

UNIVERSITY OF PENNSYLVANIA - PERELMAN SCHOOL OF MEDICINE
Curriculum Vitae

Date: 03/22/2021

Brendan J. Kelly, MD, MSCE

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Philadelphia, PA 19104 USA

If you are not a U.S. citizen or holder of a permanent visa, please indicate the type of visa you have:
none (U.S. citizen)

Education:

2002	AB	Harvard College, Harvard University (History and Science)
2007	MD	College of Physicians and Surgeons, Columbia University
2013	MSCE	Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania (Genetic Epidemiology)

Postgraduate Training and Fellowship Appointments:

2007-2010	Internal Medicine Residency, New York Presbyterian, Columbia University Medical Center
2010-2012	Infectious Diseases Fellowship, University of Pennsylvania Perelman School of Medicine
2012-2014	NRSA Post-Doctoral Fellow, University of Pennsylvania, Perelman School of Medicine

Faculty Appointments:

2014-2017	Instructor A in Medicine, Department of Medicine, University of Pennsylvania Perelman School of Medicine
2017-present	Assistant Professor of Medicine at the Hospital of the University of Pennsylvania, University of Pennsylvania School of Medicine
2017-present	Assistant Professor of Epidemiology in Biostatistics and Epidemiology, University of Pennsylvania School of Medicine (Secondary)

Hospital and/or Administrative Appointments:

2012-present	Attending Physician, Hospital of the University of Pennsylvania
2012-present	Attending Physician, Penn Presbyterian Medical Center
2012-2014	Attending Physician, Pennsylvania Hospital
2013-present	Director Fecal Microbiota Transplantation Program, Hospital of the University of Pennsylvania
2014-present	Attending Physician, Good Shepherd Penn Partners
2019-present	Director, Antimicrobial Resistance and Healthcare Epidemiology Study collaborative (ARES) Scientific Laboratory, University of Pennsylvania

Other Appointments:

2016-2017	CCEB Faculty-Fellow, University of Pennsylvania
2017-present	Senior Scholar, Center for Clinical Epidemiology and Biostatistics

Specialty Certification:

2010	American Board of Internal Medicine, Internal Medicine
2012	American Board of Internal Medicine, Infectious Disease

Licensure:

2014-Present	Pennsylvania
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Awards, Honors and Membership in Honorary Societies:

1998	National Merit Scholar
1999	Detur Book Prize
1999	John Harvard Scholarship
2002	Phi Beta Kappa
2002	Magna Cum Laude, Harvard University
2003	Simon Rifkind Fellowship, Columbia University
2007	Gold Humanism Honor Society, Columbia University
2007	Izard Award in Cardiology, Columbia University
2010	Joseph N. Muschel Housestaff Award, Columbia University
2010	Hospitalist Resident of the Year, Columbia University Medical Center
2010	Hospitalist Resident of the Year
2014	Infectious Diseases Fellows Grant, Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC)
2015	National Institutes of Health (NIH) Loan Repayment Program
2018	Herbert and Faye Moskowitz Prize in Epidemiology (to Melanie Weingart, MS4), Perelman School of Medicine, University of Pennsylvania
2018	Harvey M. Friedman Infectious Diseases Faculty Mentoring Award, Perelman School of Medicine, University of Pennsylvania
2019	Visiting Professorship, University of Michigan, Division of Infectious Diseases, Department of Medicine

Memberships in Professional and Scientific Societies and Other Professional Activities:International:

2019-Present	European Society of Clinical Microbiology and Infectious Diseases (ESCMID)
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National:

2010-Present	Infectious Diseases Society of America (IDSA) (Member)
2012-Present	American Society of Microbiology (ASM) (Member)

2016-Present Society for Healthcare Epidemiology of America (SHEA) (Member)

Editorial Positions:

2014-Present	Reviewer, Infection Control and Hospital Epidemiology
2015-Present	Reviewer, American Journal of Transplantation
2015-Present	Reviewer, Bioinformatics
2016-Present	Reviewer, Clinical Infectious Diseases
2017-Present	Reviewer, JAMA
2018-Present	Reviewer, mBio
2019-Present	Editorial Advisory Board Member, Clinical Infectious Diseases
2020-Present	Reviewer, American Journal of Respiratory and Critical Care Medicine

Academic and Institutional Committees:

2012-2016	Member, Clinical Committee, Division of Infectious Diseases
2016-Present	Member, Antimicrobial Resistance and Healthcare Epidemiology Study Collaborative (ARES)
2017-Present	Member, Research Committee, Division of Infectious Diseases
2017-Present	Member, Undergraduate Medical Education Committee, Center for Clinical Epidemiology and Biostatistics
2021-Present	FMT National Registry Steering Committee, American Gastroenterological Association (AGA)

Major Academic and Clinical Teaching Responsibilities:

2014-Present	Small Group Leader in Module 2 Infectious Disease Course for second year medical students
2014-Present	Deliver annual lecture Infectious Diseases Grand Rounds Series
2014-2016	Bedside teaching on the inpatient Infectious Diseases consultation service, Penn Presbyterian Medical Center, 18 weeks annually, case-based education of medical students; rotating residents in internal medicine, anesthesiology, and podiatry; and fellows in the infectious diseases training program
2014-2016	Lead evidence-based medicine class in Module 2 Infectious Diseases Course for second year medical students
2014-Present	Deliver annual research presentations, focused on microbiome analysis methods and the relationship between the human microbiome and healthcare-associated infections, Microbiology Department Journal Club Series
2014-Present	Participant, weekly Infectious Diseases Case Management Conference
2014	Deliver lecture, "Clostridium difficile," Internal Medicine Resident Report
2014-2016	Precept rotating medical students and residents, ID Outpatient Specialty Clinic, which focuses on Clostridium difficile infection

	(CDI) and fecal microbiota transplantation (FMT)
2015-2016	Deliver lecture, "Respiratory tract microbiome dynamics and infection diagnosis during critical illness" Department of Microbiology Prokaryotic Seminar Series
2015-2016	Deliver lecture "Relationship between human microbiome and infectious diseases," Module 2 Infectious Diseases Course for second year medical students
2015-2016	Mentor to Gretchen Evans, medical student, Drexel University College of Medicine, guided research elective
2015	Deliver lecture, "Case for Health Care Associated Pneumonia" first year medical students
2015-Present	Clinical Teaching, Department of Medicine Categorical Intern Outpatient Medicine Rotation
2016-Present	Research Mentor to internal medicine resident, Dr. Risa Fuller, submitted abstract National meeting of the American Society for Microbiology
2016-2018	Deliver annual lecture, "Microbiome Measures and Analysis," EPID 656- Epidemiological Research Methods in Infectious Diseases
2016	Deliver lecture, "Fecal Microbiota Transplantation" Internal Medicine Resident Report
2017	Deliver lecture, Division of Gastroenterology, University of Pennsylvania; Fellowship Lecture Series; "Update on Diagnosis and Treatment of Clostridium difficile Infection"
2017	Deliver lecture, "Update on Clostridium difficile Diagnosis and Treatment" Internal Medicine Resident Report, Hospital of the University of Pennsylvania
2017-Present	Primary Research Mentor to Jillian Baron, MD, Infectious Diseases Fellow and Master of Science in Clinical Epidemiology (MSCE) student
2017-Present	Research Co-Mentor to Matthew Ziegler, MD, Infectious Diseases Fellow and Master of Science in Clinical Epidemiology (MSCE) student
2017	Small Group Discussion Leader, Infectious Diseases course for Second-Year Medical Students, Perelman School of Medicine, University of Pennsylvania
2017-2018	Small Group Discussion Leader, Epidemiology Course for First-Year Medical Students, Perelman School of Medicine, University of Pennsylvania
2017-2018	Research Mentor to fourth-year medical student, Dr. Melanie Weingart, submitted abstract national meeting of the Infectious Diseases Society of America
2017-Present	Develop new course and curriculum content for masters students in epidemiology, EPID 674 Measuring the Microbiome
2017-Present	Bedside teaching inpatient infectious diseases consultation services at Penn Presbyterian Medical Center (PPMC)
2017-Present	Teaching during weekly, one half-day outpatient specialty clinic

2018-Present	Research Co-Mentor to Lauren Dutcher, MD, Infectious Diseases Fellow and Master of Science in Clinical Epidemiology (MSCE) student
2018-Present 2018	Co-Director EPID 674: Measuring the Microbiome Course Lecturer, Epidemiology Course for First-Year Medical Students, Perelman School of Medicine
2019-Present	K23 (NIAID) Research Co-Mentor, Dr. Matthew Ziegler, MD, MS, Instructor of Medicine, Division of Infectious Diseases
2019-Present	NIH Loan Repayment Research Mentor, Dr. Matthew Ziegler, MD, MS, Instructor of Medicine, Division of Infectious Diseases
2019-Present	"Clostridioides difficile Clinical Update 2019," ID Update 2019 for Primary Care CME, Division of Infectious Diseases, University of Pennsylvania

Lectures by Invitation:

Jan, 2016	"Respiratory Tract Microbiome Dynamics & Infection Diagnosis During Critical Illness," Division of Infectious Diseases, Albert Einstein College of Medicine, Bronx, NY
Mar, 2016	"Respiratory Tract Microbiome Dynamics and Infection Diagnosis During Critical Illness," Division of Infectious Diseases, Columbia University, New York, NY
Apr, 2016	"Respiratory Tract Microbiome Dynamics and Infection Diagnosis During Critical Illness," Division of General Internal Medicine, Columbia University, New York, NY
Jan, 2017	"The Respiratory Tract Microbiome" Centers for Disease Control and Prevention, Atlanta, GA
Jan, 2017	"Fecal Microbiota Transplantation for Severe-Complicated Clostridium difficile Infection" Centers for Disease Control and Prevention, Atlanta, GA
Oct, 2017	"Whole-Genome Sequencing to Evaluate Endemic Infections in Healthcare," Infectious Diseases Society of America (IDSA) Annual IDWeek 2017, San Diego, CA
Mar, 2018	"Predicting colonization/infection/shedding of C. difficile and MDROs," Centers for Disease Control and Prevention, Atlanta, GA
Mar, 2018	"Antibiotic effects on microbiome," Centers for Disease Control and Prevention, Atlanta, GA
Jun, 2018	"Translational Microbiology: Learning and Applying Lessons about Pathogens in Patents," American Society for Microbiology (ASM) Microbe 2018 Conference, Atlanta, GA
Jan, 2019	"Healthcare-associated microbiome change: towards a new understanding of diarrhea, pneumonia, and antibiotic effects" Public Health Research Institute, Rutgers University, Newark, NJ
May, 2019	"Bayesian Sparse Regression for Microbiome Data Analysis," Department of Microbiology, University of Michigan, Ann Arbor, MI
May, 2019	"Staphylococcus aureus, Pseudomonas, and the Microbial Ecology

- of Ventilator-Associated Infection," Division of Infectious Diseases, Department of Medicine, University of Michigan, Ann Arbor, MI
- Jun, 2019 "The Microbial Ecology of Respiratory Tract Infection," Beijing Pediatric Research Institute, Beijing Children's Hospital, Capital Medical University, Beijing, China
- Apr, 2020 "Detection of respiratory Mycoplasmatocae during prolonged mechanical ventilation", European Congress on Clinical Microbiology and Infectious Diseases (ECCMID) 2020, Paris, France
- Jul, 2020 "Fecal Microbiota Transplant for Severe C. difficile Infection and During Critical Illness", American Society for Microbiology (ASM) Anaerobe 2020 Virtual, Seattle, WA
- Jul, 2020 "Predicting Ventilator-Associated Pneumonia Using Dynamic Changes in Respiratory Microbiota", American Thoracic Society (ATS) Conference 2020 Virtual, Philadelphia, PA

Organizing Roles in Scientific Meetings:

- Oct, 2016 Moderator, Oral Abstracts on Clostridium difficile, Infectious Diseases Society of America (IDSA) Annual IDWeek 2016 New Orleans, LA

Bibliography:

Research Publications, peer reviewed (print or other media):

1. Yu M, Kumar TRS, Nkrumah LJ, Coppi A, Retzlaff S, Li Celeste D, Kelly BJ, Moura PA, Lakshmanan V, Freundlich JS, Valderramos J-C, Vilcheze C, Siedner M, Tsai JH-C, Falkard B, Sidhu ABS, Purcell LA, Gratraud P, Kremer L, Waters AP, Schiehsler G, Jacobus DP, Janse CJ, Ager A, Jacobs WR, Sacchetti JC, Heussler V, Sinnis P, Fidock DA: The fatty acid biosynthesis enzyme FabI plays a key role in the development of liver-stage malarial parasites. Cell Host & Microbe 4(6): 567-78, Dec 2008. PMCID: PMC2646117
2. Khiabani H, Holmes AB, Kelly BJ, Gururaj M, Hripcsak G, Rabadan R: Signs of the 2009 influenza pandemic in the New York-Presbyterian Hospital electronic health records. PLoS One 5(9): pii: e12658, Sep 2010. PMCID: PMC2936568
3. Brady T, Kelly BJ, Male F, Roth S, Bailey A, Malani N, Gijssbers R, O'Doherty U, Bushman FD: Quantitation of HIV DNA integration: effects of differential integration site distributions on Alu-PCR assays. J Virol Methods 189(1): 53-7, Apr 2013. PMCID: PMC3608829
4. Kelly BJ, Gross R, Bittinger K, Sherrill-Mix S, Lewis JD, Collman RG, Bushman FD, Li H: Power and sample-size estimation for microbiome studies using pairwise distances and PERMANOVA. Bioinformatics 31(15): 2461-2468, Aug 2015. PMCID: PMC4514928

5. Kelly BJ, Imai I, Bittinger K, Laughlin A, Fuchs BD, Bushman FD, Collman RG: Composition and dynamics of the respiratory tract microbiome in intubated patients. Microbiome 4: 7, Feb 2016. PMCID: PMC4750361
6. Kelly BJ, Lautenbach E, Nachamkin I, Coffin SE, Gerber JS, Fuchs BD, Garrigan C, Han X, Bilker WB, Wise J, Tolomeo P, Han JH, Centers for Disease Control and Prevention (CDC) Prevention Epicenters Program: Combined biomarkers discriminate a low likelihood of bacterial infection among surgical intensive care unit patients with suspected sepsis. Diag Microbiol Infect Dis 85(1): 109-115, May 2016. PMCID: PMC4841711
7. Agarwal R, Bartsch SM, Kelly BJ, Prewitt M, Liu Y, Chen Y, Umscheid CA: Newer glycopeptide antibiotics for treatment of complicated skin and soft tissue infections: a systematic review, network meta-analysis and cost analysis. Clin Microbiol Infect 24(4): 361-368, Apr 2018.
8. Kelly BJ, Lautenbach E, Nachamkin I, Coffin SE, Gerber JS, Fuchs BD, Garrigan C, Han X, Bilker WB, Wise J, Tolomeo P, Han JH: Combined Biomarkers Predict Acute Mortality Among Critically Ill Patients With Suspected Sepsis. Crit Care Med 46(7): 1106-1113, Jul 2018. PMCID: PMC6010038
9. Knecht VR, McGinniss JE, Shankar HM, Clarke EL, Kelly BJ, Imai I, Fitzgerald AS, Bittinger K, Bushman FD, Collman RG: Molecular analysis of bacterial contamination on stethoscopes in an intensive care unit. Infect Control Hosp Epidemiol Page: 1-7, Dec 2018. PMCID: PMC6581638
10. Kelly BJ, Lautenbach E, Han JH: The authors reply. Crit Care Med 47(3): e275-e276, Mar 2019.
11. Ziegler M, Han JH, Landsburg D, Pegues D, Reese E, Gilmar C, Gorman T, Bink K, Moore A, Kelly BJ: Impact of Levofloxacin for the Prophylaxis of Bloodstream Infection on the Gut Microbiome in Patients With Hematologic Malignancy. Open Forum Infect Dis 6(7): ofz252, Jul 2019. PMCID: PMC6602896
12. Berry ASF, Kelly BJ, Barnhart D, Kelly DJ, Beiting DP, Baldassano RN, Redding LE: Gut microbiota features associated with *Clostridioides difficile* colonization in puppies. PloS One 14(8): e0215497, Aug 2019. PMCID: PMC6716646
13. Redding LE, Kelly BJ, Stefanovski D, Lautenbach JK, Tolomeo P, Cressman L, Gruber E, Meily P, Lautenbach E: Pet Ownership Protects Against Recurrence of *Clostridioides difficile* Infection. Open Forum Infect Dis 7: ofz541, Jan 2020
Notes: <http://dx.doi.org/10.1093/ofid/ofz541>. PMCID: PMC6969483
14. Abdallah HO, Weingart MF, Fuller R, Pegues D, Fitzpatrick R, Kelly BJ.: Subglottic suction frequency and adverse ventilator-associated events during critical illness. Infection Control and Hospital Epidemiology January 2021.

15. Rhee RL, Lu J, Bittinger K, Lee JJ, Mattei LM, Sreih AG, Chou S, Miner JJ, Cohen NA, Kelly BJ, Lee H, Grayson PC, Collman RG, Merkel PA.: Dynamic Changes in the Nasal Microbiome Associated with Disease Activity in Patients with Granulomatosis with Polyangiitis. Arthritis Rheumatol rthritis Rheumatol, 2021.

Research Publications, peer-reviewed reviews:

1. Kelly BJ, Tebas P: Clinical practice and infrastructure review of fecal microbiota transplantation for *Clostridium difficile* infection. Chest 153(1): 266-277, Jan 2018. PMID: PMC5812771

Research Publications, non-peer reviewed:

1. Richard-Greenblatt M, Ziegler MJ, Bromberg V, Huang E, Abdallah H, Tolomeo P, Lautenbach E, Glaser L, Kelly BJ.: Impact of Nasopharyngeal Specimen Quality on SARS-CoV-2 Test Sensitivity. medRxiv December 2020. PMID: PMC7743104

Abstracts:

1. Kelly BJ, Lautenbach E, Nachamkin I, Coffin SE, Gerber JS, Fuchs Garrigan C, Han X, Bilker WB, Wise J, Tolomeo P, Han JH, for the Centers for Disease Control and Prevention (CDC) Prevention Epicenters Program: Combined Biomarkers Discriminate Mortality Risk Among Critically Ill Patients with Suspected Sepsis. Infectious Diseases Society of America (IDSA) Annual ID Week 2016 Oct 2016 Notes: Poster presentation.
2. Fuller RV, Fitzpatrick R, Lautenbach E, Pegues DA, Kelly BJ: Increasing Frequency of Subglottic Suctioning During Mechanical Ventilation Anticipates Adverse Ventilator-Associated Events. American Society for Microbiology (ASM) Microbe 2017 Jun 2017 Notes: Poster presentation.
3. Kelly BJ, Lewis JD, Wu GD, Bushman FD: Longitudinal Metagenomic Analysis of Stool Bacterial Community Composition Detects Incident Extended-Spectrum Beta-Lactamases Associated with Antibiotic Treatment. American Society for Microbiology (ASM) Microbe 2017 Jun 2017 Notes: Poster presentation.
4. Kelly BJ, Bushman FD, Collman RG, Lautenbach E: Nasal Microbiome Features of *Staphylococcus aureus* Colonization and Infection During Critical Illness. NIH Human Microbiome Project Workshop 2017 Aug 2017 Notes: Poster presentation.
5. Kelly BJ, Rivera J, Pirofski LA: Oropharyngeal Bacterial Community Composition Correlates with Baseline and Post-Vaccination Pneumococcal Polysaccharide Antibody Levels in HIV-Infected Subjects. Infectious Diseases Society of America (IDSA) Annual ID Week 2017 Oct 2017 Notes: Poster presentation.
6. Clarke E, Reese E, Lautenbach E, Wernovsky E, Kelly BJ: Modeling changes in

gastrointestinal and respiratory tract bacterial community diversity attributable to common antibiotic exposures during long-term acute care. Infectious Diseases Society of America (IDSA) Annual ID Week 2018 Oct 2018.

7. Weingart MF, Vecker RF, Fitzpatrick R, Lautenbach E, Pegues DA, Kelly BJ: Electronic records of daily subglottic suctioning predict infectious and non-infectious adverse ventilator-associated events during critical care. Infectious Diseases Society of America (IDSA) Annual ID Week 2018 Oct 2018.
8. Ziegler M, Han JH, Landsburg D, Pegues D, Reese E, Gilmar C, Gorman T, Bink K, Moore A, Kelly BJ: Impact of levofloxacin for the prophylaxis of bloodstream infection on the gut microbiome in patients with hematologic malignancy. Infectious Diseases Society of America (IDSA) Annual ID Week 2018 Oct 2018.
9. Jillian Baron, Alexis Schwartz, Ebony Davis, Julie Uspal, Brendan J. Kelly: Long-Term Impact of an HIV Testing Program on High-Risk HIV Screening in the Emergency Department. Infectious Diseases Society of America (IDSA) Annual ID Week 2019 Oct 2019.
10. Clarke, EL, Chiotos K, Harrigan JJ, Lautenbach E, Reese E, Wernovsky M, Tolomeo P, Morawski Z, Jacob J, Grippi MA, Kelly BJ: Comparison of respiratory microbiome disruption indices to predict VAP and VAE risk at LTACH admission. 6th Decennial International Conference on Healthcare Associated Infections (Atlanta, GA) March 2020.
11. Harrigan JJ, Clarke, EL, Lautenbach E, Reese E, Wernovsky M, Tolomeo P, Morawski Z, Jacob J, Grippi MA, Kelly BJ: Impact of diagnosed and undiagnosed respiratory Pseudomonas on VAP and VAE during long-term acute care. 6th Decennial International Conference on Healthcare Associated Infections (Atlanta, GA) Mar 2020.
12. Clarke EL, Lautenbach E, Reese E, Wernovsky M, Tolomeo P, Kelly BJ: Longitudinal microbiome analysis defines expected and aberrant antibiotic effects on the human respiratory microbiome. European Congress on Clinical Microbiology and Infectious Diseases (ECCMID) 2020 (Paris, France) Apr 2020.
13. Clarke EL, Lautenbach, E, Reese E, Wernovsky M, Tolomeo P, Kelly BJ: Detection of respiratory Mycoplasmataceae during prolonged mechanical ventilation. European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) 2020 (Paris, France) Apr 2020.
14. Reese E, Clarke EL, Lautenbach E, Wernovsky M, Tolomeo P, Kelly BJ: Impact of saponin-based host DNA depletion on respiratory resistome measures. European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) 2020 (Paris, France) Apr 2020.

15. Kelly BJ: Differential bacterial persistence in the human respiratory tract during mechanical ventilation. Microbial Ecology and Evolution (MEE) Virtual 2020 Aug 2020.
16. Harrigan JL, Abdallah H, Clarke EL, Lautenbach E, Reese E, Wernovsky M, Tolomeo P, Morawski Z, Jacob J, Grippi MA, Kelly BJ: Impact of respiratory Staphylococcus aureus abundance on risk for ventilator-associated pneumonia during long-term care. Infectious Diseases Society of America (IDSA) IDWEEK 2020 (Philadelphia, PA) October 2020.