

RONALD G. PIRRALLO, MD, MHSA, FACEP

September 2020

Vice Chair Department of Emergency Medicine, Academic Affairs
Professor, University of South Carolina School of Medicine-Greenville
Clinical Professor, Clemson University School of Health Research
Adjunct Professor, Department of Industrial Engineering, Clemson University
Emeritus Director of Medical Services, Milwaukee County Emergency Medical Services

OFFICE ADDRESS

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Prisma Health - Upstate
701 Grove Road
Greenville, South Carolina 29605

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CITIZENSHIP: USA

EDUCATION

- 07/1979-04/1983 Bachelor of Science in Physics [with high distinction]
Wayne State University, Detroit, Michigan
- 07/1983-06/1987 Doctor of Medicine
Wayne State University School of Medicine, Detroit, Michigan
- 10/1990-04/1993 Master of Health Services Administration (MHSA) [53 credit hours]
University of Michigan School of Public Health, Ann Arbor, Michigan
Thesis: Inter-rater agreement of paramedic rhythm labeling: Implications for uniform reporting of data from out-of-hospital cardiac arrest. Presented at *Society for Academic Emergency Medicine Annual Meeting*. Toronto, Ontario; May 1992.

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS

Clinical Training

- 07/1987-06/1990 Emergency Medicine Residency
Ohio State University, Columbus, Ohio
- 07/1990-06/1992 Emergency Medical Services Fellowship
William Beaumont Hospital, Royal Oak, Michigan
University of Michigan Hospital, Ann Arbor, Michigan
- 04/1997 Emergency Medicine Ultrasonography [42 contact hours]
Gulfcoast Ultrasound Institute, Saint Pete Beach, Florida

Leadership and Management

- 10/2001-03/2002 Faculty Leadership Development [72 contact hours]
University of Wisconsin-Milwaukee School of Business Administration
Milwaukee, Wisconsin
- 12/2013 Lean Healthcare Certificate Program [41 contact hours]
University of Michigan College of Engineering, Ann Arbor, Michigan

FACULTY APPOINTMENTS

- 07/1990-06/1992 Clinical Instructor
William Beaumont Hospitals, Royal Oak and Troy, Michigan
- 09/1992-06/1999 Assistant Professor of Emergency Medicine
Medical College of Wisconsin, Milwaukee, Wisconsin
- 07/1999-06/2006 Associate Professor of Emergency Medicine
Medical College of Wisconsin, Milwaukee, Wisconsin
- 07/2001-04/2015 Adjunct Faculty
Injury Research Center at the Medical College of Wisconsin, Milwaukee, Wisconsin
Focus: Motor vehicle crash injury and fatality reduction

- 01/2004-04/2015 Adjunct Faculty
Center for International Health, Milwaukee, Wisconsin
Focus: Training international physicians in emergency medical services
- 07/2006-04/2015 Professor of Emergency Medicine with the Award of Tenure
Medical College of Wisconsin, Milwaukee, Wisconsin
- 07/2007-04/2015 Associate Chair Department of Emergency Medicine, External Affairs
Medical College of Wisconsin, Milwaukee, Wisconsin
Focus: Coordination of Department efforts related to out-of-hospital patient care and disaster response
- 02/2015- Professor, University of South Carolina School of Medicine-Greenville
Greenville, South Carolina
- 05/2015- Vice Chair Department of Emergency Medicine Academic Affairs
University of South Carolina School of Medicine-Greenville
Focus: Leads academic operations within the department and on behalf of GHS including undergraduate medical education (UME), graduate medical education (GME), continuing medical education (CME) and research.
- 11/2015- Clinical Professor, Clemson University School of Health Research (CUSHR)
Clemson, South Carolina
Focus: Leads collaborative research, teaching and service with Clemson University faculty and students.
- 07/20020-06/2021 Adjunct Professor
Department of Industrial Engineering in the College of Engineering, Computing and Applied Sciences Clemson University
Clemson, South Carolina
Focus: Graduate student mentoring, project development and PhD dissertation committee member

EDUCATIONAL ADMINISTRATIVE APPOINTMENTS

- 04/1993-01/2013 Medical Director, Milwaukee County Emergency Medical Services Education Center
Paramedic and Basic Life Support Curriculum medical content
- 04/1993-06/2013 Director, MCW Department of Emergency Medicine Emergency Medical Services Fellowship;
ACGME approved.

HOSPITAL ADMINISTRATIVE APPOINTMENTS

- 07/2003-07/2005 Medical Director of Disaster Planning and Preparedness
Froedtert Hospital, Milwaukee, Wisconsin

HOSPITAL STAFF PRIVILEGES

- 07/1987-06/1990 Resident
Ohio State University, Riverside Methodist and Children's Hospital
Columbus, Ohio
Maryland Shock Trauma, Baltimore, Maryland
- 07/1989-06/1990 Flight Surgeon
SkyMed (Helicopter), Columbus, Ohio
- 07/1990-08/1992 Associate Attending Physician
Emergency Center, William Beaumont Hospitals, Royal Oak and Troy, Michigan
- 07/1991-08/1992 Flight Surgeon
University of Michigan Survival Flight (Helicopter), Ann Arbor, Michigan
- 09/1992-12/1995 Associate Attending Physician
Milwaukee County / John L. Doyne Hospital, Milwaukee, Wisconsin
- 09/1992-04/2015 Online Medical Control (Two-way communications for ALS and BLS EMS providers)
Milwaukee County EMS Communication Center

09/1992-04/2015 Froedtert Hospital, Milwaukee, Wisconsin
 Online Medical Control (Two-way communications for physician, nurse and EMS staff)
 Flight For Life Air Medical Services (Helicopter)

01/1996-04/2015 Froedtert Hospital, Milwaukee, Wisconsin
 Associate Attending Physician
 Special privileges, emergency limited diagnostic ultrasound (01/2000-04/2015)

05/2015- Froedtert Hospital, Milwaukee, Wisconsin
 Attending Physician
 Special privileges, emergency limited diagnostic ultrasound
 Prisma Health
 Greenville, South Carolina

SPECIALTY BOARDS AND CERTIFICATION

<u>Board Certification</u>	Issue Date	Expiration
Diplomate: National Board of Medical Examiners	07/1988	-
Diplomate: American Board of Emergency Medicine	11/15/1991	12/31/2001
Fellow: American College of Emergency Physicians	09/1994	-
Recertified Diplomate: American Board of Emergency Medicine	11/15/2000 11/15/2010 11/08/2019	12/31/2010 12/31/2020 12/31/2030
Board Eligible: Emergency Medical Services Subspecialty	01/01/2019	
<u>Licensure</u>		
Ohio	08/1988	01/2000
Michigan	04/1990	04/2000
Wisconsin #33308-20	06/24/1992	10/31/2021
South Carolina License #37957	05/13/2015	06/30/2021
<u>Other</u>		
Secret Security Clearance: United States Department of Justice	03/2004	04/2015
Department of Homeland Security Incident Command System: ICS-700,100, 200	06/2007	-

AWARDS, HONORS

Scholarship

07/1979-04/1983 Merit Scholar
 Academic accomplishment
 Wayne State University, Detroit, Michigan
 Award: \$20,000

06/2015 Outstanding Clinical Faculty Award
 Selected by graduating Emergency Medicine residency class
 Medical College of Wisconsin, Milwaukee, Wisconsin

EMS

06/1989 Governor's Traffic Safety Committee Honorable Mention
 Title: Do it Right. Pull to the Right
 Emergency vehicle operations public education program
 Ohio Department of Highway Safety, Columbus, Ohio

- 05/1990 Jean K. Hollister Memorial Award
National competition rewarding exemplary resident involvement in EMS
Emergency Medicine Residents Association
Award: \$1,000
- 05/1991 2nd Annual Physio Control Fellow in Emergency Medical Services
National competition acknowledging EMS leadership potential
Society for Academic Emergency Medicine and Physio-Control Corporation
Award: \$50,000
- 05/2002 Milwaukee Fire Chief's Distinguished Service Award
Outstanding service to the Milwaukee Fire Department, the community and concern for
the safety and quality of life of its citizens
Milwaukee Fire Department, Milwaukee, Wisconsin
- Research
- 06/1987 Distinction in Biomedical Research
Human genetics: 9QH polymorphism and recurrent abortion
Wayne State University School of Medicine, Detroit, Michigan
- 05/1990 2nd Place Scientific Paper Competition
Title: Luxation erecta: a missed diagnosis
Emergency Medicine Residents of Ohio, Annual Meeting, Columbus, Ohio
Award: \$100
- 05/1993 Best Oral Clinical Science Presentation
Title: Inter-rater agreement of paramedic rhythm labeling of VF and asystole: implications
for uniform reporting of data from out-of-hospital cardiac arrest
Society for Academic Emergency Medicine, Annual Meeting, Toronto, Ontario
Award: \$1,000
- 05/1999 Honors in Research [Medical Student Research Preceptor: Ghilarducci DP]
Title: Hazardous material readiness of US level 1 trauma centers
*Medical College of Wisconsin Graduate School of Biomedical Sciences, Milwaukee,
Wisconsin*
- 03/2000 Best Paper Presentation [Medical Student Summer Fellowship Preceptor: Kahn CA]
Title: Characteristics of fatal ambulance crashes in the United States: an 11-year
retrospective
5th World Conference on Injury Prevention and Control, New Delhi, India
- 04/2002 Best Faculty Presentation [Faculty Mentorship Preceptor: Cady CE]
Title: Smoke detector placement during EMS calls: outcomes of a fire safety intervention
10th Annual Emergency Medicine Research Forum, Milwaukee, Wisconsin
Award: \$100
- 04/2002 Best Scholarly Activity Presentation [Resident Preceptor: Miller S]
Title: Pre-Hospital Acquisition and Communication of Significant 12-lead ECG's (PHACS-
ECG): a Pilot Study
10th Annual Emergency Medicine Research Forum, Milwaukee, Wisconsin
Award: \$100
- 05/2002 Honors in Research [Medical Student Research Preceptor: Kahn CA]
Title: Characteristics of fatal ambulance crashes in the United States: an 11-year
retrospective
*Medical College of Wisconsin Graduate School of Biomedical Sciences
Milwaukee, Wisconsin*
- 04/2003 Best Faculty Presentation [Faculty Mentorship Preceptor: Cady CE]
Title: The effect of Combitube use on paramedic experience in endotracheal intubation
11th Annual Emergency Medicine Research Forum, Milwaukee, Wisconsin

- Award: \$100
- 04/2004 Best Scholarly Activity Presentation [Resident Preceptor: Polentini MS]
Title: The changing incidence of ventricular fibrillation and cardiac arrest in Milwaukee County (1992–2002)
12th Annual Emergency Medicine Research Forum, Milwaukee, Wisconsin
Award: \$100
- 11/2004 Critical Care Best Abstract Award [Co-Author]
Title: Clinical evaluation of an inspiratory impedance threshold device during standard cardiopulmonary resuscitation
American Heart Association Scientific Sessions 2004, New Orleans, Louisiana
- 01/2006 Best Pediatric Research Presentation [Co-Author]
Title: The impact of an educational module on prehospital providers' knowledge in pediatric pain physiology, assessment and management
National Association of EMS Physicians 2009 Annual Meeting, Tucson, Arizona
Award: \$250
- 04/2007 Career Development Award [Medical Student Preceptor: Vrotsos K]
Title: Clinical benchmarks in EMS: Do the number of Milwaukee County EMS providers in the system affect their critical care patient interventions?
15th Annual Emergency Medicine Research Forum, Milwaukee, Wisconsin
Award: \$100
- 01/2009 Best Scientific Oral Abstract Presentation [Graduate Student Preceptor: Eschmann N]
Title: The effect of emergency medical service personnel staffing patterns on patient survival from out-of-hospital cardiac arrest
National Association of EMS Physicians 2009 Annual Meeting, Jacksonville, Florida
Award: \$250
- 01/2009 Best Disaster Research Presentation [Resident Preceptor: Zils S]
Title: Milwaukee are you ready? Personal preparedness among emergency department patients
National Association of EMS Physicians 2009 Annual Meeting, Jacksonville, Florida
Award: \$250
- 11/2009 Best Resuscitation Abstract Award [Co-Author]
Title: Ventilation rate and use of the impedance threshold device are correlated with hemodynamics during CPR in humans
American Heart Association Scientific Sessions 2009, Orlando, Florida
- 01/2013 Best Disaster Research Presentation [Student Co-Author: McKee C]
Title: Developing a functional "Gold Standard" for mass-casualty triage
National Association of EMS Physicians 2013 Annual Meeting, Jacksonville, Florida
Award: \$250
- 01/2016 Best EMS Professional Research Presentation [Co-Author: Walchok J]
Title: Can paramedics draw uncontaminated blood cultures prior to prehospital antibiotic administration?
National Association of EMS Physicians 2016 Annual Meeting, San Diego, CA
Award: \$500
- Athletics
- 1981, 1982, 1983 Varsity Letters: Fencing
Wayne State University, Detroit, Michigan
- 1982 and 1983 Athletic Scholarship: Fencing
Wayne State University, Detroit Michigan
Award: \$2,000 annually

1982 and 1983 U.S. NCAA Men's Fencing Team Champions
Division 1: National Collegiate Athletic Association

1982 and 1983 Board of Governors Recognition Award
 Fencing team member
Wayne State University, Detroit Michigan

Other

04/1983 Big Brother Emeritus
 Delta Zeta Sorority, Epsilon Sigma Chapter
Wayne State University, Detroit, Michigan

03/2014 Performing Outstanding Excellence Together (POET)
 Recognition of service for performance excellence
Froedtert and Medical College of Wisconsin, Milwaukee, Wisconsin

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

07/1983-03/2003 American Medical Association

07/1983-06/1987 Phi Beta Pi Fraternity, Kappa Chapter, Wayne State University School of Medicine

07/1987-06/1990 Emergency Medicine Residents Association National Representative Council

07/1987-06/1990 Emergency Medicine Residents in Ohio, President 1989-1990

07/1987-06/1990 Ohio State Medical Association

07/1987- American College of Emergency Physicians

07/1990-07/1992 Michigan State Medical Association

07/1990- Society for Academic Emergency Medicine

07/1990- National Association of EMS Physicians

07/1993-06/2000 Association for the Advancement of Automotive Medicine

04/1993-01/2013 State Medical Society of Wisconsin

04/1993-01/2013 Milwaukee County Medical Society EMS Committee

07/1995-12/2013 Wisconsin EMS Association

07/1996-07/2013 International Association of Fire Chiefs

11/2002-11/2010 National Fire Protection Association

07/2006-01/2017 International Council of Motorsports Sciences

11/2008-11/2010 American Heart Association

EDITORIAL BOARDS

01/1998- *Prehospital Emergency Care*
 Menegazzi J (ed) Taylor & Francis

INVITED REVIEWER

Journals

07/1996- *Prehospital Emergency Care*
 Menegazzi J (ed) Taylor & Francis

08/1997-2/2001 *Academic Emergency Medicine*
 Biros MH (ed) Hanley & Belfus, Inc

07/1998-12/2000 *Annals of Emergency Medicine*
 Waeckerle JF (ed). Mosby

08/2011-01/2016 *Asian EMS Journal*
 Ramakrishnan TV (ed). Lifeline Foundation

Books

10/1998 *Advanced Medical Life Support*
 Dalton AL, Limmer D, Mistovich JJ, Werman HA (eds). Brady/Prentice Hall

05/1995 *EMT-Basic Textbook*
 Stoy, WA and the Center for Emergency Medicine (eds). Mosby

06/2008 *Handbook of First Aid and Emergency Care 2nd edition*

Subbarao I, Lyznicki J, James JJ (eds). American Medical Association. Random House

Professional Societies

- 06/1992 Scientific Paper Presentations Moderator
National Association of EMS Physicians
Annual Meeting and Scientific Assembly, Pittsburgh, Pennsylvania
- 06/1994 Scientific Paper Presentations Moderator
National Association of EMS Physicians
Mid-Year Meeting and Scientific Assembly, Portland, Oregon
- 06/1995 Scientific Poster Presentations Moderator
National Association of EMS Physicians
Mid-Year Meeting and Scientific Assembly, San Diego, California
- 06/1996 Scientific Poster Presentations Moderator
Society for Academic Emergency Medicine
Annual Meeting, Denver, Colorado
- 03/2000 Scientific Paper Presentations: Trauma Care Symposia - II Moderator
5th World Conference on Injury Prevention and Control, New Delhi, India
- 09/2004 Scientific Poster Presentations Moderator
Society for Academic Emergency Medicine
14th Annual Midwest Regional Meeting, Milwaukee, Wisconsin
- 09/2007 Scientific Paper Presentations Pre-Hospital/EMS/Out of Hospital Moderator
4th Mediterranean Emergency Medicine Congress, Sorrento, Italy
- 05/2009 Chairperson, Symposium 12: Administration Moderator
5th Asian Conference on Emergency Medicine, Busan, Korea
- 02/2010 External Examiner for Emergency Medicine Exit Examination
Joint Committee on Specialist Training, Singapore
- 01/2014 Scientific Paper Presentations Moderator
National Association of EMS Physicians
Annual Meeting and Scientific Assembly, Tucson, Arizona
- 01/2015 Scientific Paper Presentations Moderator
National Association of EMS Physicians
Annual Meeting and Scientific Assembly, New Orleans, Louisiana
- 08/2016 Chairperson, Symposium: Prehospital Neurologic Emergency
EMS ASIA 2016. Seoul, South Korea
- 08/2018 Scientific Poster Presentations Moderator
Emergency Medicine Annual Scientific meeting (EMAS). Putrajaya, Malaysia
- 02/2019 Scientific Poster Presentations Moderator
Society for Academic Emergency Medicine Southeastern Regional Conference
Greenville, South Carolina
- 10/2019 External Examiner for Emergency Medicine Fellowship Exit Examination
Universiti Teknologi MARA, Selangor, Malaysia
- 10/2019 Free Paper Presentations Moderator
Emergency Medicine Annual Scientific meeting (EMAS). Putrajaya, Malaysia
- 10/2019 Incident Command System Table Top Exercise Facilitator
Sungai Buloh Hospital, Selangor, Malaysia

NATIONAL ELECTED, APPOINTED LEADERSHIP AND COMMITTEE POSITIONS

- 07/1987- American College of Emergency Physicians
Ohio Chapter 1987-90, Board of Directors 1989
Michigan Chapter 1990-92, EMS Committee 1990-92
Wisconsin Chapter 1992-2015, Board of Directors 2006-2010

- 04/1989- South Carolina Chapter 2015-
National Registry of Emergency Medical Technicians
EMT-Basic Item Writing Committee 1989
EMT-Paramedic Item Writing Committee 1994
Standards and Examination Committee 1995-2002
Advanced Practical Revision Committee 1996
Board of Directors 1997-2002
Task Force on Continued Competency 1998-2001
Longitudinal Emergency Medical Technician Attributes & Demographics Study (LEADS)
Committee 2000-2015, Chairman 2004-2015
- 07/1990- Society for Academic Emergency Medicine
EMS Committee 1990-94
EMS Task Force 1994-2015
International Task Force 1995-2011
Global Emergency Medicine Academy 2011-
Vice Chairs Interest Group 2019-
- 07/1990- National Association of EMS Physicians
Program Committee 1991-96, Chairman 1994-96
Standards & Clinical Practice Committee 1992-94
Education Committee 1992-98, Chairman 1994-96
Research & Development Committee 1993-95
Board of Directors 1994-98; 2004-2015
Membership Committee 1997-2011, Chairman 1998
Awards Committee 2004-, Chairman 2009-2011
Founding Wisconsin Chapter Member 2010
Secretary / Treasurer 2007-2009, Financial Committee 2007- , Chairman 2007-2009
President Elect 2007-2010, President 2011-2012, Immediate Past President 2013-2015
- 07/1996-07/2013 International Association of Fire Chiefs
Physician Advisory Panel 1995-2013
- 11/2002-11/2010 National Fire Protection Association
Technical Committee on EMS 2002-2010
- 11/2008-11/2010 American Heart Association
Committee on Emergency Cardiovascular Care 2008-2010
- 07/2010-06/2014 American Board of Emergency Medicine, EMS Subspecialty Examination Task Force
- 07/2011-06/2012 Asian Emergency Medical Services Council Advisory Member

RESEARCH GRANTS, CONTRACTS AND PROJECTS

Active Peer Reviewed

Title: A Data-Driven, Stakeholder-Sensitive Modeling Approach to Allocating Resources in
Emergency Departments
Source: *Prisma Health-Health Sciences Center Transformative Seed Grant*
Role: Co-PI
Dates: 01 March 2020 – 28 February 2021
Direct Funds: \$19,983

Active Non-Peer Reviewed

Prior Peer Reviewed

Title: Improving EMS Care in Poland
Source: EUR-0037-G-00-2018-00; *United States Agency for International Development*,

Bureau for Europe: Partnerships in Health Care – Poland

Role: Consultant, 12.5% effort

Dates: 01 October 1992 – 30 June 1994

Direct Funds: \$2.4 million (Total for all years)

Title: Public Access Defibrillation Trial, Phase I

Source: NO1-HC-95177; *National Institutes of Health/National Heart, Lung and Blood Institute*

Role: Co-Investigator, 5% effort

Dates: 01 April 2000 – 31 March 2003

Direct Funds: \$301,880 (\$13 million total for all years)

Title: Impedance Threshold Valve for Improving Standard CPR

Source: 1-R43-HL65851-01; *NIH - Small Business Innovation Research (SBIR) Program, Phase II Grant*

Role: Co-Investigator, 30% effort

Dates: 01 June 2002 – 30 June 2003

Direct Funds: \$253,921 (\$955,713 total award)

Title: Impact of an Educational Module on Prehospital Pain Management in Children

Source: 1-H34-MC02548-02-01; *Maternal and Child Health Bureau, Emergency Medical Services for Children*

Role: Co-Investigator, 5% effort

Dates: 01 March 2004 - 28 February 2007

Direct Funds: \$198,924 (Total for all years)

Title: PULSE Initiative, Milwaukee Regional Clinical Center

Source: 5-U01-HL077866-02; *National Institutes of Health/National Heart, Lung and Blood Institute*

Role: Co-Investigator, 5 - 20% effort

Dates: 01 September 2004 – 30 April 2010

Direct Funds: \$1,728,596 (Total for all years)

Title: IMMEDIATE Myocardial Metabolic Enhancement During Initial Assessment and Treatment in Emergency Care Trial

Source: 1-R01-HL077821-01; *National Institutes of Health/National Heart, Lung and Blood Institute*

Role: Co-Investigator, 10% - 20% effort

Dates: 01 September 2004 – 31 August 2008

Direct Funds: \$221,026 (First year), (\$800,474 total for all years)

Title: The Wisconsin CIREN Center

Source: DTNH22-05-H-41001; *DOT/National Highway Traffic Safety Administration*

Role: Investigator, 1% effort

Dates: 01 June 2005 – 31 May 2010

Direct Funds: \$2,044,980 (Total for all years)

Title: EMSC Targeted Issue Grant: Prehospital Pain Management in Children

Source: 1-H34-MC08515-01 *HHS Health Resources and Services Administration, Emergency Medical Services for Children*

Role: Investigator, 2% effort
Dates: 01 September 2007 – 31 August 2010
Direct Funds: \$4,833 salary and fringe benefit support

Title: Medical Incident Management and Preparedness Curriculum Development
Source: 9520113 *Advancing a Healthier Wisconsin MCW Program Development Fund*
Role: Principle Investigator, 5% effort
Dates: 01 July 2008 – 31 December 2009
Direct Funds: \$150,000 (Total)

Title: Factors Related to Serious Injury and Fatal Motorcycle Crashes with Traffic Barriers
Source: NCHRP 22-26 *National Transportation Research Board of the National Academies*
Role: Site Principle Investigator, 3% effort
Dates: 17 August 2009 – 20 April 2013
Direct Funds: Enrollment-based study, est.\$100,000

Title: Incidence, Outcomes and ECG Predictors of Re-arrest in Prehospital Cardiac Arrest
Source: 1R21HL104440-01A1 *National Heart, Lung, and Blood Institute*
Role: Site Principle Investigator, 2% effort
Dates: 10 June 2011 – 31 May 2013
Direct Funds: In kind; Total funds: \$227,250

Title: Advanced Automatic Crash Notification (AACN) Research Pilot: Development of an AACN Data Transmission Plan for Milwaukee County and Development of an AACN Crash data set
Source: DTNH22-12-R-00634 *Department of Transportation/National Highway Traffic Safety Administration*
Role: Site Principle Investigator, 0.5% effort
Dates: 01 October 2012 – 14 September 2013
Direct Funds: \$1,000

Title: Milwaukee Clinical Site Hub: Neurological Emergencies Treatment Trials (NETT) Network
Source: 2 U10 NS058927-07 *National Institutes of Health/ National Institute of Neurological Disorders and Stroke (NINDS)*
Role: Site Investigator, 5% effort
Dates: 03 May 2007 – 31 July 2017
Direct Funds: \$188,820 Annual Total

Title: Resuscitation Outcomes Consortium, Milwaukee Regional Clinical Center
Source: 2-U01-HL077866-10; *National Institutes of Health/National Heart, Lung and Blood Institute*
Role: Site Investigator, 5% effort
Dates: 01 March 2010 – 31 December 2015
Direct Funds: \$10,695 Annually

Title: The Wisconsin CIREN Center
Source: DTNH22-10-H-00292; *Department of Transportation/National Highway Traffic Safety Administration*
Role: Investigator, 0.5% effort

Dates: 01 June 2010 – 31 May 2015
Direct Funds: \$1,304 Annually

Title: AACN Research Pilot: Development of an AACN Data Transmission Plan for Milwaukee County and Development of an AACN Crash data set
Source: DTNH22-12-R-00634; Department of Transportation/National Highway Traffic Safety Administration
Role: Investigator, 0.4% effort
Dates: 01 October 2012 – 30 September 2014
Direct Funds: \$1,000 Annually

Title: Diabetes Patient Profiling in the Emergency Department: Proof of Concept
Source: *Greenville Health System Health Sciences Center Diabetes Research Seed Grant Initiative*
Role: PI
Dates: 01 May 2018 – 30 April 2019
Direct Funds: \$30,000

Prior Non-Peer Reviewed

Title: The Benefit of a Home Fire Safety Intervention During EMS
Source: *Marquette Electronics Foundation*
Role: Primary Investigator
Dates: 01 October 1995 – 01 July 1996
Direct Funds: \$4,500

Title: Emergency Medicine/EMS Training Program for Estonia and Croatia
Source: *Open Society Institute / Carelift International, Inc*
Role: Consultant, 5% effort
Dates: 01 July 1998 – 31 July 1998
Direct Funds: \$5,200

Title: Home Fire Safety EMS Intervention, Phase II
Source: *The Allstate Foundation Grant Committee*
Role: Primary Investigator
Dates: 01 July 1998 – 30 June 2000
Direct Funds: \$5,000

Title: Home Fire Safety EMS Intervention, Phase II
Source: *General Casualty Company of Wisconsin*
Role: Primary Investigator
Dates: 01 July 1998 – 30 June 2000
Direct Funds: \$500

Title: Home Fire Safety EMS Intervention, Phase III
Source: *The Allstate Foundation Grant Committee*
Role: Primary Investigator
Dates: 01 July 2000 – 30 June 2001
Direct Funds: \$7,000

Title: Advanced Resuscitation of Refractory VT/VF IV Amiodarone Evaluation (ARRIVE) Registry

Source: *Wyeth-Ayerst Laboratories*
Role: Investigator, In kind
Dates: 01 July 2000 – 30 June 2001
Direct Funds: \$10,000

Title: National Association of EMS Physicians (NAEMSP) ZOLL EMS Resuscitation Research Fellowship
Source: *NAEMSP and ZOLL Medical Inc*
Role: Fellowship Director: Recipient Jason M. Liu, MD
Dates: 01 July 2005 – 30 June 2007
Direct Funds: \$160,000

Title: Circulation Improving Resuscitation Care (CIRC) Trial
Source: NCT00597207 *ZOLL Medical Inc.*
Role: Safety and Data Management Consultant, 30% effort
Dates: 01 December 2006 – 30 June 2011
Direct Funds: \$1,174,134 Total for all years

Title: EMS Preparedness and Response Infrastructure for Mass Casualty Events
Source: City of Milwaukee
Role: Consultant
Dates: 01 May 2009 – 31 December 2010
Direct Funds: \$105,400

Title: Clinical Management Guidelines for Hospital Healthcare Providers When Routine Critical Care Resources Are Not Available
Source: U3REP090269-01-00 *US DHHS/ASPR/Hospital Preparedness Program, Division of Public Health Wisconsin DPH Contract #17397*
Role: Principal Investigator
Dates: 09 August 2009 – 31 December 2009
Direct Funds: \$35,000

Title: Clinical Management Guidelines for Hospital Healthcare Providers When Routine Critical Care Resources Are Not Available Education Curriculum and Table Top Exercise
Source: U3REP090269-02-00 *US DHHS/ASPR/Hospital Preparedness Program, Division of Public Health Wisconsin DPH Contract #17397*
Role: Principal Investigator
Dates: 01 July 2010 – 30 November 2010
Direct Funds: \$40,000

Title: Provision of Medical Direction Services to the Milwaukee County EMS System
Source: Milwaukee County
Role: Director of Medical Services, 1% effort
Dates: 01 January 2004 – 31 December 2015
Direct Funds: \$273,350 Annually

Title: Emergency Department HIV Surveillance
Source: HV-7-810; *South Carolina Department of Health and Environmental Control, Bureau of Disease Control, Division of STD/HIV*
Role: Consultant, 2% effort
Dates: 18 July 2017 - 30 December 2017 (*extension granted*)

Direct Funds: \$284,360

INVITED LECTURES AND PRESENTATIONS GIVEN

International

1. The United States Emergency Medical Services: Philosophy and Paramedics. *The 1st Polish-American EMS Congress*. Warsaw, Poland; July 1995.
2. Emergency Medical Director Training. *The Taiwan Society of Emergency Medicine*. Taipei, Taiwan; March 1997.
3. The Philosophy behind EMS in the US. *1st Asia-Pacific Interscience Congress of Medicine*. Singapore; March 1997.
4. Changing an Emergency Medical Service System. *1st Asia-Pacific Interscience Congress of Medicine*. Singapore; March 1997.
5. The United States Territory of American Samoa: An Assessment of Emergency Medical Services. *National Highway Traffic Safety Administration*. Pogo Pogo, American Samoa; August 2000.
6. Consultation on Producing Prehospital Guidelines for Trauma Victims in Countries with Limited Resources. *World Health Organization*. Geneva, Switzerland; September 2000.
7. Does the New CPR Make a Difference? *4th Mediterranean Emergency Medicine Congress*. Sorrento, Italy; September 2007.
8. Medical Direction in US: Past, Present and Future. *Ministry of Health and Welfare, National Emergency Medical Center Conference*. Seoul, Korea; December 2007.
9. The Resuscitation Outcomes Consortium: A Primer. *Korean Centers for Disease Control*. Seoul, Korea; December 2007.
10. The New CPR: Why were the Guidelines Changed? *Kyoungpook National University Hospital*. Daegu City, Korea; December 2007.
11. EMS Medical Director Overview Course (9 hr course). *5th Asian Conference on Emergency Medicine*. Busan, Korea; May 2009.
12. EMS-Based Outcome Study: Methods and Approach. *5th Asian Conference on Emergency Medicine*. Busan, Korea; May 2009.
13. Resuscitation Outcome Study of Milwaukee EMS. *Commemorative Symposium of Emergency Medical Service for Jeju National University Hospital New Opening*. Jeju, Korea; May 2009.
14. SALT Triage in Motorsports. *International Council of Motorsports Sciences Annual Congress*. Indianapolis, Indiana; July 2009.
15. Health Manpower Development Plan FY 2009 Visiting Expert in Emergency Medicine. *Ministry of Health*. Singapore; February 2010.
16. Impact of Prehospital Care on Hospital Outcomes. *Changi General Hospital*. Singapore; February 2010.

17. The Resuscitation Outcomes Consortium Update. *Tan Tock Seng Hospital*. Singapore; February 2010.
18. Mass Gatherings and Triage. *Tan Tock Seng Hospital*. Singapore; February 2010.
19. EMS Audit Systems. *Singapore Civil Defense Force*. Singapore; February 2010.
20. Medical Direction in Pediatric Prehospital Care. *KK Women and Children Hospital*. Singapore; February 2010.
21. Advances in Prehospital Information Technology. *National University Hospital*. Singapore; February 2010.
22. Developing Curricula and Credentialing EMS Providers. *Alexandra Hospital*. Singapore; February 2010.
23. Top 10 EMS Interventions that Improve Outcomes. *Singapore General Hospital*. Singapore; February 2010.
24. Prehospital Emergency Care: Stone Age to ROC Age. *Resuscitation Outcomes Consortium*. Washington DC; October 2010.
25. EMS System Logic and Design. *ACEM 2011 EMS Leaders and Medical Directors Workshop*. Bangkok, Thailand; July 2011.
26. Practical Issues in Medical Direction. *ACEM 2011 EMS Leaders and Medical Directors Workshop*. Bangkok, Thailand; July 2011.
27. Essential Elements of EMS System. *EMS Leader & Medical Director Workshop*. Taipei, Taiwan; December 2011.
28. Good Samaritan Law – An International Perspective. *PAD International Symposium*. Taipei, Taiwan; December 2011.
29. EMS Medicine: Past, Present and Future Perspectives. *Scientific Congress of the Korean Society of Emergency Medicine*. Songdo, Korea; October 2013.
30. Essential Elements of EMS Systems. *EMS Leader & Medical Director Workshop, 7th Asian Conference on Emergency Medicine*. Tokyo, Japan; October 2013.
31. Trauma Field Triage and Mass Casualty Triage in the United States. *7th Asian Conference on Emergency Medicine*. Tokyo, Japan; October 2013.
32. Leading Change: Part 1. *Belize Ministry of Health, Karl Heusner Memorial Hospital and MCW Affiliation Agreement Project*. Belize City, Belize; May 2014.
33. Disaster Medicine: Mass Casualty Triage. *Belize Ministry of Health, Karl Heusner Memorial Hospital and MCW Affiliation Agreement Project*. Belize City, Belize; May 2014.
34. Learners and Simulation. *Belize Ministry of Health, Karl Heusner Memorial Hospital and Medical College of Wisconsin Affiliation Agreement Project*. Belize City, Belize; May 2014.
35. Top 9 EMS Medicine Interventions that Improve Outcomes. *Karl Heusner Memorial Hospital Continuing Medical Education Grand Rounds*. Belize City, Belize; May 2014.
36. Development of EMS Protocols. *Medical Director Course Pre-conference, EMS ASIA 2016*. Seoul, South Korea;

August 2016.

37. Ambulance Crash: Should We Always do a Hot-Run. *EMS ASIA 2016*. Seoul, South Korea; August 2016.
38. The Dos and Don'ts in EMS Medical Direction. *3rd Asia Pacific Ambulance Officers conference*. Kuala Lumpur, Malaysia; August 2018.
39. Leading Change. *Emergency Medicine Annual Scientific meeting (EMAS)*. Putrajaya, Malaysia; August 2018.
40. Developing Prehospital Care Systems in the Developing World. *Emergency Medicine Annual Scientific meeting (EMAS)*. Putrajaya, Malaysia; August 2018.
41. An Evidence Based Approach to Problem Solving in EM. *Universiti Teknologi MARA*, Selangor, Malaysia; October 2019.
42. The Key to Success of EMS Services. *Ipoh Hospital*, Perak, Malaysia; October 2019.
43. How to spend next RM2 to Develop EMS Systems. *Emergency Medicine Annual Scientific meeting (EMAS)*. Putrajaya, Malaysia; October 2019.
44. SALT Triage. *Emergency Medicine Annual Scientific meeting (EMAS)*. Putrajaya, Malaysia; October 2019.
45. Prehospital Care Solutions to Access Block? *Emergency Medicine Annual Scientific meeting (EMAS)*. Putrajaya, Malaysia; October 2019.

National

1. New Developments in EMS: What's Right for Your Future? *EMS EXPO*. Atlanta, Georgia; April 1996.
2. Development of EMS Data Systems Workshop. *National Highway Traffic Safety Administration (NHTSA)*. Oklahoma City, Oklahoma; May 1996.
3. EMS Information Systems. *EMS Administrator's Association of California*. San Diego, California; May 1997.
4. State of Tennessee Emergency Medical Services Assessment Program. *National Highway Traffic Safety Administration*. Nashville, Tennessee; October 1997.
5. The Difficult Airway: Turtle Creek Conference. *Wyeth-Ayerst Pharmaceuticals*. Dallas, Texas; February 1999.
6. Weapons of Mass Destruction Coordinators Training In-Service. *National Domestic Preparedness Office*. Washington DC; March 1999.
7. Emergency Medical Services State Plan Cardiac and Stroke Data Elements Workshop. *Florida Department of Health, Bureau of EMS*. Orlando, Florida; August 1999.
8. State of California Emergency Medical Services Technical Assessment. *National Highway Traffic Safety Administration*. Sacramento, California; August 1999.
9. NHTSA Emergency Medical Services Information System Workshop. *Utah Department of Health, Bureau of EMS*. Snowbird, Utah; September 1999.
10. NHTSA Emergency Medical Services Information System Workshop. *Alaska Department of Health & Social*

Services, Section of Community Health and EMS. Anchorage, Alaska; January 2000.

11. Managing Emergency Vehicle Response. *Intelligent Transportation Society of America's 10th Annual Meeting and Exposition.* Boston, Massachusetts; May 2000.
12. Management of the Violent Patient: Turtle Creek Conference IV. *Wyeth-Ayerst Pharmaceuticals.* Dallas, Texas; February 2001.
13. NHTSA Emergency Medical Services Information System Workshop. *New Hampshire Department of Safety, Division of Fire Standards and Training.* Concord, New Hampshire; March 2003.
14. Understanding US Emergency Medical Services Systems: An EMS Primer. *National Center for Injury Prevention and Control.* Atlanta, Georgia; March 2003.
15. Acute Care Research Agenda. *Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Injury and Disability Outcomes and Programs.* Atlanta, Georgia; March 2004.
16. The Impedance Threshold Device: An Inspirational Study. *EMS State of the Science: A Gathering of Eagles VII.* Dallas, Texas; February 2005.
17. The South Milwaukee Diet: A Lean Approach to Resuscitation. *EMS State of the Science: A Gathering of Eagles VIII.* Dallas, Texas; February 2006.
18. Supporting a High-Quality EMS Workforce. *Institute of Medicine The Future of Emergency Care Regional Dissemination Workshop.* Chicago, Illinois; October 2006.
19. Terrorism: A Risk Assessment and Preparedness Approach. *31st Annual Alaska EMS Symposium.* Anchorage, Alaska; November 2006.
20. The Task of Integrating Science, Evidence, Needs and Expectations; The EMS Medical Director's Role. *31st Annual Alaska EMS Symposium.* Anchorage, Alaska; November 2006.
21. The South Milwaukee Diet: A lean Approach to Resuscitation, Back to Basics. *31st Annual Alaska EMS Symposium.* Anchorage, Alaska; November 2006.
22. Injury and Violence and the Built Environment: an EMS Medical Director's Perspective. *2006 National Environmental Public Health Conference.* Atlanta, Georgia; December 2006.
23. NHTSA EMS Project Integration Team Meeting. The NREMT LEADS Committee Experience. *National Highway Traffic Safety Administration.* Washington DC; Sept 2007.
24. Office of Behavioral Safety Research Strategic Plan. An Outlook for the Future Emergency Medical Services Expert Panel Meeting. *National Highway Traffic Safety Administration.* Washington DC; April 2008
25. Quality Improvement: the EMS Medical Director's Perspective. *State of Oregon Spring 2008 Supervising EMS Physician Forum.* Eugene, Oregon; April 2008.
26. Mass Gatherings and Triage. *Annual NASCAR Summit.* Charlotte, North Carolina; January 2009.
27. EMS in Perspective: Past, Present and Future. *National Association of EMS Physicians Medical Director's Course*

and Practicum. Bonita Springs, Florida; January 2011.

28. EMS in Perspective: Past, Present and Future. *2011 Resuscitation and Critical Interventions (RACI) Conference*. Anchorage, Alaska; May 2011.
29. EMS in Perspective: Past, Present and Future. *National Association of EMS Physicians Medical Director's Course and Practicum*. Tucson, Arizona; January 2012.

Regional

1. Anaphylaxis. *16th Annual Seminar on Emergencies in Medicine*. Harbor Springs, Michigan; February 1991.
2. Emergency Procedures. *Dilemmas in Pediatric Emergency Care*. Royal Oak, Michigan; February 1991.
3. Data Collection in Pre-Hospital Care. *EMS EXPO 1991 and Emergency Medical Services Physicians Symposium*. Battle Creek, Michigan; May 1991.
4. Tutorial in Emergency Procedures. *7th Annual Emergency Care Conference*. Royal Oak, Michigan; February 1992.
5. Anaphylaxis. *17th Annual Seminar on Emergencies in Medicine*. Harbor Springs, Michigan; February 1992.
6. Ambulance Accidents. *Emergency Medical Services EXPO 1992 and Emergency Medical Services Physicians Symposium*. Battle Creek, Michigan; May 1992.
7. Emergency Medical Services in 2001. *Flight for Life's 9th Annual Emergency Medical Services Conference*. Milwaukee, Wisconsin; March 1993.
8. Infectious Hazards: The Hazards of Trauma Care. *American Trauma Society Annual Meeting*. Stevens Point, Wisconsin; Dec 1993.
9. New Developments in EMS - How Do You Decide What Is Best For Your System. *Michigan Medical Oversight Seminar*. Thompsonville, Michigan; Sept 1995.
10. An EMS Primer. *Northwestern University Department of Emergency Medicine*. Chicago, Illinois; Nov 1998.
11. EMS LifeLink. *Wisconsin Intelligent Transportation Systems Alliance*. Madison, Wisconsin; May 2000.
12. Terrorism in the US: Will it Happen Here? *Innovations in Emergency Care*. Royal Oak, Michigan; Oct 2001.
13. Disaster Preparedness. *Medical Society of Milwaukee County Health Policy Summit*. Milwaukee, Wisconsin; February 2001.
14. Assessing the Risk. *State of Michigan District 7 Bioterrorism Preparedness Planning Conference*. Grayling, Michigan; Dec 2002.
15. Healthcare and Public Health. *The Southeast Wisconsin Homeland Security Partnership Kick-Off Workshop: Securing Interdependent Infrastructures*. Milwaukee, Wisconsin; October 2004.
16. Use of the Mark 1 Nerve Agent Antidote Kit. *Flight For Life Trauma Nurse Specialist Refresher Course*. Milwaukee, Wisconsin; September 2005.

17. Use of the Mark 1 Nerve Agent Antidote Kit Redoux. *Flight For Life Trauma Nurse Specialist Refresher Course*. Milwaukee, Wisconsin; February 2006.
18. Milwaukee County Emergency Preparedness and Response. *1,253rd Meeting Milwaukee Academy of Medicine*. Milwaukee, Wisconsin; May 2007.
19. Milwaukee County Emergency Preparedness and Response. *John R. Teggatz Forensic Science Seminar*. Milwaukee, Wisconsin; November 2007.
20. You Make the Cut Pig Lab. *Working Together 2008 Emergency Services Midwest Conference. Wisconsin EMS Association*. Milwaukee, Wisconsin; January 2008.
21. NAEMSP Wisconsin. *Paramedic Systems of Wisconsin*. Green Bay, Wisconsin; September 2010.
22. Hospital Resource and Clinical Management Guidelines for Hospital Healthcare Providers When Routine Critical Care Resources Are Not Available. *University of Wisconsin Section of Emergency Medicine Grand Rounds*. Madison, Wisconsin; March 2012.
23. Why Collaborate with an Emergency Medicine Physician. *Research Knowledge Exchange and Health Task Force, Clemson University School of Health Research*. Clemson, South Carolina; 22 October 2015.
24. Top 9 EMS Medicine Interventions that Improve Outcomes. *2016 Swamp Rabbit Prehospital Medicine Conference*. Greenville, South Carolina; 17 June 2016.
25. EM and IE Collaboration. *CUSHR Health Innovation Panel-Case Studies of Successful Collaboration, Clemson University School of Health Research*. Clemson, South Carolina; 10 May 2017.

PEER REVIEWED LECTURES AND PRESENTATIONS GIVEN

International

1. Inter-Rater Agreement of Paramedic Rhythm Labeling: Implications for Uniform Reporting of Data from Out-of-Hospital Cardiac Arrest. *Society for Academic Emergency Medicine Annual Meeting*. Toronto, Ontario; May 1992.
2. Characteristics of Fatal Ambulance Crashes During Emergency and Non-Emergency Operation. *2nd World Conference on Injury Control*. Atlanta, Georgia; May 1993.
3. The Potential Benefits of a Fire Safety Program within Emergency Medical Services: A Point-of-Contact Intervention Pilot Study. *3rd World Conference on Injury Control*. Melbourne, Australia; February 1996.
4. Smoke detector placement during EMS calls: outcomes of a fire safety intervention. *6th World Conference on Injury Prevention and Control*. Montreal, Canada; May 2002.
5. Behavior risk factors of US emergency medical technicians: the longitudinal emergency medical technician demographic study (LEADS) project. *7th World Conference on Injury Prevention and Control*. Vienna, Austria; June 2004.
6. EMS Evolution: The task of integrating science, evidence, needs and expectations. *International Interdisciplinary Conference on Emergencies*. Montreal, Canada; June 2005.
7. The incidence of sleep problems and their effect on US emergency medical technicians: the longitudinal emergency medical technician attributes & demographics study (LEADS) Project. *8th World Conference on Injury Prevention*

and Control. Durban, South Africa; April 2006.

National

1. Analysis of an International EMS Training-The-Trainer Model Program. *American College of Emergency Physicians Research Forum*. San Diego, California; March 1994.
2. Strike Three You're...Dead. *American Public Health Association 123rd Annual Meeting & Exhibition*. San Diego, California; Oct 1995.
3. The Potential Benefits of a Fire Safety Program Within Emergency Medical Services: A Point-of-Contact Intervention. *National Association of EMS Physicians Scientific Assembly*. San Diego, California; July 1996.
4. Urban EMS System Showcase: Milwaukee County EMS. *National Association of EMS Physicians Annual Meeting and Scientific Assembly*. Tucson, Arizona; January 2002.
5. EMS Research: Challenges and Solutions. *Society for Academic Emergency Medicine Annual Meeting*. Boston, Massachusetts; May 2003.
6. An Impedance Threshold Device Significantly Increases Invasively Measured Arterial Pressures During Standard Cardiopulmonary Resuscitation in Out-Of-Hospital Cardiac Arrest. *American Heart Association Scientific Sessions 2004*. New Orleans, Louisiana; November 2004.
7. An Impedance Threshold Device Significantly Increases Invasively Measured Arterial Pressures During Standard Cardiopulmonary Resuscitation in Out-Of-Hospital Cardiac Arrest. *National Association of EMS Physicians Annual Meeting and Scientific Assembly*. Naples, Florida; January 2005.
8. System-wide Policy Making Which TB Test is For You? *Healthcare Systems Process Improvement Conference 2020*. Savannah, Georgia; February 2020.

APPOINTED COMMITTEE SERVICE

South Carolina School of Medicine Greenville (USCSOMG)

07/2015-	Member, Faculty Representation Committee
07/2015-	Member, Academic Council
07/2016-	Member, Advancement and Promotions Committee

Greenville Health System Academic Health Center

01/2016-	Member, GHS Research Division Advisory Group
07/2017-	Member, Academic Council Finance Subcommittee
11/2017-02/2018	Member, Diabetes Research Seed Grant Review Committee
11/2018-02/2019	Member, Transformative Research Seed Grant Review Committee

COMMUNITY SERVICE ACTIVITIES

10/1988, 10/1989	Field Physician (Medical resource planning and patient care) Columbus Marathon, Columbus, Ohio
06/1992	Track Physician (Medical resource planning and patient care) 11 th Detroit Grand Prix, Detroit, Michigan
09/1992-06/1994	Track Physician (Medical resource planning and patient care) Road America, Sports Car Club of America, Elkhart Lake, Wisconsin
01/2001-06/2015	Medical Director, <i>S/V Denis Sullivan</i> [19 th century 134 foot replica wooden schooner]

(Seaworthy screening and at-sea medical care)
Pier Wisconsin, Milwaukee, Wisconsin

09/2008-06/2015 Board of Directors, Milwaukee Community Sailing Center
501(c)3 agency provides educational and recreational sailing programs to those who wish to gain access to Lake Michigan and learn to sail

07/2012 Planning Committee and Medical Director, *Summerfest Rock 'n Sole Half Marathon*
Milwaukee, Wisconsin

09/2012 Planning Committee and Course Physician, *Brewers Mini-Marathon*
Midwest Athletes Against Childhood Cancer (MACC) Fund and Milwaukee Brewers Major League Baseball, Milwaukee Wisconsin

PERSONAL INTERESTS

Motorcycling, Archery, Sailing, Ice Hockey, T'ai Chi Ch'uan

MEDICAL COLLEGE OF WISCONSIN RELATED CONTRIBUTIONS

ADMINISTRATIVE APPOINTMENTS IN EMERGENCY MEDICAL SERVICES (EMS)

Medical Director

- 04/1993-01/2013 Medical Director, Milwaukee County EMS
Paramedic and Basic Life Support Fire Departments; 12 Fire Departments covering 241 square miles serving approximately 1 million people
Milwaukee County, Wisconsin
- 04/1993-01/2013 Medical Director, Ex Officio appointment by Milwaukee County Executive
Milwaukee County Council on Emergency Medical Services, Milwaukee, Wisconsin
- 04/1993-01/2013 Medical Director
Bradley Center (Sports Arena) Emergency Services, Milwaukee, Wisconsin
- 04/1993-01/2013 Member, Ex Officio appointment by Mayor
City of Milwaukee Ambulance Service Board, Milwaukee, Wisconsin
- 03/1993-10/1998 Medical Director
Milwaukee County Stadium Emergency Services, Milwaukee, Wisconsin
- 11/1996-01/2013 Medical Director, appointment by Milwaukee County Executive
Milwaukee County Emergency Management (Disaster preparedness)
Milwaukee, Wisconsin
- 06/2011-04/2015 Medical Director
Milwaukee Mile LLC (Motor speedway emergency care), Milwaukee, Wisconsin
- 02/2013- Medical Director, Emeritus, Milwaukee County EMS, Milwaukee Wisconsin

Community Leadership

- 06/1994-01/2013 Associate Member
Milwaukee County Association of Fire Chiefs, Milwaukee, Wisconsin
- 10/1994-10/1997 & Member,
10/1999-09/2002 Wisconsin State EMS Physician Advisory Committee, Madison, Wisconsin
- 08/1995-06/2010 Member (Appointment by Milwaukee County Executive)
Milwaukee County Traffic Safety Commission, Milwaukee, Wisconsin
- 10/2002-1/2008 Executive Committee
Southeast Wisconsin Regional Trauma Advisory Council, Milwaukee, Wisconsin
- 11/2002-7/2004 Executive Committee
Southeast Wisconsin Bioterrorism Preparedness Group, Milwaukee, Wisconsin

REGIONAL LEADERSHIP AND COMMITTEE POSITIONS

- 10/1992-06/1994 Medical Advisory Committee (Program content and patient care protocols)
American Red Cross, Greater Milwaukee Chapter, Wisconsin
- 05/1995-11/1998 Program Steering Committee
Southeastern Wisconsin Incident Management Program
(Improving roadway crash EMS response and traffic management)
Wisconsin Department of Transportation, Milwaukee, Wisconsin
- 07/1997-12/2000 Member,
7/2007- 01/2008 American Heart Association Metro Stroke Task Force, Milwaukee, Wisconsin
- 10/1998-01/2013 Medical Director, Milwaukee Metropolitan Medical Response System
(Readiness in event of release of weapons of mass destruction)
Milwaukee Fire Department, Milwaukee, Wisconsin
- 03/2004-2013 Regional Medical Authority
(Mission planning and field care coordination)
Federal Bureau of Investigation, Milwaukee, Wisconsin

COLLEGE COMMITTEE SERVICE

Medical College of Wisconsin

- 07/1997-06/1999 Faculty Council
- 12/2001-12/2009 Sabbatical Leave and Faculty Vitality Awards Review Committee
- 09/2003 Internal Review of MCWAH Forensic Pathology Fellowship Program
- 12/2005-2010 Hometown Heroes EMS Fund Raising Committee
- 09/2010 Campus Disaster Preparedness Task Force
- 07/2012-04/2015 Faculty Advisory Council, Global Health Program

Department of Emergency Medicine

- 09/1992-06/2006 Emergency Medicine Resident Selection Committee
- 07/1993-06/1998 Emergency Medical Services Research Committee, Chairperson
- 07/1998-01/2013 Section of EMS and Disaster Medicine, Chief
- 07/2007-04/2015 Center for Medical Incident Management and Preparedness, Director
- 01/2008-7/2008 Administrative Director Search Committee, Chair

Hospital

- 07/1990-08/1992 Disaster Committee
William Beaumont Hospital, Royal Oak, Michigan
- 07/1990-08/1992 Cardiopulmonary Resuscitation Committee
William Beaumont Hospital, Royal Oak, Michigan
- 07/1999-01/2013 Trauma Program Operational Process Performance Committee
Froedtert Hospital, Milwaukee, Wisconsin

MEDICAL COLLEGE OF WISCONSIN TEACHING

Medical Student Education

- 09/1992-04/2015 M-4 Medical Student Emergency Medicine Rotation Attending Physician
Froedtert Memorial Hospital: 260 - 844 hours; annually
- 07/1996-06/1999 M-3 Medical Student Wound Management Course Instructor
Didactic and pig foot suture lab: 2 hours; annually
- 07/1996-04/2015 Student Emergency Medicine Association (SEMA) Mentor
Structured ED observation: 8 hours; annually
- 07/2001-07/2014 M-3 Resuscitation and Perioperative Medicine (RPM) Series
Didactic small group sessions recognizing and treating life threatening emergencies: 3 hours; annually
- 07/2008-06/2013 Injury Research Center Summer Medical Student Research Program
Injury Research, Prevention and Control Faculty Forum: 1.5 hours; annually

Resident Education

- 09/1992-04/2015 Emergency Department Attending Physician
Froedtert Hospital: 260 – 128846*30 hours; annually
- 09/1992-04/2015 Emergency Medicine Residency Program Grand Rounds Biannual Lecturer
 - EM Core Curricula: 1 hour lectures
 - Approach to Low Back Pain
 - Approach to Hypertension
 - Approach to the Jaundice Patient
 - Approach to the Red eye
 - Fingertip and Nail Bed Injuries
 - Leadership and Conflict Resolution
 - EMS Related: 1 hour lectures
 - An EMS Primer
 - Bioterrorism Preparedness

EMS Dispatch
EMS System Design
Disaster Preparedness
The Role of the EMS Medical Director
Mass Gathering Medicine

EMS Fellow Education

Eillyne Seow, MBBS DIMC (Edin), FRCS (A&E) Edin, 01 July 1994 to 31 January 1995
Head of Emergency Medicine, Tan Tock Seng Hospital Singapore
Keith L. Mausner, MD, 01 July 1995 to 30 June 1996
State of New Mexico EMS Medical Director
Chaou-Shune Lin, MD, 01 July 1997 to 28 February 1998
Director of EMS Taipei, Taiwan
Steven S. Andrews, MD, 01 July 1998 to 30 June 1999
Medical Director Flight for Life, Milwaukee, WI
Halim Hennes, MD, MS, 02 July 2002 to 01 October 2003
Pediatric Director, Milwaukee County EMS
Pan Shuming, MD, 01 August 2004 to 30 October 2004
Rui Jin Hospital, Shanghai, China
Chen Erzhen, MD, 01 August 2004 to 30 October 2004
Rui Jin Hospital, Shanghai, China
Jason M. Liu, MD, 01 July 2005 to 30 June 2007
Assistant Medical Director Milwaukee County EMS
Steven W. Zils, MD, 01 July 2009 to 30 June 2010
Aurora Medical Center Ozaukee County, WI, EMS Medical Director
Sean Marquis, MD, 01 July 2012 to 30 June 2014
Janesville, Wisconsin
Khalid Ateyyah, MD, 01 July 2012 to 30 June 2014
Riyadh, Saudi Arabia

EMS Personnel Education

07/1992-06/1993 Emergency Medical Technician Training Program Instructor
 EMT- Basic: Medical Emergencies: 2.5 hours; annually
 Milwaukee Area Technical College, Milwaukee, Wisconsin
04/1993-01/2013 Paramedic Continuing Education Program Instructor
 Morbidity and Mortality Conference: 1 hour; 3 times a year
 Milwaukee County Education Center, Milwaukee, Wisconsin
05/2001-01/2013 National Registry of Emergency Medical Technicians Paramedic Examiner
 Structured verbal format: 5 hours; annually
 Milwaukee County Emergency Medical Services Education Center

MEDICAL COLLEGE OF WISCONSIN MENTORSHIP

07/1996-04/2015 Clinical Advisor, M-3/M-4 Medical Students
 Presented at national meeting, published in peer reviewed journal and successfully matched
 in desired specialty.
CE Cady Title: Ambulance sphygmomanometers are frequently in accurate
Ghilarducci DP Title: Hazardous material readiness of US level 1 trauma centers
Kahn CA Title: Characteristics of fatal ambulance crashes in the United States: an 11-year
 retrospective
Vrotsos K Title: Clinical benchmarks in EMS: Do the number of EMS providers in the system
 affect their critical care patient interventions?
O'Connell M Title: Re-Arrest After Prehospital Resuscitation
Haley K Title: Study of Cardiopulmonary Resuscitation Performed by Bystanders on Patients

- Who are Not in Cardiac Arrest
 Vydro L Title: Is an EMS System Protocol for Advanced Airway Drug Administration Still Needed?
- 07/1996-04/2015 Emergency Medicine Residents
 National and regional research award winning presenters
 Miller S Title: Pre-Hospital Acquisition and Communication of Significant 12-lead ECG's (PHACS-ECG): a Pilot Study
 Polentini MS The changing incidence of ventricular fibrillation and cardiac arrest in Milwaukee County (1992–2002)
 Zils S Title: Milwaukee are you ready? Personal preparedness among emergency department patients
- 07/2001-06/2003 Faculty Advisor, Faculty Mentor Program
 Charles E. Cady, MD; Assistant Professor
 Regional award winning presenter and peer reviewed published
Title: Smoke detector placement during EMS calls: outcomes of a fire safety intervention
Title: The effect of Combitube use on paramedic experience in endotracheal intubation.
- 07/2002-10/2003 Faculty Vitality Awards Program Recipient Mentor
 Halim Hennes, MD, MS; Professor, Department of Pediatrics
 Presented at national meetings, published peer reviewed manuscript, wrote and received *Emergency Medical Services for Children* grant; NAMESP 2006 Best Pediatric Research award
- 10/2005-06/2008 Scholarship Oversight Committee Member
 Jo-Ann Nesiama, MD; Fellow, Department of Pediatrics
Title: Is the prehospital Glasgow coma score a predictor of hospital admission?
- 7/2006-4/2008 Master Dissertation Committee Chair
 Nicholas M. Eschmann, EMTP; Master of Science, Graduate School of Biomedical Sciences
Title: The effect of emergency medical service personnel staffing patterns on patient survival from out-of-hospital cardiac arrest.
- 12/2010- 10/2011 Scholarship Oversight Committee Member
 Harlan Gallinger, MD Fellow, Department of Pediatrics

MEDICAL COLLEGE OF WISCONSIN PROGRAM DEVELOPMENT

Resident Education Programs

- 07/1994-06/2000 Emergency Medicine Senior EMS Elective Rotation
 Designed 3 month program; 3 – 6 participants annually
 5 hours didactic; Ambulance ride-along experience, mentored administrative project
- 09/2004 Physician Fire Ground Experience
 Designed 4 hour program; 26 participants annually
- Goals
 Gain knowledge of personal protective equipment that firefighters wear and use during field operations.
 Understand the physical demands and limitations and rehabilitation needs of personnel during fire ground operations.
 Experience the barriers to in-field patient assessment.
 Put into perspective the decision-making of the medical director in developing patient care policy and procedures in this environment.

Faculty Education Programs

- 07/1993 Emergency Medical Services Fellowship Program
 Designed 24 month program: 6 Graduates
 Approved Society for Academic Emergency Medicine / National Association of EMS Physicians
 EMS Fellowship Site

Curricula keyed to Society for Academic Emergency Medicine guidelines:
 Reading list, Structured experiences, Administrative skills development
 1-on-1 mentorship: 4 hours/week
 Fellow assumes progressive responsibilities as Assistant EMS Medical Director

International Education Programs

- 10/1992-06/1994 Ambulance Physicians from Poland: Krakow, Lodz, Bialystok
 Small Group Discussion Leader (17)
 EMS System Design: 2 hours
 Role of the EMS Medical Director: 1 hour
 Disaster Preparedness: 2 hours
 Evaluator: In country Train-the-Trainer Program: 140 hours
 Designer and Implementation: EMS System Patient Care Database: 70 hours
- 07/1998 Ambulance Personnel Training for Estonia and Croatia
 Program Committee
 Designed 2 week mini-EMS Fellowship
 Small Group Discussion Leader (8)
 EMS System Design: 2 hours
 Role of the EMS Medical Director: 1 hour
- 08/1999 Ambulance Personnel Training for Estonia and Croatia
 Program Committee
 Revised 2 week mini-EMS Fellowship
 Small Group Discussion Leader (8)
 EMS System Primer: 3.0 hours
 EMS System Patient Care Database: 70 hours
- 07/1994-07/2014 International Physician Fellowship in EMS
 Designed tailored didactic and experiential program
 Program Coordinator and Mentor
 07/1/1994-01/31/1995 Dr. Eillyne Seow; Singapore
 07/1/1997-02/28/1998 Dr. Chaou-Shune Lin; Taipei, Taiwan ROC
 08/1/2004-10/31/2004 Drs. Pan Shuming and Chen Erzhen; Shanghai, China
 07/1/2012-06/30/2014 Dr. Khalid Ateyyah; Riyadh, Saudi Arabia
- 09/2007 EMS Physicians Training for Shanghai: Drs. Chen Miao, Yu Yang, Dai Lihua, Zhao Jie
 Small Group Discussion Leader (8 week program)
- 07/2013 International Medical Student ED Rotation Bedside Teaching
 Sarah Norton(Ireland), Helene Didelot(France)

BIBLIOGRAPHY

REFEREED JOURNAL PUBLICATIONS AND ORIGINAL PAPERS

1. PIRRALLO RG, Bridges TP: Luxatio erecta: a missed diagnosis. *American Journal of Emergency Medicine* 1990;8:315-317.
2. PIRRALLO RG, Swor RA, Maio RF: Inter-rater agreement of paramedic rhythm labeling of VF and asystole: implications for uniform reporting of data from out of hospital cardiac arrest. *Ann Emerg Med* 1993;22:1684-1687.
3. Rubin JM*, PIRRALLO RG: 911 Access and trauma deaths: a complex association. *Ann Emerg Med* 1993;22:1777. (Editorial Letter)
4. PIRRALLO RG, Swor RA: Characteristics of fatal ambulance crashes during emergency and non-emergency operation. *Prehospital and Disaster Med* 1994;9:125-132.
5. Brady WJ*, Knuth CJ, PIRRALLO RG: Bilateral inferior glenohumeral dislocation: Luxatio erecta, an unusual presentation of a rare disorder. *J Emerg Med* 1995;13:37-42.
6. PIRRALLO RG, Wolff M, Simpson DE, Hargarten SW: Analysis of an international EMS train-the-trainer program. *Ann Emerg Med* 1995;25:656-659.
7. Ma OJ*, PIRRALLO RG, Rubin JM: Survey of Medical Services at Major League Baseball Stadiums. *Prehospital and Disaster Med* 1995;10:268-272.
8. PIRRALLO, RG: Emergency medical vehicle collisions in an urban system. *Prehospital and Disaster Med* 1996;11:201. (Editorial letter)
9. Cady CE**, PIRRALLO RG, Grim CE: Ambulance sphygmomanometers are frequently inaccurate. *Prehospital Emergency Care* 1997;1:136-139.
10. Mitchell RG, Brady W, Guly UM, PIRRALLO RG, Robertson CE: Comparison of two emergency response systems and their effect on survival from out of hospital cardiac arrest. *Resuscitation* 1997;35:225-229.
11. PIRRALLO RG, Larsen JE, Bragg DA: Establishing biennial paramedic experience benchmarks. *Prehospital Emergency Care* 1998;2:335-336. (Editorial Letter)
12. PIRRALLO RG, Rubin JM, Murawsky GA: The potential benefit of a home fire safety intervention during EMS. *Acad Emerg Med* 1998;5:220-224.
13. Socransky SJ*, PIRRALLO RG, Rubin JM: Out-of-hospital treatment of hypoglycemia: refusal of transport and patient outcome. *Acad Emerg Med* 1998;5:1080-1085.
14. Wolff M, PIRRALLO RG, Hargarten SW: Strengthening emergency medicine in Poland: a training and partnership model. *Acad Emerg Med* 1998;5:1187-1192.
15. Wayne MA, Slovis CM, PIRRALLO RG: Management of difficult airways in the field. *Prehospital Emergency Care* 1999;3:290-296.
16. Ghilarducci DP**, PIRRALLO RG, Hegmann KT: Hazardous materials readiness of United States level 1 trauma centers. *Journal of Occupational and Environmental Medicine* 2000;42:683-692.

17. Swor RA, Jackson RE, Tintinalli JE, PIRRALLO RG: Does advanced age matter in outcomes after out of hospital cardiac arrest in community dwelling adults? *Acad Emerg Med* 2000;7:762-768.
18. Brice JH, Valenzuela T, Ornato JP, Swor R, Overton, J, PIRRALLO RG, Dunford J, Domeier RM: Optimal prehospital cardiovascular care. *Prehospital Emergency Care* 2001;5:65-72.
19. Kahn CA**, PIRRALLO RG, Kuhn EM: Characteristics of fatal ambulance crashes in the United States: an 11-year retrospective. *Prehospital Emergency Care* 2001;5:261-269.
20. O'Connor RE, Slovis CM, Hunt RC, PIRRALLO RG, Sayre MR: Eliminating errors in emergency medical services: realities and recommendations. *Prehospital Emergency Care* 2002;6:107-113.
21. Barthell EN, Foldy SL, Pemble KR, Felton CW, Greischar PJ, PIRRALLO RG, Bazan WJ: Assuring community emergency care capacity with collaborative internet tools: The Milwaukee experience. *J Public Health Management Practice* 2003;9:35-42.
22. Brice JH, PIRRALLO RG, Racht E, Zachariah BS, Krohmer J: Management of the violent patient. *Prehospital Emergency Care* 2003;7:48-55.
23. Ornato JP, McBurnie MA, Nichol G, Salive M, Weisfeldt M, Riegel B, Christenson J, Terndrup T, Mohamud D, PAD Trial Investigators [PIRRALLO RG]: The Public Access Defibrillation (PAD) trial: study design and rationale. *Resuscitation* 2003;56:135-47.
24. PIRRALLO RG, Cady CE: Lessons learned from an emergency medical services fire safety intervention. *Prehospital Emergency Care* 2004;8:171-174.
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