

CURRICULUM VITAE

March, 2012

Name: **Barbara Elizabeth Murray, M.D.**

Present Title: Professor and Director, Division of Infectious Diseases
Department of Internal Medicine
University of Texas Medical School at Houston

Director, Center for the Study of Emerging and Re-Emerging Pathogens

Citizenship: U.S.A.

Undergraduate Education: B.S., 1969, *Cum Laude*, Mathematics, Rice University, Houston, TX

Graduate Education: M.D., 1973, AOA and Ho Din Award for Highest Scholastic Achievement, University of Texas Southwestern Medical School, Dallas, TX

Postgraduate Training: 1971, Fellowship in Tropical Medicine, ICMRT, Louisiana State University, and San Jose, Costa Rica

1973-74, Intern in Internal Medicine, Massachusetts General Hospital, Boston, MA

1974-76, Resident in Internal Medicine, Massachusetts General Hospital, Boston, MA

1976-77, Clinical Fellow in Infectious Diseases, Department of Medicine and Infectious Diseases, Massachusetts General Hospital and Harvard Medical School, Boston, MA

1977-80, Research Fellow in Infectious Diseases, Massachusetts General Hospital and Harvard Medical School, Boston, MA

1979, Temporary duty, U.S. Army Armed Forces Research Institute of Medical Science, Bangkok, Thailand

Academic Appointments: 1980-85, Assistant Professor of Medicine, University of Texas Medical School at Houston

1985-1990, Associate Professor of Medicine, University of Texas Medical School at Houston

1990-Present, Professor of Medicine, University of Texas Medical School at Houston. 1991-Present, Cross-appointment in Department of Microbiology and Molecular Genetics

1995-Present, Director, Division of Infectious Diseases, Department of Internal Medicine, University of Texas Medical School at Houston

2004-2008, Vice-Chair, Department of Internal Medicine
University of Texas Medical School at Houston

1984-Present, Graduate School of Biomedical Sciences, University of Texas Health Science Center, Houston, TX

2007-Present, Graduate School of Biomedical Sciences, Associate Member, Graduate Faculty, Texas A & M Health Science Center, College Station, TX

Hospital Appointments: Hermann Hospital, Houston, TX
Lyndon B. Johnson General Hospital, Houston, TX

Licensure: Massachusetts (inactive)
Texas

Certification: 1976, American Board of Internal Medicine
1978, Subspecialty Board of Infectious Diseases

Professional Organizations:

Phi Beta Kappa, 1968-Present

Alpha Omega Alpha, 1972-Present

American Society for Microbiology, 1976-Present

Program Planning Committee, Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC): 1984-88; and 1996-2003; Vice-Chair 1998-2000; Chair 2000-2003

Hoechst-Roussel Award Committee, 1985-88; Chair, 1998-2000

Wellcome Visiting Professorship Committee, 1989-1992

Chair, Division A, 1996-97 (Vice-Chair 1995-1996)

Meetings Board: 2000-2003

American Society of Tropical Medicine and Hygiene, 1976-94

American Federation for Clinical Research, 1978-1995, UTMSH Representative, 1985-90

Texas Infectious Diseases Society, 1983-93

Infectious Diseases Society of America, 1983-Present

Squibb Award Committee, 1989-93

Bristol Award Committee, 1989-93

Chair, Awards Committee, 1993

Publications Committee, 1990-93

Program Planning Advisory Committee, 1993

25th Annual Maxwell Finland Lecture, 1996

Finance Committee, 1996-98

Board of State and Regional Societies, 2000

Secretary-Treasurer (elected), 2003-2006

Treasurer (elected), 2006-2009

Antibiotic Availability Task Force Committee, 2010-2011

Vice President (elected), 2011-2012

President-Elect, 2012-2013

President, 2013-2014

Past-President, 2014-2015

International Society for Infectious Diseases, 1988-Present

Council, 1990-1996

Executive Committee, 1996-2000

American Society for Clinical Investigation, 1985-Present

Abstract Review Committee, 1988

Councilor, 1988-89

Vice-President, 1989-90

Editorial Committee, Journal of Clinical Investigation, 1990-95

The Association of American Physicians, 1997-Present

International Society of Chemotherapy, 2000-2004

International Scientific Advisory Committee, 2000-2002

European Congress for Clinical Microbiology & Infectious Diseases (ESCMID)

Program Planning Committee, 2001-2004; 2007-2008

National Foundation of Infectious Diseases, Board of Directors, 1996-2000;

Nominating Committee, 1997-2000; Chairman's Committee, 1998- Present

Volunteer Organizations:

Amigos de las Americas, International Medical Director, 1984-90;

Board of Directors, 1984-90

Sam Kader Memorial Foundation for the Conquest of MRSA, Scientific Advisory Board, 2010- defunct

Honors and Awards:

Southwest Medical Foundation Ho Din Award for Outstanding Academic Performance, 1973

American Medical Women's Association Award for Distinguished Woman Graduate, 1973

Daland Fellowship Award, 1978-80; American Philosophical Society

Selected by the American Society of Tropical Medicine and Hygiene as a Member of the American Tropical Medicine Delegation to China, 1978

25th Annual Maxwell Finland Lecture, 1996, Infectious Disease Society of America

Ann Sullivan Baker Visiting Professor in Infectious Diseases. Massachusetts, General Hospital, Boston, MA, 1996

37th Annual Marion Spencer Fay National Board Award of MCP-Hahnemann University to a Distinguished Woman Physician/Scientist, 1999

Third Harold C. Neu Lecture, Columbia University College of Physicians and Surgeons, Division of Infectious Diseases, New York, New York, 2002

Named to the J. Ralph Meadows Professorship – Department of Internal Medicine, University of Texas Medical School-Houston, 2004

Dr. Robert J. Fass Award – The Ohio State University, University Medical Center, 2005

Mayo Foundation "Donald Church Balfour Visiting Professor of Medicine" 2005

Editor's Award – Clinical Infectious Diseases, 2006

Physician Spotlight – Medical Journal Houston, 2007

10th Honorary Arthur White Lecturer, Indiana University School of Medicine, Indianapolis, Indiana, 2008

Castle Connolly Top Doctors, 2008

Marquis Who's Who in America, 2009, 2010

Clinical Infectious Diseases Award for Outstanding Review, 2010

Selected "The Best Doctors in America" by Peers, 2005-2006; 2007-2008, 2009-2010, 2011-2012

Editorial Positions:

Editor:
Antimicrobial Agents and Chemotherapy, 1992-2002

Editorial Boards:
Antimicrobial Agents and Chemotherapy, 1982-2002
Journal of Infectious Diseases, 1986-88; 2005-present
Journal of Clinical Investigation, 1990-95
Journal of Infectious Diseases and Antimicrobial Agents (Thailand), 1993-present (International Advisory Board)
Microbial Drug Resistance, 1995-present
Drug Resistance Updates, 1997-present
American Journal of Medicine, 1998-2009
Emerging Infectious Diseases, 1998-present
Current Infectious Disease Reports, 2009-present
Virulence, 2010-present

Guest Editor:
European Journal of Clinical Microbiology and Infectious Diseases, 1989

**Sponsorship of Undergraduates:
(NIH T32 Training Grant)**

Marissa Daniels (2006)
 Judson Moore (2007)
 David Kim (2009)
 Jules Wellinghoff (2010)

**Sponsorship of
Predoctoral Candidates:**

Karen Zscheck, 1986-91 (Ph.D.)
 Monica Smith, 1989-91 (M.S.)
 Xiaotao Li, 1992-95 (M.S., Ph.D.)
 Yi Xu, 1994-98 (Ph.D.) (co-advisor)
 Xiang Qin, 1994-2000 (Ph.D.)
 Christian Brauning, 1995-97 (M.S.)
 Fang Teng, 1996-2000 (Ph.D.) (co-advisor)
 Michael McLeod, 1998 (M.S.)
 Brandie Jonas, 1998-2000 (M.S.) (co-advisor)
 Jill Roberts, 2001-2003 (M.S.)
 Sandor Karpathy, 2001-2005 (Ph.D.) (co-advisor)
 Shahreen Chowdhury, 2006-2008 (M.S.)
 Jessica Galloway-Pena, 2008-present (Ph.D.)
 Maria Montealegre Ortiz, 2011-present (??)

**Other Recent Graduate Student
Advisory/Supervisory Committees:**

Liangxia Jiang, 1994-95 (M.S.)
 Christian Brauning, 1995-97 (Ph.D.)
 Brett Anderson, 1998-99 (M.S.)
 Fang Teng, 1998-2001 (Ph.D.)
 Mike McLeod, 2000-2004 (Ph.D.)
 Guangwei Fan, 2001-2003
 Melissa Drysdale, 2002-2003 (Ph.D.)
 Shen-An Hwang, 2002-2006 (Ph.D.)
 Qing Liu (TAMU), 2004-2007 (Ph.D.)
 Lauren Becnel (BCM), 2004-2008 (Ph.D.)
 Elena Barbu, 2005-2008 (Ph.D.)
 Kristina Fox, 2005-2011 (Ph.D.)
 Tiffany Williams (BCM), 2006-2009 (M.D./Ph.D.)
 Janeu Houston (TAMU), 2008-present (Ph.D.)
 Andrea Bordt (TAMU), 2009 (Ph.D.) (examining committee)
 Sandra Lorena Diaz (Pontificia Universidad Javeriana), 2010 (Ph.D.) (qualifying exam committee)
 Jennifer Herold, 2011-present (Ph.D.)

**Sponsorship of
Postdoctoral Fellows:**

Edward Rensimer, M.D., 1980-81
 Barbara Mederski-Samoraj, M.D., 1981-82
 John J. Mathewson, Ph.D., 1980-82
 R. Patrick Rudy, M.D., 1982-83
 Audrey Wanger, Ph.D., 1986-88
 Kavindra V. Singh, Ph.D., 1988-90
 Susan Hodel-Christian, Ph.D., 1988-90
 Abraham Miranda, M.D., 1989-92
 Manuel Gordillo, M.D., 1990-92
 Karen Zscheck, Ph.D., 1991-93
 Roberto Arduino, M.D., 1992-93
 Xiaomei Jin, Ph.D., 1993
 Teresa Coque, Ph.D., 1993-97 (Scholarship from Spanish gov't, 1993-1995)
 John Tomayko, M.D. 1993-95
 Jianguo Xiao, Ph.D., 1995-98
 Bei Wang, Ph.D., 1997-99
 Amol Amin, Ph.D., 1999-2000
 Sreedhar Nallapareddy, Ph.D., 1999-2004
 Magdalena Kawalec, 2001-2003
 Jamal Mohamed, Ph.D., 2001-2004
 Fang Teng, Ph.D., 2001-2005
 Suresh Pai, Ph.D., 2000-2003
 Jing Zeng, Ph.D., 2002-2004
 Cesar Arias, M.D., Ph.D., 2005-2008
 Vittal Prakash Ponraj, Ph.D., 2006-2008
 Jouko Sillanpaa, Ph.D., 2006-2009
 Meng Zhao, Ph.D., 2007-2009

**Sponsorship of
Postdoctoral Fellows (cont'd):**

Tina Choudhury, Ph.D., 2007-2010
Ana Santos Cohen, Ph.D., 2009-2010

**Sponsorship of
Visiting Scholars:**

Volkan Korten, M.D., 1992-93 (Scholarship from Turkish government)
Prema Seetulsingh, M.B.B.S., M.Sc., M.R. Cpath, 1995 (support by British Antimicrobial Society)
Kumthorn Malathum, M.D., 1996-99 (Scholarship from Thai Gov't, 1996-98)
Beatriz Robredo-Valgañon, 1997 (visiting Ph.D. student from Spain)
Ruay-Wang Duh, M.D., 1998-99 (on sabbatical from Veterans General Hospital-Taipei, Taiwan)
Jin Fang Wang, M.D., (Beijing Children's Hospital), 1998-99
Wenxiang Huang, M.D., 2001-2003 (Scholarship from China, Chongqing University Medical School)
Dianna Panesso, BS, MS. (Instructor in Microbiology, Universidad El Bosque, Bogota, Colombia) 2005-present
Esther Heikens, M.D., 2008 (visiting Ph.D. student from University Medical Center Utrecht, The Netherlands)
Mircea Radu Mihai, M.D., 2010 (visiting Internal Medicine resident from New York Medical College – Sound Shore Medical Center) research elective
Natalie Steck, M.Sc., 2010 (visiting graduate student from Technische Universitat Munchen)

**National Grant Review Panels
and Advisory Committees:**

Cancer Therapeutics Program Project Site Visit Committee, NCI, NIH,; Baltimore, MD, 1984
Consultant to Board of Scientific Counselors, Intramural Reviews, NIH; Bethesda, MD, 1985
Consultant to Merit Review Board for Infectious Diseases, Veteran's Administration, 1986-1990
Ad hoc Reviewer for Special Study Section, Microbial Physiology, NIH; 1986, 1987
MKSAP VIII, American College of Physicians Committee for Infectious Diseases, 1986-88
NIH Recombinant DNA Advisory Committee, 1989-1992 and Chair, 1992
Member, U.S. Army AIDS/HIV Data Safety and Monitoring Board, 1992-1996; WRAIR HIV Vaccine Advisory Panel, 1993-1996
Member, American Board of Internal Medicine Self-Evaluation Process Committee for Infectious Disease, 1993-1995
Member, U.S. Congress Office of Technology Assessment Advisory Panel on Antimicrobial Resistance, 1994-1995
Member, NIH Bacteriology and Mycology Study Section (BM-1), Division of Research Grants, 1994-1997
Chair, Data and Safety Monitoring Board for the Clinical Studies of Chronic Lyme Disease, NIH. 1997-2000
Member, FDA Anti-Infective Drugs Advisory Committee, 1998-2002
Advisor, Science and Technology Committee of the Board of Directors, Pfizer, Inc. 2003-2006
Member, Therapeutic Trials Data and Safety Monitoring Board (TDSMB), DAIDS, NIH, 2003-present
Member, Espirit/Stalwart Data and Safety Monitoring Board, DAIDS, NIH, 2006-present

Local Committees:

Director, Introduction to Clinical Medicine Course (Physical Diagnosis) for Sophomore Students, 1983-88
Division of Infectious Diseases, Fellowship Coordinator, 1990-1992

Health Science Center Recombinant DNA Committee, 1990-1994

Medical School Faculty Development Leave Committee, 1992-1995

Graduate School of Biomedical Sciences Review Committee, 1997

Health Science Center Institutional Biosafety Committee, 1994-2000

Department of Internal Medicine Advisory Committee on Faculty Promotions and Tenure, 1994-2000

Research Council (HSC), 2003-Present
University of Texas Health Science Center-Houston

Chair, Research Council (Department), 2004-2008
University of Texas Medical Center-Houston

Center for AIDS Research (CFAR) Executive Committee, Baylor-UT Houston, 2009-present

Pharmaceutical Advisory Boards:

Past four years: Pfizer, Eli Lilly, Cubist, Johnson and Johnson, Salix, Vicuron, Wyeth, Theravance, Astellas, Targanta, AstraZeneca, Rib-X, Durata, Achaogen, The Medicines Co.

National/State Grant Awards as PI 1990-present:

AHA 89G-242 "Studies of Enterococcal Penicillinase"; \$27,250 annual costs (funding ceased when NIH AI27249 was funded). 1989-1990

NIH R01 AI27249 "Studies of Enterococcal Beta-Lactamase"; \$310,365 direct costs. 1990-1993

AHA 93013340 "The Enterococcus: Virulence Factors as a Key to Protection"; \$120,000 total costs. 1993-1996

NIH R01 AI33516 "Genetic Analysis of Enterococci" 1993-2000: \$820,626 direct costs.

Texas Higher Education "Identification of New Targets for Control of Bacterial Infection"; \$230,871, 1996-1997.

NIH R01 AI42399 "Virulence of Vancomycin Resistant and other *Enterococcus faecium*"; \$973,796 direct costs (\$1,476,999 total), 1998-2004.

NIH R56 AI42399 "The Untaming of *Enterococcus faecium*, including VRE"; \$225,000 direct cost \$330,371 (total cost), 2005-2006.

NIH R37 AI47923 (MERIT) "Alternative Approaches for *E. faecalis* Infections", 2000-2010. \$292,950 (annual direct costs), \$2,124,432 (total cost), for 2005-2010 period.

NIH R21 AI064470-01 "Genomic Comparison of Infectious Strains *E. faecalis*." \$33,726 (Total direct costs), 2005-2007.

NIH R01 AI067861 "Importance of adhesin-like proteins of *Enterococcus faecium*" \$250,000 (annual direct costs), \$1,856,250 (total costs), 2005-2011.

NIH R01 AI47923 "Alternative Approaches for *E. faecalis* Infections", 2010-2015. \$358,110 (annual direct costs), \$3,244,473 (total cost), for 2010-2015 period.

Industry Awards Since 2005:

(for fellows, *in vitro* studies, animal model studies): \$300,000+

Invited International Lectures:

Invited Symposium Speaker, XII International Congress of Infectious Diseases, Merida, Mexico, 1987.

Invited Symposium Speaker, 30th National Medical Congress of Honduras, Tegucigalpa, 1987.

Invited Symposium Speaker, 2nd International Quinolone Symposium, Geneva, Switzerland, 1988.

- Invited Symposium Speaker, 3rd Latin American and Panamerican Congress of Pediatric Infectious Diseases, Buenos Aires, Argentina, 1989.
- Invited Symposium Speaker, International Society for Infectious Diseases Annual Meeting, Montreal, Canada, 1990.
- Invited Symposium Speaker, Second Western Pacific Congress on Infectious Diseases, Jomtien, Thailand, 1990.
- Invited Symposium Speaker, Australian Society for Microbiology, Gold Coast, Australia, 1991.
- Invited Symposium Speaker, 5th European Congress of Clinical Microbiology and Infections Diseases, Oslo, Norway, 1991.
- Invited Symposium Speaker, 5th International Symposium on Recent Advances in Otitis Media, Ft. Lauderdale, Florida, 1991.
- Invited Plenary Symposium Speaker, International Society for Infectious Diseases, plenary symposium, Nairobi, Kenya, 1992.
- Invited Symposium Speaker, 4th International Conference on Fluoroquinolones, Munich, Germany, 1992.
- Invited Symposium Speaker, Infectious Diseases Society of Turkey, Ankara, Turkey, 1993.
- Invited Symposium Speaker, International Congress of the Argentine Society for Clinical Bacteriology, Buenos Aires, Argentina, 1993.
- Invited Speaker, Belgian Society of Infectious Diseases and Clinical Microbiology Scientific Meeting on "New Trends in Gram-Positive Infectious Diseases", Brussels, Belgium, 1994.
- Invited State of the Art Lecture, Infectious Diseases Lecture of the Annual Meeting of the Quebec Association of Medical Microbiologists and Infectious Diseases Specialists, Montreal, Canada, 1994.
- Invited Speaker, 11th Chilean Congress of Infectious Diseases, Santiago, Chile, 1994.
- Invited Speaker, 8th Kurhaus Workshop on Infectious Diseases "Emerging Streptococcal Infections", Scheveningen, The Netherlands, 1994.
- Invited Speaker, Institut für Medizinische Mikrobiologie, Munster, Germany, 1994.
- Invited Speaker, 3rd German Congress for Infectious Diseases and Tropical Medicine, Paul Ehrlich Society for Chemotherapy and the German Society for Infectiology. Berlin, Germany, 1995.
- Invited Speaker and 1996 Eli Lilly fellow, "Bushpath '96 Congress" Federation of South African Societies of Pathology. Mpumalanga, South Africa, 1996.
- Invited Speaker, Groote Schuur Hospital/University of Cape Town. Lecture: "Resistance in Gram-positive Bacteria." South Africa, 1996.
- Invited Speaker, European Society of Clinical Microbiology and Infectious Diseases, symposium on 'Streptococcal and Enterococcal Diseases.' Yverdon-les Bains, Switzerland, 1996.
- Invited Speaker, 20th International Congress of Chemotherapy (ICC). Session: 'Limiting Antimicrobial Resistance in the Hospital Environment.' Sydney, Australia, 1997.
- Invited Speaker, 4th International Conference on the Macrolides, Azalides and Streptogramins (ICMAS-IC). Barcelona, Spain, 1998.

Second Pan-American Congress of Intra-Hospital Infectious Diseases and First Argentina Congress of Hospital Diseases and Medical Care. Mar del Plata, Argentina, 1998.

Wellcome Trust and Burroughs Wellcome Fund Joint Programme: 'A Research Agenda for Prevention Treatment and Control of Microbial Diseases in the Developing World'. Ho Chi Minh City, Vietnam, 1998.

Invited Speaker, XI Jornadas Nacionales de Infectologia, Infectious Diseases Society of Venezuela. Lectures: "Enterococcal Resistance: The past, the present and the future", "Intrahospital bacterial resistance", and "Resistance of pneumococci to penicillin: Another battle lost?" Isla Margarita, Venezuela, 1998.

Invited Speaker, Pan American Health Organization/Pan American Society for Infectious Diseases, meeting on 'Antibiotic Resistance Monitoring: Current Situation and Development of an Action Plan for Regional Surveillance'. Lecture: "Inherent Difficulties in Achieving Prudent Use of Antibiotic". Caracas, Venezuela, 1998.

Invited Speaker, 73rd Conference of the Japanese Society of Infectious Diseases. Lecture: "Pathogenicity of Enterococci and Problems of Glycopeptide Resistance – Tokyo International Forum." Tokyo, Japan, 1999.

Invited Speaker, Ninth Panamerican Congress of Infectious Diseases (API 99). Lectures: "Bacterial Resistance" and "Alternatives in the Treatment of Vancomycin-Resistant Gram Positive Cocci", Guatemala, 1999.

Invited Speaker, XI Brazilian Congress of Infectious Diseases. Lecture: "Bacterial Resistance to Antimicrobials: Challenges for the Next Century", Brazil, 1999.

Invited Speaker, VI Congreso Peruano de Enfermedades Infecciosas Y Tropicales. Lecture: "Pneumococci and Multi-resistance Staphylococci", "Enterococci", "General Overview of Antibiotic Resistance", Lima, Peru, 1999.

Invited Speaker, 1999 New Zealand Microbiological Society (NZMS) Conference. Lecture: "Vancomycin Resistant Enterococci (VRE)", Dunedin, New Zealand, 1999.

Invited Speaker, 2000 First International ASM Conference on Enterococci. Lecture: "Enterococcal Resistance – The View from the Clinic: Epidemiology – Europe vs US", Banff, Alberta, Canada, 2000.

Invited Speaker, 22nd International Congress of Chemotherapy. Lecture: "MRSA, VISA, GISA and VRE epidemiology in a nutshell", Amsterdam, 2001.

Invited Speaker, Infectious Disease Society of Obstetrics/Gynecology. Lecture: "Resistance in Bacteria", Quebec City, Canada, 2001.

Invited Speaker, 12th European Congress on Clinical Microbiology and Infectious Diseases. Lecture: "Alternative therapies for staphylococci and their problems", Milan, Italy, 2002.

Invited Speaker, 4th International Symposium on Antimicrobial Agents and Resistance. Plenary lecture: "Dynamics of the Evolution of Antimicrobial Resistance". Symposium lecture: "Enterococcal Resistance", Seoul, South Korea, 2003.

Invited Speaker, International Society of Infectious Diseases 11th International Congress on Infectious Diseases. Lecture: "Controlling Multi-Resistant Gram Positive Cocci: Novel Antimicrobials and Existing Agents", Cancun, Mexico, 2004.

Invited Speaker, 2nd International ASM-FEMS Conference on Enterococci. "Gelatinase A Proteolytic Enzyme of Some *E. faecalis*". Helsingoer, Denmark, 2005.

Invited Speaker, 18th European Congress of Clinical Microbiology and Infectious Diseases. "New Insights into Pathogenesis and Treatment of Enterococcal Endocarditis", Barcelona, Spain, 2008.

Invited Speaker, International Conference on Food Safety, "Enterococci: an abundance of intrinsic and acquired resistances", Washington, D.C., 2009.

Invited Speaker, 10th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Disease (ISCVI), “New Insights into Pathogenesis of Enterococcal Endocarditis”, Naples, Italy, 2009.

Invited Speaker, 9th Congreso Colombiano de Enfermedades Infecciosas, “Enterococcal Endocarditis: Problems Posed and the Role of Pili” and plenary session “Is Vancomycin Obsolete? – A Pro-Con Debate”, Cali, Colombia, 2009.

Invited Speaker, University Medical Center Utrecht, “Latest Insights into Enterococcal Epidemiology and Pathogenesis”, Utrecht, The Netherlands, 2009.

Invited Speaker, VI International Symposium on Antimicrobial Resistance, “VRE: to treat or not to treat” and “Enterococcal virulence”, Cali, Colombia, 2010.

Invited Speaker, Universitätsklinikum Freiburg, “The Enterococcus: An Example of How to Make a Second-Rate Pathogen into a First-Rate Problem”, Freiburg, Germany, 2010.

Invited Speaker, Technische Universität München, “Update on Enterococcal Pathogenesis”, Freising, Germany, 2010.

Invited Speaker, 11th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Disease (ISCVI), “Enterococcal Endocarditis: Are We Winning the War”, Cairns, Australia, 2011.

PUBLICATIONS:

Original Articles in Peer Reviewed Journals

1. Goldman L, Caldera DL, Nussbaum SR, Southwick FS, Krogstad D, **Murray BE**, *et al.* Multifactorial index of cardiac risk in noncardiac surgical procedures. *N Engl J Med* 298:845-50, 1977.
2. Goldman L, Caldera DL, Southwick FS, Nussbaum S, **Murray BE**, *et al.* Cardiac risk factors and complications in noncardiac surgery. *Medicine* 57:357-69, 1978.
3. Crues JV, **Murray BE**, Moellering Jr RC. *In vitro* activity of three tetracycline antibiotics against *Acinetobacter calcoaceticus* var. *anitratus*. *Antimicrob Agents Chemother* 16:690-2, 1979.
4. **Murray BE**, Moellering Jr RC. Aminoglycoside-modifying enzymes among clinical isolates of *Acinetobacter calcoaceticus* subsp. *anitratus* (*Herellea vaginicola*): Explanation for high-level aminoglycoside resistance. *Antimicrob Agents Chemother* 15:190-9, 1979.
5. **Murray BE**, Moellering Jr RC. Evidence for plasmid-mediated production of aminoglycoside modifying enzymes not previously described in *Acinetobacter*. *Antimicrob Agents Chemother.* 17:30-6, 1980.
6. Moellering Jr RC, **Murray BE**, Schoenbaum SC. A novel mechanism of resistance to penicillin-gentamicin synergism in *S. faecalis*. *J Infect Dis.* 141:81-5, 1980.
7. **Murray BE**, Karchmer AW, Moellering Jr RC. Diphtheroid prosthetic valve endocarditis: A study of clinical features and infecting organisms. *Amer J Med* 69:838-48, 1980.
8. **Murray BE**, Seriwatana J, Echeverria P. Toxin detection after storage or cultivation of enterotoxigenic with colicinogenic *Escherichia coli*: A possible mechanism for toxin-negative pools. *J Clin Microbiol* 13:179-83, 1981.
9. Johnson DE, Burke DS, Williams RG, **Murray BE**. Observations on medical care in a refugee camp in Thailand. *Mil Med* 146:842-5, 1981.
10. **Murray BE**, Moellering Jr RC. *In vivo* acquisition of two different types of aminoglycoside resistance by a single strain of *Klebsiella pneumoniae* causing severe infection. *Ann Intern Med* 96:176-80, 1982.
11. **Murray BE**, Rensimer E, DuPont HL. Emergence of high-level trimethoprim resistance in fecal *Escherichia coli* during oral administration of trimethoprim or trimethoprim/sulfamethoxazole. *N Engl J Med* 306:230-5, 1982.
12. **Murray BE**, Tsao J, Panida J. Enterococci from Bangkok, Thailand with high level resistance to currently available aminoglycosides. *Antimicrob Agents Chemother* 23:799-803, 1983.

13. **Murray BE**, Evans DJ, Peñaranda ME, Evans DG. CFA/I:ST plasmids: Comparison of enterotoxigenic *Escherichia coli* (ETEC) of serogroups 025, 063, 078 and 0128 and mobilization from an R-factor-containing epidemic ETEC isolate. *J Bacteriol* 153:566-70, 1983.
14. DuPont HL, Ericsson CD, **Murray BE**. Travelers' diarrhea: Can it be eluded? *JAMA* 249:1193-4, 1983.
15. Mederski-Samoraj B and **Murray BE**. High level resistance to gentamicin in clinical isolates of enterococci. *J Infect Dis* 147:751-8, 1983.
16. Mathewson JJ, **Murray BE**. Plasmid-mediated resistance to trimethoprim/ sulfamethoxazole in *Salmonella krefeld*. *Antimicrob Agents Chemother* 23:495-6, 1983.
17. **Murray BE**, Rensimer ER. Transfer of trimethoprim resistance from fecal *Escherichia coli* isolated during a prophylaxis study in Mexico. *J Infect Dis* 147:724-8, 1983.
18. Harford PS, **Murray BE**, DuPont HL, Ericsson CD. Bacteriologic studies of the enteric flora of patients treated with bicozamycin (CGP 3543/E) for acute nonparasitic diarrhea. *Antimicrob Agents Chemother* 23:630-3, 1983.
19. Peñaranda ME, Evans DG, **Murray BE**, Evans DJ. Identification of ST:LT:CFA/II plasmids in enterotoxigenic *E. coli* belonging to serogroups 06 and 08. *J Bacteriol* 154:980-3, 1983.
20. **Murray BE**, Mederski-Samoraj B. Transferable beta-lactamase. A new mechanism for *in vitro* penicillin resistance in *Streptococcus faecalis*. *J Clin Invest* 72:1168-71, 1983.
21. Eliopoulos GM, Farber BF, **Murray BE**, Wennersten C, Moellering Jr RC. Ribosomal resistance to streptomycin among clinical enterococcal isolates. *Antimicrob Agents Chemother* 25:398-9, 1984.
22. Rudy RP, **Murray BE**. Evidence for an epidemic trimethoprim resistance plasmid in fecal *Escherichia coli* of U.S. students in Mexico. *J Infect Dis* 150:25-9, 1984.
23. **Murray BE**, Levine MM, Cordano AM, D'Ottone K, Jayanetra P, Kopecho D, Pan-Urai R, Prenzel I. Survey of plasmids in *Salmonella typhi* from Chile and Thailand. *J Infect Dis* 151:551-5, 1985.
24. **Murray BE**, Alvarado T, Vorachit M, Kim KH, Levine MM, Jayanetra P, Prenzel I, Elwell L, Fling M. Increasing resistance to trimethoprim/sulfamethoxazole in developing countries. *J Infect Dis* 152:1107-13, 1985.
25. **Murray BE**, Mederski-Samoraj B, Foster S, Brunton JL, Harford P. *In vitro* studies of plasmid-mediated penicillinase from *Streptococcus faecalis* suggests a staphylococcal origin. *J Clin Invest* 77:289-93, 1986.
26. **Murray BE**. Resistance to *Shigella*, *Salmonella* and selected other enteric pathogens to antimicrobial agents. *Rev Infect Dis* 8:5172-81, 1986.
27. **Murray BE**, Church DA, Wanger A, Zscheck K, Levison ME, Ingerman MJ, Abrutyn E, Mederski-Samoraj B. Comparison of two beta-lactamase producing strains of *Streptococcus faecalis*. *Antimicrob Agents Chemother* 30:861-4, 1986.
28. Prado D, **Murray BE**, Cleary TG, Pickering LK. Limitations of using the plasmid pattern as an epidemiologic tool for clinical isolates of *Shigella sonnei*. *J Infect Dis* 155:314-16, 1987.
29. **Murray BE**, Mathewson JJ, DuPont HL, Hill WE. Utility of oligodeoxyribonucleotide probes for detecting enterotoxigenic *Escherichia coli*. *J Infect Dis* 155:809-11, 1987.
30. Najjar A, **Murray BE**. Failure to demonstrate a consistent *in vitro* bactericidal effect of trimethoprim/sulfamethoxazole against enterococci. *Antimicrob Agents Chemother* 31:808-10, 1987.
31. Ingerman M, Pitsakis PG, Rosenberg A, Hessen MT, Abrutyn E, **Murray BE**, Levison ME. Beta-lactamase production in experimental endocarditis due to aminoglycoside-resistant *Streptococcus faecalis*. *J Infect Dis* 155:1226-32, 1987.
32. Goldstein FW and **Murray BE**. Sulfonamide and trimethoprim resistance in *Salmonella typhi*. *J Clin Microbiol* 25:1344-6, 1987.
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Invited Articles, Chapters and Reviews

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62. Nannini E and **Murray BE**. Vancomycin-resistant enterococci. In *Re-Emergence of Established Pathogens in the 21st Century*. Fong I.W., Drlica K eds. Kluwer Academic Plenum, pp.155-204, 2003.
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66. **Murray BE**. Mechanisms of antibiotic resistance in enterococci – I and II. In *UpToDate*, Rose BD (ed.), Wellesley, MA, 2002-2006.
67. **Murray BE**. Overview of enterococci. In *UpToDate*, Rose BD (ed.), Wellesley, MA, 2002-present.
68. **Murray BE**. Treatment options for infections caused by vancomycin-resistant enterococci. In *UpToDate*, Rose BD (ed.), Wellesley, MA, 2002-present.
69. Mohr JF, **Murray BE**. Point: Vancomycin is not obsolete for the treatment of infection cause by methicillin-resistant *Staphylococcus aureus*. *Clin Infect Dis* 44:1536-42, 2007.
70. Arias CA, **Murray BE**. Emergence and management of drug-resistant enterococcal infections. *Expert Rev Anti Infect Ther* 6:637-55, 2008.
71. Arias CA, **Murray BE**. Antibiotic-Resistant Bugs in the 21st Century – A Clinical Super-Challenge. *N Engl J Med* 360:5, 2009.
72. Arias CA and **Murray BE**. Enterococcus species, *Streptococcus bovis* group and Leuconostoc species. In *Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases* (7th edition). Editors: GL Mandell, JE Bennett and R Dolin, Elsevier, Vol 2, pp. 2643-53, 2010.

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75. Nannini E, **Murray BE**, Arias CA. Resistance or decreased susceptibility to glycopeptides, daptomycin, and linezolid in methicillin-resistant *Staphylococcus aureus*. *Curr Opin Pharmacol*, 10:516-21, 2010.
76. Arias, CA., **Murray, BE**. Enterococcal infections. In *Harrison's Principles of Internal Medicine* (18th Edition). Editors: Longo, DL, Fauci, AS., Kasper, DL., Hauser, SL., Jameson, JL., Loscalzo, J, McGraw-Hill, Vol 1, pp. 1180-1187, 2011.
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Editorials/Textbook Editor

1. **Murray BE**. Can antibiotic resistance be controlled? *New Engl J Med* 330:1229-1230, 1994.
2. **Murray BE**. What can we do about vancomycin-resistant enterococci? *Clin Infect Dis* 20:1134-1136, 1995.
3. Gilmore, MS, Clewell DB, Courvalin PM, Dunny GM, **Murray BE**, Rice LB. (Eds.) *The Enterococci: Pathogenesis, Molecular Biology, and Antibiotic Resistance*. American Society for Microbiology Press, 2002.
4. Scheld WM, **Murray BE**, Hughes JM (Eds.). *Emerging Infections 6*. American Society of Microbiology Press, 2004.
5. Bayer AS, **Murray BE**. Initial low-dose aminoglycosides in *Staphylococcus aureus* bacteremia: good science, urban legend, or just plain toxic? *Clin Infect Dis* 48:722-4, 2009.

Grand Rounds and Other Major National and International Invited Communications

1. Symposium Presentation, American Society for Microbiology Annual Meeting: "Antimicrobial Resistance in *Acinetobacter calcoaceticus*", 1983.
2. Speaker, NIH Workshop on Typhoid Fever: "Plasmids of *Salmonella typhi*", 1984.
3. Speaker, NIH Consensus Development Conference on Travelers' Diarrhea: "Antibiotic Resistance of Enteric Pathogens", 1985.
4. Symposium Presentation, Interscience Conference on Antimicrobial Agents and Chemotherapy: "Penicillin Resistant Streptococci", 1985.
5. Speaker, Cold Spring Harbor Laboratories Banbury Center Conference: "Plasmid-Mediated Penicillinase in Enterococci", 1986.
6. Symposium Presentation, Interscience Conference on Antimicrobial Agents and Chemotherapy: "Trimethoprim Resistance in Gram-Negative Bacilli", 1986.

7. Symposium Presentation, Interscience Conference on Antimicrobial Agents and Chemotherapy: "Use of Quinolones in Gastrointestinal Infections", 1986.
8. Symposium Presentation, American Society for Microbiology Annual Meeting: "Antimicrobial Resistance in Enterococci", 1988.
9. Workshop Speaker, American Society for Microbiology Annual Meeting: "Use of Plasmid Analyses for Gram-Positive Organisms", 1988.
10. Symposium Presentation, Second International Symposium on New Quinolones: "Effect of Quinolones on the Gastrointestinal Flora", Geneva, 1988.
11. Speaker, American Society for Microbiology, Pennsylvania Branch: "Newer Aspects of Enterococci and Their Resistance", 1989.
12. Symposium Presentations, Third Latin American and Panamerican Congress on Infectious Diseases: (1) "New Concepts in Bacterial Resistance;" (2) "Use of Plasmid Analysis to Study Trimethoprim Resistance in *Escherichia coli*", Buenos Aires, 1989.
13. Workshop Speaker, NIH Workshop on Bacterial Resistance to Antimicrobials: "Epidemiology of Antibiotic Resistance in Special Populations, (Nursing Homes, Daycare Centers, the Community, Sexually Transmitted Diseases)", 1990.
14. Symposium Presentation, International Society for Infectious Diseases: (1) " β -lactamases in Gram Positive Bacteria", and (2) "Enterococcal Beta-Lactamase", Montreal, 1990.
15. Symposium Presentation, Second Western Pacific Congress on Infectious Diseases and Chemotherapy: "Current Problems of Gram-Positive Bacteria and Infection", Jomtien-Pattaya, Thailand, 1990.
16. Symposium Presentation, Fifth International Symposium on Recent Advances in Otitis Media: "Update on Molecular Mechanisms of Antimicrobial Resistance", Ft. Lauderdale, FL, 1990.
17. Workshop Speaker, American Society for Microbiology-Interscience Conference on Antimicrobial Agents and Chemotherapy: "Beta-Lactam and Aminoglycoside Resistance in Enterococci", Atlanta, 1990, Chicago, 1991, and Anaheim, 1992.
18. Symposium Presentation, Australian Society for Microbiology: (1) "Enterococci-Old and New Problems" and (2) "Beta-Lactamase-Producing Enterococci", Gold Coast, Australia, 1991.
19. Symposium Presentation, Fifth European Congress of Clinical Microbiology and Infectious Diseases: "Enterococci: A Reservoir for Gene Epidemics", Oslo, Norway, 1991.
20. Symposium Presentation, International Society for Infectious Diseases: "Impact of Antibiotic Resistance Worldwide", Nairobi, Kenya, 1992.
21. Symposium Presentation, 4th International Conference on Fluoroquinolones: "Impact on GI Flora", Munich, Germany, 1992.
22. Speaker, Delaware Academy of Medicine Symposium: "Enterococci – Old Bug, New Problems", Wilmington, DE, 1992.
23. Symposium Presentation, American Society for Microbiology: "Aminoglycoside and β -Lactamase-Mediated Resistance in Enterococci", New Orleans, LA, 1992.
24. Invited Seminar Speaker, American Society of Hospital Pharmacists Seminar "Contemporary Problems Associated with the Management of Gram-Positive Infections" Lecture: "Antibiotic resistance in gram-positive bacteria", 1992.
25. Symposium Presentation, American Society for Microbiology: "Molecular Epidemiology of the β -Lactamase Producer *Enterococcus faecalis* clones", Atlanta, GA, 1993.
26. University of Massachusetts Medical Center Internal Medicine Grand Rounds: "Update on Human Gene Therapy", Worcester, MA, 1993.
27. UCLA Infectious Disease Research Conference: "Molecular epidemiology of enterococcal infections", Los Angeles, 1993.

28. UCLA Infectious Diseases Internal Medicine Grand Rounds: "Mechanisms and management of antibiotic resistant enterococci", Los Angeles, 1993.
29. Internal Medicine Grand Rounds University of Texas Medical Branch: "Update on Human Gene Therapy", Galveston, TX, 1993.
30. University of California at San Francisco Medical School Brainard Lecture: "Update on Human Gene Therapy", San Francisco, CA, 1993.
31. University of Alabama Medical Center Internal Medicine Grand Rounds: "Increasing Problems of Multi-Resistant Enterococci", Birmingham, AL, 1993.
32. Vanderbilt Medical School Infectious Diseases Grand Rounds: "Enterococci", Nashville, TN, 1993.
33. Symposium Presentation Speaker, ATS/ALS National Meeting, Tuberculosis Symposium: "Overview of Antibiotic Resistance", San Francisco, CA, 1993.
34. Symposium Presentation, Association of Practitioners of Infection Control, symposium lecture: "New and emerging gram-positive pathogens", Orlando, FL, 1993.
35. Symposium Speaker, Infectious Diseases Society of Turkey: "Enterococci: Resistance to Aminoglycosides, Vancomycin, and Beta-lactams", Ankara, Turkey, 1993.
36. Symposium Presentation, International Congress of the Argentine Society for Clinical Bacteriology: (1) "Molecular Epidemiology of Gram-positive Cocci", (2) "Beta-lactamase-producing Enterococci", and (3) "The Life and Times of Enterococci", Buenos Aires, Argentina, 1993.
37. Symposium Presentation, Interscience Conference on Antimicrobial Agents and Chemotherapy, Session on "Gram-Positive Infections: Impact of Emerging Resistance on Therapeutic Management" Title, "Enterococci", New Orleans, LA, 1993.
38. Symposium Presentation, Wayne State University School of Medicine Continuing Education Symposium on "Serious Infections: The Transition to Outpatient Management". Lecture: "Therapeutic Difficulties Posed by Enterococci", New Orleans, LA, 1993.
39. Speaker in Symposium Honoring M. N. Swartz, M.D.: "A New Plague-Resistant Bacteria", Boston, MA, 1993.
40. Washington University Medical School, Carl G. Hartford Visiting Professor. Grand Rounds: "Enterococci: Just When You Thought It Was Safe to go into the Hospital"; Microbiology Seminar: "Enterococci: Antibiotic Resistance and Beyond", St. Louis, MO, 1993.
41. Symposium Speaker, Infectious Diseases Fellows' Symposium: "Enterococcus: Antibiotic Resistant Pathogens for the 1990s", Naples, FL, 1993.
42. The Kuzell Institute Infectious Diseases Symposium. Lecture: "Antibiotic Resistance of Gram-positive Pathogens", San Francisco, CA, 1993.
43. Stanford University and Palo Alto Medical Foundation Infectious Diseases 20th Winter Course. Lectures: "Overview of Human Gene Therapy: Principles and Infectious Disease Application" and "Antibiotic Resistance", Snowmass, CO, 1994.
44. Duke University "Research Rounds IX" Continuing Medical Education Course. Lecture: "New Problems with Antibiotic Resistance", San Diego, CA, 1994.
45. Symposium Presentation, Fourth Annual Meeting of the Society for Hospital Epidemiology of America: "Antibiotic Resistance - Have the Gram-Positive Bacteria Gotten any Smarter?", New Orleans, LA, 1994.
46. Medical College of Virginia Department of Medicine Grand Rounds: "The Life and Times of the Enterococcus", Richmond, VA, 1994.
47. Invited Speaker, Fourth International ASM Conference on Streptococcal Genetics: " β -lactamase of *E. faecalis*", Santa Fe, NM, 1994.
48. Belgian Society of Infectious Diseases and Clinical Microbiology Scientific Meeting on "New Trends in Gram-Positive Infectious Diseases", Brussels, Belgium. Lecture: "Update on Enterococci", Brussels, Belgium, 1994.

49. Emory University School of Medicine Infectious Diseases Seminar Series. Lecture: "Update on the Enterococcus", Decatur, GA, 1994.
50. William Beaumont Army Medical Center Grand Rounds: "Update on the Enterococcus", El Paso, TX, 1994.
51. Symposium Presentation, Annual Meeting of the Quebec Association of Medical Microbiologists and Infectious Diseases Specialists: "Antibiotic Resistance in Gram-positive Bacteria", Montreal, Canada, 1994.
52. Invited Speaker, XI Chilean Congress of Infectious Diseases. Lectures: "Rochalimaea", "Human Gene Therapy: Applications to Infectious Diseases", and "Antimicrobial Resistance of Gram-positive Organisms", Santiago, Chile, 1994.
53. 8th Kurhaus Workshop on Infectious Diseases "Emerging Streptococcal Infections". Lecture "Multiresistant Enterococci: Genetics and Therapy", Scheveningen, The Netherlands, 1994.
54. Symposium Presentation, ICAAC/IDSA Joint Symposium: Epidemiology of Emerging Antimicrobial Resistance. Lecture: "Gram Positive Cocci: Enterococci, and Methicillin-Resistant Staphylococci", Orlando, FL, 1994.
55. Invited Speaker, Department of Medical Microbiology, Institut für Medizinische Mikrobiologie. Lecture: "Infectious Diseases Applications of Human Gene Therapy", Munster, Germany, 1994.
56. University of Miami School of Medicine *Internal Medicine Update*, State of the Art Lecture: Lecture: "Antibiotic Resistant Gram-Positive Cocci", Miami Beach, FL, 1995.
57. Symposium Presentation, 3rd German Congress for Infectious Diseases and Tropical Medicine, Paul Ehrlich Society for Chemotherapy and the German Society for Infectiology: Lecture: "Glycopeptide Resistant Enterococci in the USA", Berlin, Germany, 1995.
58. Stanford University Internal Medicine Grand Rounds, Clinical Microbiology Seminar, and Infectious Diseases Grand Rounds Lectures: "The Problem of Enterococcus and VRE", "Enterococci", and "Enterococcus Resistance Mechanisms, Molecular Epidemiology and Virulence", Palo Alto, CA, 1995.
59. Medical College of Pennsylvania Internal Medicine Grand Rounds. Lecture: "Enterococci - Just When You Thought It Was Safe to go Back into the Hospital", Philadelphia, PA, 1995.
60. Medical College of Wisconsin Internal Medicine Grand Rounds. Harold Rose Memorial Lecture: "Enterococci -- Part of the Revenge of the Killer Microbes", Milwaukee, WI, 1995.
61. Symposium Presentation, The Kuzell Institute Infectious Diseases Symposium "Challenges in Infectious Diseases". Lecture: "Emergence of High-Level Drug Resistance in Enterococci and Staphylococci", San Francisco, CA, 1995.
62. Symposium Presentation Speaker, Infectious Diseases Society of America Symposium, Lecture: "Hospital Infection Control", San Francisco, CA, 1995.
63. St. Paul Medical Center 18th Infectious Diseases Seminar. Lecture: "Vancomycin Resistant Gram Positive Cocci", Dallas, TX, 1995.
64. Symposium Presentation, University of Washington Symposium on "Antimicrobial Resistance: What's Next?" Lecture: "Infections by Multi-Antibiotic Resistant Enterococci: Causes and Treatment", Seattle, WA, 1995.
65. Swedish Medical Center Grand Rounds: "Vancomycin Resistant Enterococci", Seattle, WA, 1995.
66. University of Michigan 4th Annual Robert Fekety Visiting Professor. Lecture: "Enterococci--Just When You Thought It was Safe to go Back into the Hospital", Detroit, Michigan, 1995.
67. University of North Carolina Grand Rounds. Lecture: "Antibiotic Resistance: Are You Aware of the Problem?" Charlotte, NC, 1996.
68. University of Maryland Medical School Visiting Professor: Lectures: (1) Medical Grand Rounds "Enterococci: Old Bug, New Problems", (2) ID Research Conference, "Enterococci: Beyond Resistance", and (3) Pus Club, "Enterococci—What We Never Thought to Ask", Baltimore, MD, 1996.
69. John Hopkins University Infectious Diseases Grand Rounds. Lecture: Enterococci: How to Make a Second Rate Pathogen into a First Rate Problem", Baltimore, MD, 1996.

70. UTHSCH Symposium: 'Man-Made Menace: Emerging & Re-Emerging Diseases.' Lecture: "Increasing Drug Resistance", Houston, TX, 1996.
71. Symposium Presentation, Pediatric Infectious Diseases Symposium for Society for Pediatric Research "Old Pathogens: New Threats". Lecture: "Mechanisms of Antimicrobial Resistance in Gram-Positive Organisms", Washington, D.C., 1996.
72. University of California at Los Angeles Department of Medicine Grand Rounds. Lecture: "The Enterococcus: How to Make a Second Rate Pathogen into a First Rate Problem", Los Angeles, CA, 1996.
73. Wadsworth Veterans Administration Medical Center, Department of Medicine Grand Rounds. Lecture: "The Enterococcus: How to Make a Second Rate Pathogen into a First Rate Problem", Los Angeles, CA, 1996.
74. Symposium Presentation, American Society for Microbiology 1996 Annual Meeting. Group I Symposium "Microbial Drug Resistance: Basic Mechanisms and Clinical Impact." Lecture: "Basic Mechanisms and Impact of Drug Resistance in Clinically Important Bacterial Pathogens", New Orleans, LA, 1996.
75. Medical University of South Carolina Department of Medicine Grand Rounds. Lecture: "The Enterococcus: How to Make a Second Rate Pathogen Into a First Rate Problem", Charleston, SC, 1996.
76. "Bushpath '96 Congress" of the Federation of South African Societies of Pathologists. Eli Lilly Infectious Diseases Fellowship. Lectures: "Enterococci – The Pre-Vancomycin Resistance Era" and "Enterococci - New Problems Created by Vancomycin Resistance", Mpumalanga, South Africa, 1996.
77. Invited Speaker, Groote Schuur Hospital, University of Cape Town. Lecture: "Resistance in Gram-positive Bacteria", Cape Town, South Africa, 1996.
78. University of Massachusetts Medical Center Department of Medicine Grand Rounds. Lecture: "Enterococci", Worcester, MA, 1996.
79. University of Texas Medical School at Houston Department of Internal Medicine Grand Rounds. Lecture: "Enterococci", Houston, TX, 1996.
80. Infectious Diseases Society of America (IDSA) 38th Annual Meeting. Maxwell Finland Lecture: "Enterococci: How to Make a Second Rate Pathogen into a First Rate Problem", New Orleans, LA, 1996.
81. VIII Annual Course in International Health. Lecture: "Antibiotic Resistance", Cleveland, OH, 1996.
82. European Society of Clinical Microbiology and Infectious Diseases. Symposium on 'Streptococcal and Enterococcal Diseases.' Lecture: "Clinical Features on Antibiotic-Susceptible and Antibiotic-Resistant Enterococci", Yverdon-les-Bains, Switzerland, 1996.
83. Ann Sullivan Baker Visiting Professor in Infectious Diseases. Lecture: "Enterococci." Massachusetts General Hospital, Boston, MA, 1996.
84. University of Colorado Health Science Center Internal Medicine Grand Rounds. Lecture: "Vancomycin Resistant Enterococci." Infectious Diseases Research Conference "More and More about Enterococci", Denver, CO, 1996.
85. Stanford University/Palo Alto Medical Foundation, 23rd Winter Course in Infectious Diseases. Lectures: "Answers to Questions We Never Thought to Ask About Enterococci" and "Recent Trends in Antibiotic Resistance", Snowmass, CO, 1997.
86. Emory Medical School Department of Medicine Grand Rounds. Lecture: "The Enterococcus: Old Bug, New Problems", Atlanta, GA, 1997.
87. Harbor-UCLA Medical Center Internal Medicine Grand Rounds. Lecture: "Enterococci: How to Make a Second Rate Pathogen into a First Rate Problem", Torrance, CA, 1997.
88. MD Anderson Cancer Center Symposium on 'Nosocomial Multidrug-Resistant Infections.' Lecture: "Vancomycin Resistant Enterococci", Houston, TX, 1997.
89. 20th International Congress of Chemotherapy (ICC) Symposium Presentation. Session: 'Limiting Antimicrobial Resistance in the Hospital Environment.' Lecture: "Glycopeptide Resistance", Sydney, Australia, 1997.

90. 12th Annual Pharmacy Infectious Diseases Symposium on 'Concepts and Controversies in Infectious Diseases'. Lecture: "The Scourge of Antibiotic Resistance", Chicago, IL, 1997.
91. University of Texas Medical School at Houston Department of Internal Medicine Grand Rounds. Lecture: "Update on Penicillin Resistant Pneumococci", Houston, TX, 1997.
92. University of Colorado Health Science Center Infectious Diseases Grand Rounds. Lecture: "Mechanisms of Drug-resistance among Gram Negative Bacilli: Implications for Therapy", Denver, CO, 1997.
93. Fourth International Conference on the Macrolides, Azalides and Streptogramins (ICMAS-IV). Lecture: "Vancomycin Resistant Enterococci", Barcelona, Spain, 1998.
94. University of New Mexico School of Medicine Internal Medicine Grand Rounds. Lecture: "Enterococcus: How to Make a Second Rate Pathogen into a First Rate Problem", Albuquerque, NM, 1998.
95. FDA Consultant to Anti-Infective Drug Advisory Committee. Presentation: "Difficulties Evaluating Outcomes of Enterococcal Infections", Gaithersburg, MD, 1998.
96. International Conference on Emerging Infectious Diseases. Session: "Antimicrobial Resistance", Atlanta, GA, 1998.
97. Baptist Medical Center. Lecture: "Vancomycin Resistant Enterococcus", Jacksonville, FL, 1998.
98. Keystone Symposia Conference on Molecular and Cellular Biology, Keystone, CO, 1998.
99. Second Pan-American Congress of Intra-Hospital Infectious Diseases and First Argentina Congress of Hospital Diseases and Medical Care. Lectures: "Bacterial Resistance. Epidemiology in the Hospital.", "Molecular Biology Techniques. Which One to Choose?", "Enterococcus Antibacterial Resistance. Past, Present, and Future", Mar del Plata, Argentina, 1998.
100. International Society for Infectious Diseases (ISID)-8th International Congress on Infectious Diseases/Symposium Chair. Symposium Chair: "Antibiotic Resistance: More Battles Have Been Lost". Lecture: "Vancomycin-Resistant Enterococci: Where Did Resistance Come From and Where Is It Going?" Boston, MA, 1998.
101. Wellcome Trust and Burroughs Wellcome Fund Joint Programme: 'A Research Agenda for Prevention, Treatment and Control of Microbial Diseases in the Developing World', Vietnam, 1998.
102. University of Alabama Department of Medicine Grand Rounds. Lecture: "The Enterococcus - How to Make a 2nd Rate Pathogen into a 1st Rate Problem", Birmingham, AL, 1998.
103. Southern Regional Infectious Diseases Conference 'Advances in Diagnosis, Treatment, and Disease Management'. Lecture: "Drug Resistant Infections", Palm Beach, FL, 1998.
104. Duke University Research Rounds. Lectures: "Vancomycin-Resistant Enterococci" and "Antibiotic Resistance: Laboratory & Clinical Perspectives", Snowbird, UT, 1998.
105. Mayo Clinic. Lecture: "Vancomycin-Resistant Enterococci", Rochester, MN, 1998.
106. 38th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC). Session Moderator: "More and More Vancomycin Resistance". Lecture: "Vancomycin Resistance: Enterococci and Beyond", San Diego, CA, 1998.
107. XI Jornadas Nacionales de Infectologia. Lectures: "Enterococcal Resistance: The past, the present and the future", "Intrahospital bacterial resistance", and "Resistance of pneumococci to penicillin: Another battle lost?" Isla de Margarita, Venezuela, 1998.
108. Pan American Health Organization/Pan American Society for Infectious Diseases, meeting on 'Antibiotic Resistance Monitoring: Current Situation and Development of an Action Plan for Regional Surveillance'. Lecture: "Inherent Difficulties in Achieving Prudent Use of Antibiotic". Caracas, Venezuela, 1998.
109. IDSA Annual Symposium Meeting 'Realities of Resistance. The Challenge of Treating Patients with Serious Gram-Positive Infections'. Denver, CO, 1998.
110. University of Colorado Infectious Diseases Conference. Lecture: "Vancomycin Intermediate Resistant Staphylococci and Pneumococci", Denver, CO, 1998.

111. 1998 FDA Science Forum. Lecture: "Enterococcus Resistance", Washington, DC, 1998.
112. The College of Physicians of Philadelphia. Lecture: "New Perils of Antibiotic Resistance: Is it Safe Anywhere?", Philadelphia, PA, 1999.
113. 25th Stanford University/Palo Alto Medical Foundation – Winter Course in Infectious Diseases. Lectures: "Enterococci" and "Pneumococci", Snowmass, CO, 1999.
114. Greater Washington Infectious Diseases Society Grand Rounds. Georgetown University Medical Center and George Washington Medical Center. Lecture: "How to Make a 2nd Rate Pathogen into a 1st Rate Problem", Washington, DC, 1999.
115. 73rd Conference of the Japanese Society of Infectious Diseases. Lecture: "Pathogenicity of Enterococci and Problems of Glycopeptide Resistance – Tokyo International Forum", Tokyo, Japan, 1999.
116. National Association of Pediatric/Nurse Associates & Practitioners 20th Annual Conference 'Building the Future: Caring for Children'. Lecture: "Clinical Impact of Antimicrobial Resistance", San Antonio, TX, 1999.
117. Ninth Pan-American Congress of Infectious Diseases (API 99). Lectures: "Bacterial Resistance" and "Alternatives in the Treatment of Vancomycin-Resistant Gram Positive Cocci", Guatemala, 1999.
118. XI Brazilian Congress of Infectious Diseases. Lectures: "Bacterial Resistance to Antimicrobials: Challenges for the Next Century" and "Bacterial Resistance", São Paulo, Brazil, 1999.
119. Congress of Infectious Diseases. Lectures: "Estafilocco Multiresistente y Neumococo", "Actualizacion en Infecciones por Enterococo, and "Situacion Actual y Futura de la Resistencia", Lima, Peru, 1999.
120. New Zealand Microbiological Society (NZMS) Conference. Lecture: "Vancomycin Resistant Enterococci (VRE)", Dunedin, New Zealand, 1999.
121. 1st International ASM Conference on Enterococci Pathogenesis, Biology and Antibiotic Resistance. Lecture: "Enterococcal Resistance – The View from the Clinic: Epidemiology – Europe vs USA", Banff, Canada, 2000.
122. 40th Interscience Conference on Antimicrobial Agents and Chemotherapy. Lecture: "Virulence Determinants of Enterococci", Toronto, Ontario, Canada, 2000.
123. 22nd International Congress of Chemotherapy. Lecture: "MRSA, VISA, GISA and VRE epidemiology in a nutshell", Amsterdam, The Netherlands, 2001.
124. Infectious Diseases Society of Obstetrics and Gynecology. Lecture: "Resistance in bacteria", Quebec City, Canada, 2001.
125. 39th Annual Meeting of the Infectious Diseases Society of America. Symposium Presentation: "New agents for gram-positive infections", San Francisco, CA, 2001.
126. 12th European Congress on Clinical Microbiology and Infectious Diseases. Lecture: "Alternative therapies for staphylococci and their problems", Milan, Italy, 2000.
127. 42nd Interscience Conference on Antimicrobial Agents and Chemotherapy. ID Fellows Symposium: "Management of Gram-Positive Resistance", San Diego, 2002.
128. 28th Stanford University/Palo Alto Medical Foundation Winter Course in Infectious Diseases. "Update on VRE", Sun Valley, ID, 2002.
129. Third Harold C. Neu Lecture, Columbia University College of Physicians and Surgeons, Division of Infectious Diseases. Lecture: "The Enterococcus: Making a first-rate problem out of a second-rate pathogen", New York, NY, 2002.
130. 39th Annual Meeting of Infectious Diseases Society of America. Symposium (Co-Moderator) Presentation: "What's New Among Glycopeptide Resistant Organisms?" Chicago, IL, 2001.
131. 29th Stanford University/Palo Alto Medical Foundation – Winter Course in Infectious Diseases. Presentation: "New Agents and Combinations to Consider for Enterococci", Sun Valley, ID, 2003.
132. XVIII Research Rounds. Presentation: "Mechanism of Bacterial Resistance", Whistler, BC, Canada, 2003.

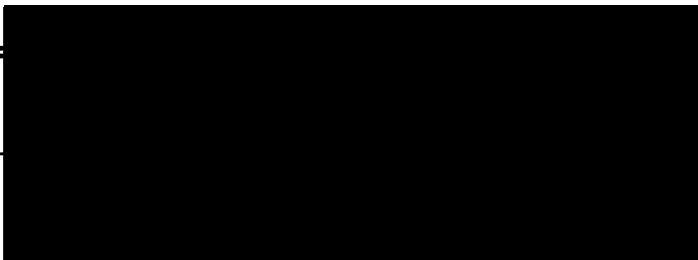
133. Ochsner Medical Foundation 3rd Annual Focus on Infectious Diseases. Symposium Presentation: “Update on Gram-Positive Bacterial Resistance and Therapeutic Options”, New Orleans, LA, 2003.
134. 4th International Symposium on Antimicrobial Agents and Resistance. Plenary lecture: “Dynamics of the Evolution of Antimicrobial Resistance”. Symposium lecture: “Enterococcal Resistance”, Seoul, South Korea, 2003.
135. 41st Annual Meeting of Infectious Diseases Society of America. Symposium (Co-Moderator) Presentation: “Treatment Options Now and in the Future”, San Diego, CA, 2003.
136. 30th Stanford University/Palo Alto Medical Foundation Winter Course in Infectious Diseases. Session moderator and invited lecture: “New Antibacterials – Are There/Will There Be Any?” Snowmass, CO, 2004.
137. 11th International Congress on Infectious Diseases (ICID). Invited lecture: “Controlling Multi-Resistant Gram Positive Cocci: Novel Antimicrobials and Existing Agents”, Cancun, Mexico, 2004.
138. 42nd Annual Meeting of the Infectious Diseases Society of America. Session Moderator (“Gram Positive Cocci”) and Presenter: “Pathogenesis of (Vancomycin-Resistant) Enterococci”, Boston, MA, 2004.
139. The 3rd Annual Robert J. Fass Award and Grand Rounds Lecture, Ohio State University. Lecture: “Enterococci: How to Make a Second Rate Pathogen into a First Rate Problem”, Columbus, Ohio, 2005.
140. 2nd International ASM-FEMS Conference on Enterococci. Session Moderator (Genome Information and Analysis) and invited speaker “Gelatinase, A Proteolytic Enzyme of Some *E. faecalis*”. Helsingoer, Denmark, 2005.
141. 46th Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC). Symposium Presentation: “Tigecycline”, San Francisco, CA, 2006.
142. 43rd Annual Infectious Disease Society of America (IDSA). Symposium Presentation: “What’s New and Coming to Treat Gram-Positive Bacterial Infections?” Toronto, Ontario, Canada, 2006.
143. 44th Annual Infectious Disease Society of America (IDSA). Presentation: “Pros and Cons of Vancomycin”, Toronto Ontario, Canada, 2006.
144. 36th Critical Care Congress (SCCM). Presentation: “Antibacterials for Gram Positive Organisms”, Orlando, FL, 2007.
145. 6th Cold Spring Harbor Laboratory Meeting on Microbial Pathogenesis & Host Response. Presentation: “Endocarditis and Biofilm Related Pili of *E. faecalis*”, Cold Spring Harbor, NY, 2007.
146. 34th Winter Remington Courses in Infectious Diseases. Presentation: “Treatment Options for VRE Bloodstream Infections and Endocarditis”, Sun Valley, ID, 2008.
147. 34th Winter Remington Courses in Infectious Diseases. Presentation: “The Spectrum of Infections Caused by Enterococcal Species”, Sun Valley, ID, 2008.
148. University of Massachusetts and U Mass Memorial Grand Rounds. Lecture: “The Enterococcus: How to Make a Second-Rate Pathogen into a First-Rate Problem”, Worcester, MA, 2008.
149. Massachusetts Infectious Diseases Society Spring Meeting. Lecture: “New Insights into Enterococcal Pathogenesis and Treatment”, Boston, MA, 2008.
150. 18th European Congress of Clinical Microbiology and Infectious Diseases. “New Insights into Pathogenesis and Treatment of Enterococcal Endocarditis”, Barcelona, Spain, 2008.
151. Indiana University’s 10th Honorary Arthur White Lecture. “Enterococci: Is There More to Making This Second Rate Pathogen into a First Rate Problem than its Antibiotic Resistance?” Indianapolis, IN, 2008.
152. Toronto General Hospital Grand Rounds. “Is Vancomycin Obsolete? – A Pro-Con Debate”, London, ON, 2008.
153. International Conference on Food Safety. “Enterococci: an abundance of intrinsic and acquired resistances”, Washington, D.C., 2009.
154. 10th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Disease (ISCVID), “New Insights into Pathogenesis of Enterococcal Endocarditis”, Naples, Italy, 2009.

155. 9th Congreso Colombiano de Enfermedades Infecciosas, “Enterococcal Endocarditis: Problems Posed and the Role of Pili” and plenary session “Is Vancomycin Obsolete? – A Pro-Con Debate”, Cali, Colombia, 2009.
156. University Medical Center Utrecht, “Latest Insights into Enterococcal Epidemiology and Pathogenesis”, Utrecht, The Netherlands, 2009.
157. VI International Symposium on Antimicrobial Resistance, “VRE: to treat or not to treat” and “Enterococcal virulence”, Cali, Colombia, 2010.
158. 47th Annual William J. Holloway Infectious Disease Symposium, “A Tale of Two Organisms”, Newark, Delaware, 2010.
159. Universitätsklinikum Freiburg, “The Enterococcus: An Example of How to Make a Second-Rate Pathogen into a First-Rate Problem”, Freiburg, Germany, 2010.
160. Technische Universität München, “Update on Enterococcal Pathogenesis”, Freising, Germany, 2010.
161. 3rd ASM International Conference on Enterococci, “Enterococcal Pathogenesis: An Overview”, Portland, Oregon, 2010.
162. International Conference on Gram Positive Pathogens, “Enterococcus pathogenesis, mechanisms of antibiotic resistance and ideas regarding circumventing these resistance determinants”, Omaha, Nebraska, 2010.
163. The Ottawa Hospital Grand Rounds. Lecture: “A Tale of Two Organisms”, Ottawa, Ontario, Canada, 2011.
164. The Medical College of Wisconsin’s Distinguished Faculty Lecture, “The Enterococcus: An Example of How to Make a Second Rate Pathogen into a First Rate Problem”, Milwaukee, Wisconsin, 2011.
165. 11th International Symposium on Modern Concepts in Endocarditis and Cardiovascular Disease (ISCVID), “Enterococcal Endocarditis: Are We Winning the War”, Cairns, Australia, 2011.
166. 51st ICAAC, “Transfer of Antibiotic Resistance: more than circles”, Chicago, Illinois, 2011.
167. 49th IDSA, “Enterococcal Endocarditis: Are We Winning The War?”, Boston, Massachusetts, 2011.

Committee on Energy and Commerce
U.S. House of Representatives
 Witness Disclosure Requirement - "Truth in Testimony"
 Required by House Rule XI, Clause 2(g)

1. Your Name: Barbara E Murray		
2. Are you testifying on behalf of the Federal, or a State or local government entity?	Yes	No X
3. Are you testifying on behalf of an entity that is not a government entity?	Yes X	No
4. Other than yourself, please list which entity or entities you are representing: Infectious Diseases Society of America (IDSA)		
5. Please list any Federal grants or contracts (including subgrants or subcontracts) that you or the entity you represent have received on or after October 1, 2011: R01 (non-competitive renewal of AI047923, 2012, 2013, 2014) and R21 (AI 03260) from NIAID (active currently) to my institution (U Texas Medical School in Houston) in my name for research unrelated to the testimony and topic.		
6. If your answer to the question in item 3 in this form is "yes," please describe your position or representational capacity with the entity or entities you are representing: President of IDSA		
7. If your answer to the question in item 3 is "yes," do any of the entities disclosed in item 4 have parent organizations, subsidiaries, or partnerships that you are not representing in your testimony?	Yes	No X
8. If the answer to the question in item 3 is "yes," please list any Federal grants or contracts (including subgrants or subcontracts) that were received by the entities listed under the question in item 4 on or after October 1, 2011, that exceed 10 percent of the revenue of the entities in the year received, including the source and amount of each grant or contract to be listed:		
9. Please attach your curriculum vitae to your completed disclosure form.		

Signature: _____



Date: _____

9/16/14