clinical Cardiovascular Sciences (CCVS)
Jan 2004	Reviewer for NIDCR study section on training awards (T32)
Sep04/Jun05/Nov05	Reviewer for NIDCR study section on research proposals written in response to program announcement PAR-04-091.
Mar 2006 - 2012	Member, Protocol Review Committee, Northwest PRECEDENT at UW Seattle (NIDCR-funded practice-based research collaborative in oral health research)
May 2006 - 2012	Member, Protocol Review Committee, ARDSnet (NHLBI-funded clinical network for Acute Respiratory Distress Syndrome)
2007 - 2008	Member, National Academies Institute of Medicine (IOM) Committee on "Gulf War and Health: Updated Literature Review of Depleted Uranium (DU)"
Feb 2010, Feb 2011	Reviewer for NIH study section, Clinical & Translational Science Awards (CTSA)
Jun 2020, Dec 2020	Review for NIH study section, NHLBI Institutional Training Mechanism (NITM) study section (for PA-18-403, T32 programs)

PROGRAM DEVELOPMENT

1996 - 1997	Chair, Committee to develop and direct the Master of Science in Biostatistics/Clinical Research Methods track
1997 - 2007	Co-Director & Founder of the M.S./Clinical Research Methods track
1999 - 2018	Director of the M.S./Patient Oriented Research track (NIH K30-funded)
2008 - present	Faculty liaison for BEST Diversity Program for undergraduates
2011 – 2013	Member, Mailman School Task Force for MPH Curriculum Renewal

COMMUNITY SERVICE

1997 - 2008	Member (President 2002-2004), Board of Trustees, <i>Kids' BASE & The Little School</i> , a non-profit organization providing before and after school child care and pre-school programs for children aged 3-12 in Westchester County, New York
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TEACHING EXPERIENCE

Biostatistics P8120 (3 points)
Analysis of Categorical Data
 S 1990, 1991, 1992, 1995, F 1995, S 2000, F2003,
 F2004, F2005, F2006, F2007
 Enrollment = 50-110

Biostatistics P8108/Statistics W4143 (3 points)
Survival Analysis
 Spring 1993, Fall 1993
 Enrollment = 25

Biostatistics P9165* (3 points)
Master's Essay in Patient Oriented Research
***Developed new course**
 Offered every Fall semester from 2001-2011
 Enrollment = 4-13

Statistics W1001 (for undergraduates)
Introduction to Statistical Reasoning
 Spring 1994
 Enrollment = 30

Biostatistics P6104 (4 points)
Introduction to Biostatistical Methods
 Spring 1997
 Enrollment = 27

Irving Center for Clinical Research Annual Lecture
 Series (3 lectures)
Clinical Research Seminar
 Fall 1997, 1998, 1999
 Enrollment = 50-75

Biostatistics P8129
Theory of Multivariate Analysis
 Fall 1990, 1991, 1992
 Enrollment = 20

Biostatistics 89260* (2 points)
Building Interdisciplinary Research Models
***Co-developed and co-taught new course with E. Larson in School of Nursing, cross-listed with public health, nursing, and the graduate school of arts and sciences**
 Fall 2009, Spring 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019
 Enrollment = 8-25

Methods for Research Design & Evaluation
Quantitative Foundations, Evidence & Policy
 (4.5-5 points)
Quantitative Foundations Module – a course combining the principles of biostatistics & epidemiology;
Co-developed and taught with a team of epidemiologists and biostatisticians
 Fall 2012, 2013, 2014, 2015, 2016, 2017
 Enrollment = 100-200

Biostatistics P8110* (3 points)
Applied Regression Analysis II
***Developed new course**
 Spring 1998, 1999, 2001, 2002, 2003, 2005 (w Desai)
 Enrollment = 10-32

Biostatistics P9160* and P9161* (3 points)
Master's Essay I and II for Clinical Research Methods Track
***Developed new courses**
 Fall 2001, 2002
 Enrollment = 5-10

Biostatistics P8182* (1 point)
Writing a Successful NIH Grant Application
***Developed new course**
 Summer 2009, 2010, 2011, 2012, 2013
 Enrollment = 8-48

Public Health INTC P4500* (2 points)
The Cultures of Health, Illness, and Health Care
***Co-developed a new, team-taught interprofessional seminar on teamwork with colleagues from schools of medicine, nursing, dentistry, and public health**
 Spring 2012, 2013
 Enrollment = 16

Social Work T6505 (0 credits/graduation requirement)
Introduction to Statistics (online course)
 Fall 2020,
 Spring-Summer-Fall 2021,
 Spring-Summer-Fall 2022
 Enrollment = 40-279

THESIS SPONSORSHIPS

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|-------------|---|
| 1990-1995 | Seth Matthew Thompson, Division of Biostatistics, completed his PhD thesis entitled <i>Covariate Dichotomization Measurement Error in Logistic Regression</i> . |
| 1993- 1997 | Roger D. Vaughan, Division of Biostatistics, completed his DrPH thesis entitled <i>The Units of Analysis Problem in Quasi-Experiments: Analysis of Clustered, Pair-Matched Binary Data in School-Based Research</i> . |
| 1994- 1998 | Katherine Stamatis Panageas, Division of Biostatistics, completed her DrPH thesis entitled <i>Statistics in Periodontal Research: Interval Estimation of the Common Odds Ratio under Cluster Sampling</i> . |
| 1996 - 2001 | Chin-Lin Tseng, Division of Biostatistics and Division of Sociomedical Sciences, completed her dual-degree DrPH thesis entitled <i>The Contextual Effects of Unemployment on Personal Mental Health</i> . |

1998 - 2001 Andrea Paykin, Department of Biostatistics, completed her PhD thesis entitled *Analyzing Small Samples of Identically Treated Pairs of Failure Time Observations*.

DOCTORAL THESIS AND EXAMINATION COMMITTEES

1993 Patricia Aikins Murphy, Division of Epidemiology, completed her DrPH thesis entitled *Antibiotic Use during Pregnancy: Associated Effects on Gestational Age at Birth and Risk of Preterm Birth*.

1994 Steven James Bowlin, Division of Epidemiology, completed his PhD thesis entitled *Evaluation of the Validity and Reliability of Self-reported Cardiovascular Disease Risk Factors measured by Telephone Survey: The Behavioral Risk Factor Surveillance System*.

1993-1995 Nicole Schupf, Division of Epidemiology, completed her DrPH thesis entitled *Reproduction in Individuals with Idiopathic/Cryptogenic Epilepsy*.

1995 Lori Jean Mosca, Division of Epidemiology, completed her PhD thesis entitled *The Effect of Antioxidant Nutrient Supplementation on Low-Density Lipoprotein Oxidation in Patients with Coronary Heart Disease*.

1992-1993 Ya-Chi Wu, Division of Biostatistics (student returned to Taiwan before completing her PhD thesis).

1993- 1997 Carey Busner-Maslow, Division of Epidemiology, completed her DrPH thesis entitled *Development of a Scale to Assess Severity of Suicide Attempts*.

1993- 1997 Elizabeth Jacqueline Samelson, Division of Epidemiology, completed her PhD thesis entitled *Reproductive and Related Risk Factors for Hip Fracture in White and Black Women*.

1995- 1997 Peter Adam Kanetsky, Division of Epidemiology, completed his PhD thesis entitled *Cervical Dysplasia among Non-Hispanic, Black Women: Associations with Folate, Vitamin E, Retinoids, and Carotenoids, and Smoking*.

1996 - 1997 Mary H. Latka, Division of Epidemiology, completed her PhD thesis entitled *A Safer-sex Hierarchy for the Prevention of STDs and HIV in Women: Is the Message Understood? Will Women Forgo Condom Use?*

1996 - 1998 Julie Britton, Division of Epidemiology, completed her PhD thesis entitled *Diet and Benign Ovarian Tumors*.

1997 - 1999 Michaeline A. Bresnahan, Division of Epidemiology, completed her PhD thesis entitled *The Health Sequelae of Homelessness*.

1999 I-Feng Lin, Division of Biostatistics, completed her DrPH thesis entitled *Case-Control Data Analyses with Selection Bias*.

2001 Jingmei Xu, Division of Biostatistics, completed her PhD thesis entitled *Unbiased linkage analysis with incomplete parental genotype data*.

2001 Hoi-Jeong Lim, Division of Biostatistics, completed her PhD thesis entitled *Saddlepoint Approximations to p-values for Comparison to Density Estimates*

2001 Nandita Mitra, Department of Biostatistics, completed her Ph.D. thesis entitled *Analyzing Data from Non-randomized Studies using Propensity Score Methodology*.

2001 - 2004 Alex Kiss, Department of Biostatistics, completed his Ph.D. thesis entitled *Hierarchical Models: What the Data are Really Telling Us*.

- 2002 - 2003 Beverly Insel, Department of Epidemiology, completed her Ph.D. thesis entitled *Maternal-fetal blood incompatibility and the risk of schizophrenia in offspring*.
- 2004 Kam-Fai Wong, Department of Biostatistics, completed his Ph.D. thesis entitled *Statistical Analysis with Current Status Data*.
- 2004 - 2005 Cynthia Driver, Department of Epidemiology, completed her Dr.P.H. thesis entitled *Influence of patient factors on genotype clustering of TB cases: Cluster level analysis*.
- 2004 - 2005 Hong Tian, Department of Biostatistics, completed her Ph.D. thesis entitled *Variance estimation of the cross validation estimator of the generalization error*.
- 2004 - 2006 Tai-Tsang Chen, Department of Biostatistics, completed his Ph.D. thesis entitled *Assessing repeated diagnostic test accuracy with samples subject to selection bias*.
- 2004 - 2006 Denise Esserman, Department of Biostatistics, completed her Ph.D. thesis entitled *Frailty Models for Grouped Multivariate Survival Data*.
- 2007 - 2009 Juan Wisnivesky, Department of Biostatistics, completed his Dr.P.H. thesis entitled *Instrumental Variable Estimation for Survival Data: Evaluating the Effectiveness of Radiation Therapy for the Treatment of Lung Cancer in the Elderly in the Presence of Allocation Bias*
- 2010 - 2011 Monika Pogorzelska, Department of Epidemiology, completed her Ph.D. thesis entitled *Institutional and Patient Level Predictors of Multi-Drug Resistant Healthcare-Associated Infections*.
- 2010 - 2012 Emma K. T. Benn, Department of Biostatistics, completed her Dr.P.H. thesis entitled *Life expectancy and the VKG method: A novel approach to assessing health disparities*.

EDITORIAL ACTIVITIES

I have served as a referee for the following journals:

American Journal of Epidemiology 2003
American Journal of Psychiatry 1999, 2002
American Journal of Public Health 1992, 1995, 1996, 1998, 2003
American Statistician 1997, 1998
Biometrics 1990, 1991, 1992
Canadian Journal of Statistics 1999
Journal of Clinical Endocrinology & Metabolism 2003
Journal of Clinical and Translational Science, 2014
Journal of Clinical Investigation 2003, 2004
Journal of Dental Research 2002, 2006, 2007
Journal of Occupational Medicine 1992
Journal of the American Statistical Association 1994, 1995, 1996, 1997, 2003
Statistical Science 2009
Statistics in Medicine 1998, 1999, 2001, 2011

BIBLIOGRAPHY

(a) Original, Peer-Reviewed Articles

- * **Begg MD**, Lagakos SW (1990). On the consequences of model misspecification in logistic regression. **Environmental Health Perspectives** 87: 69-75. [PMCID: PMC1567834]

- Gorman JM, Warne PA, **Begg MD**, Cooper T, Novacenko H, Williams JBW, Rabkin J, Stern Y, Ehrhardt AA (1992). Serum prolactin levels in gay men with HIV infection. **American Journal of Psychiatry** 149: 367-370.
- * **Begg MD**, Lagakos SW (1992). Effects of misspecification on tests of association based on logistic regression models. **Annals of Statistics** 20: 1929-1952.
- * **Begg MD**, Lagakos SW (1993). Loss in efficiency caused by omitting covariates and misspecifying exposure in logistic regression models. **Journal of the American Statistical Association** 88: 166-170.
- Gorman JM, Kertzner R, Spitzer R, Todak G, Dobkin J, Lange M, Stein Z, Begg M (1993). Development and characteristics of a medical staging system for HIV infection. **International Journal of Methods in Psychiatric Research** 2: 117-124.
- Hatch MC, Shu X-O, McLean DE, Levin B, **Begg M**, Reuss L, Susser M (1993). Maternal exercise during pregnancy, physical fitness and fetal growth. **American Journal of Epidemiology** 137: 1105-1114.
- Lamster IB, **Begg MD**, Mitchell-Lewis D, Fine JB, Todak GG, El-Sadr W, Gorman JM, Zambon JJ, Phelan JA (1994). Oral manifestations of HIV infection in homosexual men and intravenous drug users: Study design and relationship of epidemiologic, clinical and immunologic parameters to oral lesions. **Oral Surgery Oral Medicine Oral Pathology** 78: 163-174.
- Katz AE, deVries GM, **Begg MD**, Raffo A, Cama C, O'Toole K, Buttyan R, Benson MC, Olsson CA (1995). Enhanced RT-PCR for PSA as an indicator of true pathological stage in patients with prostate cancer. **Cancer** 75: 1642-1648.
- Paik MC, **Begg MD**, El-Sadr W, Gorman J, Stein Z (1995). Difference in clinical implications of CD4 counts among HIV-infected homosexual men, injection drug using men and women. **Statistics in Medicine** 14: 1889-1900.
- Ginsberg HN, Jones J, Blamer WS, Thomas A, Karmally W, Fields L, Blood D, **Begg MD** (1995). Association of postprandial triglyceride and retinyl palmitate responses with newly-diagnosed exercise-induced myocardial ischemia in middle-aged men and women. **Arteriosclerosis, Thrombosis and Vascular Biology** 15: 1829-1838.
- Cruz GD, Lamster IB, **Begg MD**, Phelan JA, Gorman JM, El-Sadr W (1996). The accurate diagnosis of oral lesions in human immunodeficiency virus infection. Impact on medical staging. **Archives of Otolaryngology -- Head and Neck Surgery** 122: 68-73.
- Arber N, Hibshoosh H, Moss SF, Sutter T, Zhang Y, **Begg M**, Wang S, Weinstein IB, Holt PR (1996). Increased expression of cyclin D1 is an early event in colorectal carcinogenesis. **Gastroenterology** 110: 669-674.
- * **Begg MD**, Panageas KS, Mitchell-Lewis D, Bucklan RS, Phelan JA, Lamster IB (1996). Oral lesions as markers of severe immunosuppression in HIV-infected homosexual men and injection drug users. **Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics** 82: 276-283.

- Ingenito AC, Ennis RD, Hsu IC, **Begg MD**, Benson MC, Schiff PB (1997). Reexamining the role of prostate-specific antigen density in predicting outcome for clinically localized prostate cancer. **Urology** 50: 73-78.
- Phelan JA, **Begg MD**, Lamster IB, Gorman J, Mitchell-Lewis D, Bucklan R, El-Sadr WM (1997). Oral candidiasis in injecting drug users and homosexual men: Relationship to HIV status, cohort, CD4+ lymphocyte values and prognosis. **Journal of Oral Pathology & Medicine** 26: 237-243.
- * **Begg MD**, Lamster IB, Panageas KS, Mitchell-Lewis D, Phelan JA, Grbic JT (1997). A prospective study of oral lesions and their predictive value for progression of HIV disease. **Oral Diseases** 3: 176-183.
- Lamster IB, Grbic JT, Mitchell-Lewis DA, **Begg MD**, Mitchell A (1998). New concepts regarding the pathogenesis of periodontal disease in HIV infection. **Annals of Periodontology** 3: 62-75.
- * **Begg MD** (1999). Analyzing k(2x2) tables under cluster sampling. **Biometrics** 55: 302-307.
- * **Begg MD**, Panageas KS (1999). Interval estimation of the common odds ratio from k(2x2) tables under cluster sampling. **Statistics in Medicine** 18: 1087-1100.
- * Vaughan RD, **Begg MD** (1999). Methods for the analysis of paired binary data in school-based intervention studies. **Journal of Educational and Behavioral Statistics** 24: 367-383.
- Susser E, Schaefer C, Brown A, **Begg M**, Wyatt RJ (2000). The design of the prenatal determinants of schizophrenia study (PDS). **Schizophrenia Bulletin** 26(2): 257-263.
- Bresnahan M, Brown A, Schaefer C, **Begg M**, Wyatt RJ, Susser E (2000). Incidence and cumulative risk of treated schizophrenia in the prenatal determinants of schizophrenia cohort study. **Schizophrenia Bulletin** 26(2): 297-308.
- Schaefer C, Brown AS, Wyatt RJ, Kline J, **Begg MD**, Bresnahan MA, Susser E (2000). Maternal pre-pregnant body mass and risk of schizophrenia in adult offspring. **Schizophrenia Bulletin** 26(2): 275-286.
- Brown AS, Schaefer CA, Wyatt RJ, Goetz R, **Begg MD**, Gorman JM, Susser ES (2000). Maternal exposure to respiratory infections and adult schizophrenia spectrum disorders: A prospective birth cohort study. **Schizophrenia Bulletin** 26(2): 287-295.
- Jacobson JS, **Begg MD**, Wang LW, Wang Q, Agarwal M, Norkus E, Singh VN, Young T-L, Yang D, Santella RM (2000). Effects of a 6-month vitamin intervention on DNA damage in heavy smokers. **Cancer Epidemiology, Biomarkers & Prevention** 9: 1303-1311.
- * **Begg MD**, Paykin AB (2001). Performance of and software for a modified Mantel-Haenszel statistic for correlated data. **Journal of Statistical Computation and Simulation** 70: 175-195.
- Matte TD, Bresnahan MA, **Begg MD**, Susser ES (2001). The influence of birth weight variation in the normal range and within sibships on IQ at age 7. **British Medical Journal** 323: 310-314. [PMCID: PMC37317]

- Ahsan H, Hodge SE, Heiman GA, **Begg MD**, Susser ES (2002). Relative risk for genetic associations: The case-parent triad as a variant of epidemiologic cohort designs. **International Journal of Epidemiology** 31: 669-678.
- Brown AS, Schaefer CA, Wyatt RJ, **Begg MD**, Goetz R, Bresnahan MA, Harkavy-Friedman J, Gorman JM, Malaspina D, Susser ES (2002). Paternal age and risk of schizophrenia in adult offspring. **American Journal of Psychiatry** 159: 1528-1533.
- Weiserbs KF, Jacobson JS, **Begg MD**, Wang LW, Wang Q, Agarwal M, Norkus E, Young T-L, Santella RS (2002). A cross-sectional study of PAH-DNA adduct levels and deletion of glutathione S-transferase M1 among heavy smokers by ethnic group. **Biomarkers** 8: 142-155.
- Panageas KS, **Begg MD**, Grbic JT, Lamster IB (2003). Analysis of multiple 2x2 tables with site-specific periodontal data. **Journal of Dental Research** 82: 514-517.
- * **Begg MD**, Parides MK (2003). Separation of individual-level and cluster-level covariate effects in regression analysis of correlated data. **Statistics in Medicine** 22: 2591-2602.
- Factor-Litvak P, Hasselgren G, Jacobs D, **Begg M**, Kline J, Geier J, Mervish N, Schoenholtz S, Graziano J (2003). Mercury derived from dental amalgams and neuropsychologic function. **Environmental Health Perspectives** 111: 719-923. [PMCID: PMC1241481]
- Brown AS, **Begg MD**, Gravenstein S, Schaefer CA, Wyatt RJ, Bresnahan M, Babulas V, Susser ES (2004). Serologic evidence for prenatal influenza in the etiology of schizophrenia. **Archives of General Psychiatry** 61: 774-780.
- Graham PL, **Begg MD**, Larson E, Dell-Latta P, Allen A, Saiman A (2006). Risk factors for late onset Gram-negative sepsis in low birth weight infants hospitalized in the neonatal intensive care unit. **Pediatric Infectious Disease Journal** 25: 113-117.
- Bresnahan MA, **Begg MD**, Brown A, Schaefer C, Sohler N, Insel B, Vela L, Susser E (2007). Race and risk of schizophrenia: Another example of health disparity? **International Journal of Epidemiology** 36(4): 751-758.
- * Desai M, **Begg MD** (2008). A comparison of regression approaches for analyzing clustered data. **American Journal of Public Health** 98: 1425-1429.
- Susser E, Eide MG, **Begg MD** (2010). Invited Commentary: The Use of Sibship Studies to Detect Familial Confounding. **American Journal of Epidemiology** 172: 537-539.
- Gallagher D, Larson EL, Wang YC, Richards B, Weng C, Hametz P, **Begg MD**, Chung WK, Boden-Albala B, Akabas SR (2010). Identifying interdisciplinary research priorities to prevent and treat pediatric obesity in New York City. **Clinical and Translational Science** 3: 172-177.
- Albert DA, **Begg MD**, Andrews HF, Williams SZ, Ward A, Conicella ML, Rauh V, Thomson JL, Papananou PP (2011). An examination of periodontal treatment, dental care, and pregnancy outcomes in an insured population. **American Journal of Public Health** 101(1): 151-156.
- * Kulage KM, Larson EL, **Begg MD** (2011). Sharing Facilities & Administrative Cost Recovery to Facilitate Interdisciplinary Research. **Academic Medicine** 86(3): 394-401.

- * Larson EL, Landers TF, **Begg MD** (2011). Building Interdisciplinary Research Models: A Didactic Course to Prepare Interdisciplinary Scholars and Faculty. **Clinical and Translational Science** 4(1): 38-41.
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- Hooper L, **Begg MD**, Sullivan LM (2014). Integrating Competencies and Learning Outcomes in Core Courses for the MPH. **Public Health Reports** 129: 376-381.
- * Sullivan LM, Hooper L, **Begg MD** (2014). Effective Practices for Teaching the Biostatistics Core Course for the MPH Using a Competency-Based Approach. **Public Health Reports** 129: 381-392.
- * Galea S, Fried LP, Walker JR, Rudenstine S, Glover JW, **Begg MD** (2015). Developing the New Columbia Core Curriculum: A Case Study in Managing Radical Curriculum Change. **American Journal of Public Health** 105: S17-S21.
- * Cushman LF, Delva M, Franks CL, Jimenez-Bautista A, Moon-Howard J, Glover J, **Begg MD** (2015). Cultural Competency Training for Public Health Students: Integrating Self, Social, and global Awareness into a Master of Public Health Curriculum. **American Journal of Public Health** 105: S132-S140.
- * **Begg MD**, Fried LP, Glover JW, Delva M, Wiggin M, Hooper L, Saxena R, de Pinho H, Slomin E, Walker JR, Galea S (2015). Measuring the impact of curricular change: Short-term results from the new Columbia Core Curriculum. **American Journal of Public Health** 105: e7-e13.

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- * **Begg MD**, Bennet LM, Gadlin H, Moss M, Tentler J, Schoenbaum E (2015). Graduate Education for the Future: New Models and Methods for the Clinical and Translational Workforce. **Clinical and Translational Science** 8: 787-792.

Ancker JS, **Begg MD** (2017). Using Visual Analogies to Teach Introductory Statistical Concepts. **Numeracy** 10, Issue 2, Article 7. DOI: <http://doi.org/10.5038/1936-4660.10.2.7>.

- * **Begg MD**, March D (2018). Cause and Association: Missing the Forest for the Trees. *American Journal of Public Health* 108(5): 620. DOI: [10.2105/AJPH.2018.304366](https://doi.org/10.2105/AJPH.2018.304366).

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(b) Encyclopedia Entries, Books & Textbook Chapters

- * **Begg MD** (1998). Sampling Distribution. In: Armitage P, Colton T, eds. *Encyclopedia of Biostatistics*. Chichester: John Wiley & Sons, pp. 3933-3935.

Shrout PE, **Begg MD** (2005). Biography of Joseph L. Fleiss. In: Armitage P, Colton T, eds. *Encyclopedia of Biostatistics*, 2nd edition. John Wiley & Sons: pp. 1969-1972.

- * **Begg MD**, Bresnahan M (2006). Gauging the Precision of Measures of Association. In: Susser E, Schwartz S, Morabia A, Bromet EJ, eds. *Psychiatric Epidemiology*. New York: Oxford University Press, pp. 263-271.

- * **Begg MD**, Bresnahan M (2006). Using Significance Tests in Establishing Associations. In: Susser E, Schwartz S, Morabia A, Bromet EJ, eds. *Psychiatric Epidemiology*. New York: Oxford University Press, pp. 272-283.

- * **Begg MD**, Bresnahan M (2006). Planning Studies: Estimating Power and Sample Size. In: Susser E, Schwartz S, Morabia A, Bromet EJ, eds. *Psychiatric Epidemiology*. New York: Oxford University Press, pp. 284-291.

- * **Begg MD**, Bresnahan M (2006). Adjustment for Covariates. In: Susser E, Schwartz S, Morabia A, Bromet EJ, eds. *Psychiatric Epidemiology*. New York: Oxford University Press, pp. 292-307.

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National Research Council. *Gulf War and Health: Updated Literature Review of Depleted Uranium*. Washington, DC: The National Academies Press, 2008.

- * **Begg MD** (2009). Analysis of Correlated Responses. In: LeSaffre E, Fine J, Leroux B, DeClerck D, eds. *Statistical and Methodological Aspects of Oral Health Research*. Chichester, UK: John Wiley & Sons Ltd, pp. 221-240.

(c) Published Clinical Protocol

Hesdorffer C, Antman K, Bank A, Fetell M, Mears G, **Begg M** (1994). Human MDR gene therapy in patients with advanced cancer. **Human Gene Therapy** 5: 1151-1160.

(d) Technical Reports

* **Begg MD**, Lagakos SW (1993). Properties of commonly used tests in rodent tumorigenicity experiments. Technical report, Mailman School of Public Health.

Dowd (Begg) ME, Amato DA (1986). Evaluation of DON and ACM-A in patients with advanced soft tissue sarcomas, bone sarcomas, and mesotheliomas: Analysis of EST 2781 Generation I. Technical report no. 499E, Division of Biostatistics, Dana-Farber Cancer Institute, Boston, Massachusetts.

INVITED LECTURES

Begg MD. *The effects of model misspecification in logistic regression*. Clinical Epidemiology Unit, School of Medicine, University of Pennsylvania; November 1, 1990.

Begg MD and Lederman S. *Immunologic factors affecting HIV progression*. HIV Center for Clinical and Behavioral Studies, New York State Psychiatric Institute and Columbia University; November 14, 1991.

Begg MD. *Mis modeling in logistic regression, with applications to AIDS research*. Department of Statistics, Columbia University; February 3, 1992.

Begg M. *Site-specific analysis of β -glucuronidase levels in gingival crevicular fluid: Biostatistical aspects*. Task Force on Design and Analysis, New Brunswick, New Jersey; November 24, 1992.

Begg M. *Analyzing $k(2 \times 2)$ tables under cluster sampling*. International Chinese Statistical Association, Applied Statistics Symposium, Rutgers University, New Brunswick, New Jersey; May 31, 1997.

Begg MD. *Tabular analysis of clustered binary data*. Oral presentation at the 1997 meeting of the International Biometric Society, Western North American Region (WNAR), Park City, Utah; July 28, 1997.

Begg MD. *Tabular analysis of clustered binary data*. Department of Epidemiology and Public Health, School of Medicine, Yale University; September 15, 1997.

Begg MD. *A comparison of methods for analyzing dichotomous responses in periodontal research*. Task Force on Design and Analysis, Newark, New Jersey; November 16, 1999.

Begg MD. *A comparison of methods for analyzing clustered binary data*. Oral presentation at the 2000 meeting of the International Biometric Society, Eastern North American Region (ENAR), Chicago, Illinois; March 20, 2000.

Begg MD. *Separation of individual-level and cluster-level covariate effects in regression analysis of correlated data*. Task Force on Design and Analysis, Newark, New Jersey; November 19, 2002.

Begg MD. *Teaching Workshop*. Invited to serve as a panel discussion member on teaching techniques and best ways to promote learning in a junior faculty development workshop at the Mailman School of Public Health of Columbia University; April 23, 2004.

- Begg MD. *Considerations in the Use of Longitudinal Markers in Clinical Trials*. Task Force on Design and Analysis, Newark, New Jersey; December 7, 2004.
- Begg MD. *Teaching Workshop*. Returned to serve as a panel discussion member on teaching techniques and best ways to promote learning in a junior faculty development workshop at the Mailman School of Public Health of Columbia University; April 1, 2005.
- Begg MD. *Analysis of Cluster-Correlated Data*. Invited to teach at the “Short Courses in Statistics” sponsored by the NYC Metropolitan Chapter of the American Statistical Association; first offered September 21, 2005, offering repeated on December 5, 2005.
- Begg MD. *Challenges in Analyzing Clustered Data in Medical Research*. Invited seminar for the Department of Mathematics and Computer Science, Fairfield University, Fairfield CT, February 28, 2006.
- Begg MD. *Analysis of Clustered Data*. Invited to teach a short course at the satellite meeting to the International Biometric Conference entitled “Statistical and Epidemiological Methods for Oral Health Research,” Montreal, Canada, July 14-15, 2006.
- Begg MD. *Considerations in the Design and Analysis of Studies with Clustered Data*. Invited speaker at the 14th Annual Merck-Temple Conference on Research Topics in Biopharmaceutical Statistics, Philadelphia, PA, October 20, 2006.
- Begg MD. *How Educational Initiatives Fit into the Mission of the CTSA*. Invited speaker at the GCRC Annual Meeting; Washington, DC, March 31st, 2007.
- Begg MD. *Considerations in the Analysis of Research Studies using Sibling Data*. Invited speaker at the International Congress on Twin Studies, Session on Multilevel Models; Ghent, Belgium, June 2007.
- Begg MD. *Biostatistics in the Era of Interdisciplinary Science*. ENAR Session in Honor of Steve Lagakos; New Orleans, Louisiana, March 2010.
- Begg MD. *Design for a New MPH Degree*. Presentation to the European Schools of Public Health, Granada, Spain, March 2012.
- Begg MD. *Can we “Train” Scholars to be Interdisciplinary?* Society for Clinical and Translational Science; Washington, DC, April 2012.
- Begg MD. *Statistics and the Big Picture: Using Stories, Images, and Analogies to See Patterns and Make Decisions*. Lagakos Distinguished Alumni Lecture, Harvard School of Public Health, Alumni Weekend, September 28, 2012.
- Begg MD, Hooper L, Rauh V, Glover J. *Case-Based Learning at the Mailman School of Public Health*. Presentation at the ASPH/APHA Conference on case-based learning and transdisciplinary education; San Francisco, CA, October 2012.
- Begg MD. *Design for a New MPH Degree*. Presentation to the MPH Expert Panel on Framing the Future of Public Health Education, Association of Schools of Public Health; Boston, MA, April 2013.
- Begg MD. *The New Columbia MPH: Integrated Core Curriculum for a Life-Course Approach to Prevention*. Innovations in Public Health Education Symposium; New York, NY, June 2013.
- Begg MD. *Process, Design, and Evaluation of the New Columbia MPH Curriculum*. Education Retreat, Oregon State University; Corvallis, OR, July 2013.
- Begg MD. *Teaching through Collaboration: A Unique Opportunity to Transmit Statistical Ideas*. Panel Discussion, Joint Statistical Meetings; Montreal, Canada, August 2013.
- Begg MD. *Great Expectations: Training the Next Generation of Biostatisticians for Careers in Interdisciplinary Biomedical Research*. Panel Discussion, Joint Statistical Meetings; Boston, MA, August 2014.

- Begg MD. *Ensuring Biostatistical Competence using Novel Methods*. Presentation and Panel Discussion, Biometric Society Eastern North American Region; Miami, FL, March 2015.
- Begg MD. *A University Symposium: Promoting Credibility, Reproducibility and Integrity in Research*. Columbia University, Office of the Executive Vice President for Research, March 2019.
- Begg MD. *Women Transitioning into Leadership*. Panel Discussion, Joint Statistical Meetings; Denver, CO, August 2019.
- Begg MD. *Women in Science: What is Still in the Way?* Panel Discussion, Boston University School of Public Health, November 2020.
- Begg MD. *University Leadership Series: What Do We Owe One Another? With Deans Lester (Columbia Law School) and Begg (Columbia School of Social Work)*. Columbia Global Centers, July 2021.
- Begg MD. *Public Health and Social Work: Together Addressing Problems with No Borders*. 5th Annual World Philanthropy Forum (virtual), Tsinghua University, Beijing, China, September 2021.
- Begg MD. *CUIMC Women in Science Lecture Series. Perfectly Imperfect Pathways to Success: Fork in the Road*. With Drs. Cory Abate-Shen, Melissa D. Begg, and Anne Taylor. Columbia University Irving Medical Center, December 2021.