



International Journal of Paramedicine

An Official Journal of the National EMS Management Association

Produced in collaboration with the Portuguese Prehospital Emergency Society
(Sociedade Portuguesa de Emergência Pré-Hospitalar)



Number 11 — July-September, 2025

<https://internationaljournalofparamedicine.com/index.php/ijop/issue/view/N11>

<https://doi.org/10.56068/MCNE6613>



International Journal of Paramedicine

An Official Journal of the National EMS Management Association (USA)

Produced in collaboration with the Portuguese Prehospital Emergency Society

(Sociedade Portuguesa de Emergência Pré-Hospitalar)



Editorial and Production Team

Editor-In-Chief

Michael (Mic) R. Gunderson, EMT-P(Ret), FAEMS — President, Center for Systems Improvement; Chief Strategy Officer, Cambridge Consulting Group; Adjunct Faculty, Department of Emergency Health Services, University of Maryland - Baltimore County (UMBC): Madisonville, TN, USA

Managing Editor

Theron Becker, MPH, MPA, FACPE, EFO — Deputy Director of EMS Operations & Education, Raven Medical, Inc., Raven Advisory, LLC; Bespoke Gearworks: Pinehurst, NC, USA

Terry Payer, MPSLA, CCP-C, NRP — Director of EMS, Indian Health Service (QNBMHCF): Belcourt, ND, USA

Associate Editor - Marketing

Andrew J. Steward, BS, NRP — Paramedic, EMS, Wellspan Health; EMS Instructor, Harrisburg Area Community College: Taneytown, MD, USA

Associate Editor - Peer-Review

Kevin T. Collopy, MHL, FP-C, NRP, CMTE — Clinical Outcomes & Compliance Manager, AirLink/VitaLink, Novant Health; Chair, Global Critical Care Transport Higher Education Council: Wilmington, NC, USA

Cole Ettingoff, MPH — Medical Student, Trinity School of Medicine: Memphis, TN, USA

Jamie K. Jacobs, MS, NRP — EMS Lead, Senior Consultant, Environmental Systems Research Institute (ESRI): Marshfield, MO, USA

Ginny Kaplan, PhD, MHS, Paramedic, FAEMS — Healthcare Administration Department Chair & Assistant Professor, Methodist University: Clayton, NC, USA

Christine McGuire-Wolfe, PhD, CIC, CPH, EMT-P/FFII — Assistant Professor, College of Public Health, University of South Florida; Director, Infection Control for Emergency Responders Collaborative & Training Hub (ICER): Tampa, FL, USA

Scot Phelps, JD, MPH, Paramedic, FP-C — Mobile Intensive Care, Englewood Hospital & Medical Center; Principal Researcher, NYC Ambulance History Project: Bordentown, NJ, USA

Vincent D. Robbins, MSc, FACPE, LFACHE — Founder, President, & Chief Executive Officer, Cambridge Consulting Group: Cambridge, MD, USA

Associate Editor - Production

James D. Dinsch, MS, NRP, CCEMT-P — Director, Cedar County EMS; Principal Consultant, Dinsch Consulting Group: Tipton, IA, USA

Senior Editor - Statistics and Methodology

Eihab Khasawneh, DDS, PhD, RN, Paramedic — Assistant Professor & Assistant Dean, Paramedic Program & Faculty of Applied Medical Sciences, Jordan University of Science & Technology: Irbid, Jordan

Sonja Maria, PhD, Paramedic — Associate Head of School, Head of Discipline for Paramedicine, School of Nursing, Paramedicine, & Healthcare Sciences, Charles Sturt University; Chair of the Australasian Paramedic Clinical Practice Guidelines SIG, Australasian College of Paramedicine: Bathurst, NSW, Australia

Nikiah Nudell, MS, MPhil, NRP, FACPE — Paramedic Scientist, Paramedic Foundation; Research Manager, University of Colorado Health (UCHealth): Wellington, CO, USA

Assistant Editor - Copy and Proof

Laura L. Chadwick, BS, MLS(ASCP)CM, QLS CM, NRAEMT — Fairview Park Hospital: Centerville, GA, USA

Craig Evans, MEd — Assistant Professor, George Washington University: Glen Burnie, MD, USA

Allison G. S. Knox, MPH, MA, EMT-B — Instructor, Political Science, Marist University; Instructor, Emergency Management & Fire Science, American Military University; Intermittent Emergency Management Specialist, Administration for Strategic Preparedness & Response (ASPR): Pawling, NY, USA

Megan A. Mason, MPH, NRP, FFII — Firefighter/Paramedic, Cranesville Fire Department: Cranesville, PA, USA

Brian C. Wilcox, BS, NRP, CCEMT-P — Program Director, Chautauqua Regional Paramedic Program, University of Pittsburg Medical Center (UPMC); Clinical Coordinator/Paramedic, ALSTAR EMS: Jamestown, NY, USA

Section Editor - Benchmarks

John R. Clark, JD, MBA, NRP, FP-C, CCP-C, CMTE — Chief Operating Officer, International Board of Specialty Certification (IBSC): Apollo, PA, USA

Diane C. Flint, DPA, MS, NRP — Assistant Dean, School of Health Professions, Community College of Baltimore County (CCBC): Airville, PA, USA

Ben Neal, BS, NRP — Division Chief of EMS, Fern Creek Fire & EMS; Vice-Chair, Kentucky Board of EMS: Louisville, KY, USA

Tanveer Ahmed Yadgir, PhD, MBA, PGDEMS — Academic Faculty & EMS Researcher, Fatima College of Health Sciences: Al Ain, Abu Dhabi, UAE

Section Editor - Case Scenarios

Becky J Donelon, EdD, ACP — Faculty, Paramedic Programs, Northern Lakes College; Applied Research & Graduate Studies, Justice Institute of British Columbia : Edmonton, AB, Canada

Paul LeSage — Founding Partner & Senior Analyst, SG Collaborative Solutions, LLC: Lake Oswego, OR, USA

Luke A. Persin, MS-3, EMT-B — Emergency Medical Technician, Mutual Aid Ambulance Service; Medical Student 3, DeBusk College of Osteopathic Medicine, Lincoln Memorial University (LMU): Greensburg, PA, USA

Section Editor - Comparisons

Luc de Montigny, MFR, PhD — Conseiller en Analyse et Recherche Clinique (Clinical Analysis & Research Advisor), Urgences Santé; Adjunct Professor, McGill University: Montréal, QC, Canada

Brian A. Donaldson, CCP, ASM, AAS — Director, Peach County EMS: Fort Valley, GA, USA

Mark Weiss, DHA, MHA, MEP, NRP/FF — Training Officer, District of Columbia Fire Department; Principal, Expeditionary Medical Education & Training: Alexandria, VA, USA

Section Editor - External

Jenifer A. Swab, PhD, Paramedic — Training Coordinator, Foxwall EMS: Pittsburgh, PA, USA

Robert K. Waddell II — Training Manager, SAM Medical: Beulah, WY, USA

Section Editor - Literature Searches

Shaughn Maxwell, PsyM, EMT-P — Deputy Chief, South County Fire & Rescue: Everett, WA, USA

Brenda M. Morrissey, DPA, FP-C, FACPE — Paramedic Communications Coordinator (Quality Management) & EMS Educator, Northwell Health; President, Second Chance Safety, LLC: Floral Park, NY, USA

Section Editor - Paramedicine Contents

Brad Buck, BS, NRP, CP — Community & Emergency Paramedic, Mayo Clinic Ambulance Service; Board of Directors, American Paramedic Association (APA): Rochester, MN, USA

LaTosha A. Hogan, EMT-P, 200HR YT, MA — Paramedic , University of Chicago Medical Center / Adventhealth (UChicago Medicine): Chicago, IL, USA

Julius McAdams, BME, FP-C, CCP-C — Clinical Education Coordinator, AirLink/VitaLink, Novant Health; International Board of Specialty Certifications (IBSC) Liaison, International College of Advanced Practice Paramedics (I-CAPP): Wilmington, NC, USA

Sean M Teed, CCP, MEd(c) — Paramedic Educator, Nova Scotia Health: Halifax, NS, Canada

Section Editor - Performance Indicators

Ian E Blanchard, PhD, ACP — Scientist, Alberta Health Services; Adjunct Assistant Professor, University of Calgary: Calgary, AB, Canada

Todd Hatley, PhD, MBA, MHA — Chief Executive Officer, Integral Performance Solutions; Improvement Advisor, Institute for Healthcare Improvement: Wilmington, NC, USA

Oren Wacht, EMT-P, PhD — Department Head, Emergency Medicine, Ben Gurion University of the Negev; Medical Council Member, Magen David Adom (MDA): Beer Sheba, Israel

Section Editor - Perspectives

Albert Bouwer-Monroy, MS-1, NRP, FP-C — Deputy Chief, Foxwall EMS; Medical Student, Lake Erie College of Osteopathic Medicine: Pittsburgh, PA, USA

Elizabeth Lacy, MPS, BS, Paramedic — EMS Outreach Coordinator, Louisiana Childrens Medical Center (LCMC) Health / Tulane Medical Center

Edward "Ted" Lee, EdD, NRP — Neosho, MO, USA

Christopher Suprun, BS, NRP, FP-C — Director, Clinical Operations, September 11 Foundation: Dallas, TX, USA

Michael Thomas, MHA, EMT-B, FACPE — Director of Safety & Government, Deputy Director of Compliance & Human Resources Relations, Jan-Care Ambulance, Inc.: Beckley, WV, USA

Section Editor - Podcast and Vlog

Chris Cebollero, CCEMT-P, BS, MBA — Head of Operations - Partner Success, QuikMedic: Elmhurst, IL, USA

Robert C. Lawrence, MCMI — Executive Director, California Ambulance Association; Director, Pro EMS: Las Vegas, NV, USA

Dean Pearcy — Video Production Technician, Spokane Fire Dept: Spokane, WA, USA

Mike Verkest, AAS, FP-C, CCP-C, C-NPT, Paramedic — President, FireDog Productions; Manager, Content Development, ESO: Manor, TX, USA

Eoin Walker, MSc, BSc, Dip IMC RCSEd, FEWM, AFHEA — Senior HEMS Marketing Manager , Airbus Helicopters : Augsburg, Bavaria , Germany

Section Editor - Profiles

Sean Caffrey, MBA, FACPE, NR-P — Chief Executive Officer & Commissioner, Crested Butte Fire Protection District; President, National EMS Management Association (NEMSMA): Crested Butte, CO, USA

Christoph Redelsteiner, DPH, PhD, MS — FH-Professor DSA Mag., Fachhochschule St. Pölten (University of Applied Sciences): , Austria

Section Editor - Reflections

Michael S. Gerber, MPH, NRP — Paramedic, Bethesda-Chevy Chase Rescue Squad; Adjunct Instructor, George Washington University: Washington, DC, USA

Scott A. Lancaster, PhD, MHA, NR-P — Director of Operations, Cataldo Ambulance Service; Adjunct Assistant Professor, Eastern Kentucky University: Goffstown, NH, USA

Issac Ryals, BS, NRP — Simulation Operations Specialist, Jump Simulation Center, University of Illinois: Champaign, IL, USA

Section Editor - Social Media and Correspondence

Sean Ferguson, MCPPara, FdSc, MSc,PGCert, FHEA, DDCM — Senior Lecturer , Paramedicine, University of Doha for Science & Technology; Chief Education Officer (CEdO), Al Nawa Medical: Doha, Qatar

Ginny Kaplan, PhD, MHS, Paramedic, FAEMS — Healthcare Administration Department Chair & Assistant Professor, Methodist University: Clayton, NC, USA

Joshua Kimbrell, BA, NRP, CLI — Quality Manager, MediSys Health Network: Brooklyn, NY, USA

Section Editor - Toolbox

Charles A. Foat, PhD, MEdT, NRP — Director, Emergency Medical Science, Johnson County Community College: Olathe, KS, USA

Emily R. Kaplan, DrPH, MPA, EMTP — Director, Clinical Practice Group, DocGo; Adjunct Faculty, Westchester Community College; New York Medical College: Mahopac, NY, USA

Director of Sales and Marketing

Pat Songer — Executive Director, National EMS Management Association (NEMSMA); Cascade Medical: Leavenworth, WA, USA

Editorial Advisory Board Member

Mary Ahlers, MEd, BSN, ACP, NRP — *University of Cincinnati; President / Chief Executive Officer, Paramedic Health Solutions; President, Paramedic Network, LLC: Cincinnati, OH, USA*

Ahed Al Najjar, FAHA, Paramedic, MPH, RN — *Education & Research Manager, UAE National Ambulance; Professor, Universitas Trisakti; Instructor, University of Pittsburgh: Abu Dhabi, UAE*

William K. Atkinson, PhD, MPH, MPA, FACHE, FACPE — *Senior Advisor, Cambridge Consulting Group: Raleigh, NC, USA*

Maria Beermann-Foat, PhD, MBA, NRP — *EMS Training Coordinator, Eugene Springfield Fire Department; Battalion Chief of Operations (ret.), Johnson County EMS (MED-ACT): Cottage Grove, OR, USA*

Scott S. Bourn, PhD, RN — *Research Chair, Senior Quality Consultant, ESO; VP Clinical Quality & Impact, Securisyn Medical: Parker, CO, USA*

Tom Bouthillet — *Battalion Chief of EMS (Ret.), Hilton Head Island Fire Rescue: Hilton Head Island, SC, USA*

Brooke Burton, NRP, FACPE — *Quality Improvement / Controlled Substance Manager, Unified Fire Authority: Salt Lake City, UT, USA*

Will Chappleau, Paramedic, RN, TNS — *Director, International Prehospital Medicine Institute: Chicago Heights, IL, USA*

Claire M. Corbett, MMS, MBA, Paramedic — *Director of Performance Excellence, Novant Health: Wilmington, NC, USA*

Bruce Evans, MPA, NRP, CFO — *Fire Chief, Upper Pine River Fire Protection District; President, National Association of Emergency Medical Technicians (NAEMT): Durango, CO, USA*

Louis Gonzales, MPH, LP, CPHQ, CPPS — *Director of Operations, EMS for Children Innovation & Improvement Center, University of Texas at Austin: Georgetown, TX, USA*

Michael W. Hubble, PhD, MBA, NRP — *Assistant Professor, Wake Technical Community College: Chapel Hill, NC, USA*

Sam Hurley, MPH, EMPS, NRP — *Director, Maine Bureau of EMS: Standish, ME, USA*

Michael Jacobs, EMT-P — *Manager, EMS Specialty Systems of Care, County of Alameda: San Leandro, CA, USA*

Thomas Judge, CCT-P — *Executive Director, LifeFlight of Maine: Camden, MA, USA*

Margaret A. Keavney, Esq, MHA — *Attorney at Law, Keavney & Streger, LLC: Princeton, NJ, USA*

Baxter Larmon, PhD, MICP — *Professor & Emeritus Director, David Geffen School of Medicine, University of California Los Angeles (UCLA): Ventura, CA, USA*

William J. Leggio, EdD, NRP — *Operations Administrator, Mayo Clinic: Round Rock, TX, USA*

Glenn Leland, MBA — *Chief Growth Officer, Priority Ambulance, LLC; Principle Instructor, Priority Ambulance Leadership Foundation: Knoxville, TN, USA*

Brian J. Maguire, DrPH, MSA, EMT-P — *Senior Epidemiologist, Leidos: Groton, CT, USA*

Gregg Margolis, PhD — *Director, Health Policy Fellowships & Leadership Programs, National Academy of Medicine; Adjunct Professor, University of Pittsburgh: Bethesda, MD, USA*

Jennifer McCarthy, MAS, NRP, CHSE-A — *President, 579 Solutions; Director of Clinical Simulation, Seton Hall University: Nutley, NY, USA*

Mike McEvoy, PhD, NRP, RN, CCRN — *EMS Coordinator, Saratoga County; Senior Staff RN & Chair, Albany Medical Center: Waterford, NY, USA*

Peter O'Meara, PhD — *Adjunct Professor, Monash University; Board Member, Board of Directors, American Paramedic Association (APA): Kangaroo Flat, VIC, Australia*

Jerry Overton, MPA — *President, International Academies of Emergency Dispatch (IAED): Salt Lake City, UT, USA*

David Page, MS, NRP — *Director, Prehospital Care Research Forum, University of California Los Angeles (UCLA); Paramedic, EMS, Allina Health: Los Angeles, CA, USA*

Ernesto M. Rodriguez, MA, LP — *Chief (Ret), Austin-Travis County EMS: Leander, TX, USA*

Walt A. Stoy, PhD, EMT-P — *Director Emeritus, Center for Emergency Medicine of Western Pennsylvania, Inc.; Associate Advisor, Cambridge Consulting Group; Professor & Program Director - Emergency Medicine Program (Ret), School of Health & Rehabilitation Sciences, University of Pittsburgh: Pittsburgh, PA, USA*

Mike Taigman, MA, FAEMS — *Improvement Guide, FirstWatch; Assistant Adjunct Professor, University of California San Francisco: Santa Barbara, CA, USA*

Debbie Vass, RN, EMT-P — *Corporate Vice President of Quality Initiatives, PatientCare EMS Solutions: Largo, FL, USA*

David A. Wampler, PhD, LP, FAEMS — *Health Science Professor, University of Texas Health Science Center at San Antonio: Boerne, TX, USA*

Brett Williams, PhD, FACP — *Professor & Head of Paramedicine Department, Monash University: Frankston, VIC, Australia*

David M. Williams, PhD — *Chief Executive, Medic Health; Principal, DavidMWilliamsPhD.com (DMWAustin, LLC): Austin, TX, USA*

Reviewer

Rateb A. Abuzeid, PhD — *Researcher, EMS Faculty, Prince Sultan College for EMS; Head, Community Relations Unit, King Saud University: Riyadh, Central, Saudi Arabia*

Nawfal Aljerian, MD — *Chief Executive Officer, Medical Referrals Center, Saudi Arabia Ministries of Health; Associate Professor of Emergency Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS): Riyadh, Saudi Arabia*

David Beckerley, MPA, NRP — *Commander, Austin-Travis County EMS: Austin, TX, USA*

Deepak L. Bhatt, MD, MPH, FACC, FAHA — *Director, Heart Institute, Mount Sinai Hospital; Professor of Cardiovascular Medicine, Icahn School of Medicine at Mount Sinai: Boston, MA, USA*

Matthew Black — *QuikMedic*

Ron Bowles, PhD — *Justice Institute of British Columbia: New Westminster, BC, Canada*

Jane H. Brice, MD, MPH — *Professor & Chair, Department of Emergency Medicine, University of North Carolina: Chapel Hill, NC, USA*

Elliot Carhart, EdD, RRT, NRP, FAEMS — *Professor, Radford University: Seminole, FL, USA*

Alix Carter, MD, MPH, FRCPC — *Director, Division of EMS, Dalhousie University: Halifax, NS, Canada*

Sally Cascio — *Chief Flight Nurse, NorthSTAR, University Hospital: Monroe, NJ, USA*

Julie D. Charbonneau, RN, MS — *Executive Director, Sioux Falls Regional EMS Authority (REMSA): Sioux Falls, SD, USA*

Jamie Chebra, MS, FACPE, NRP — *Chief Executive Officer, Harris County ESD 11 Mobile Healthcare: Spring, TX, USA*

Brad Chernock, MD, MS, PA-C, NRP — *Surgical Critical Care Fellow, Robert Wood Johnson Medical School, Rutgers University: Morristown, NJ, USA*

Sheldon Cheskes, MD, CCFP(EM), FCFP, DRCPSC — *Medical Director, Sunnybrook Centre for Prehospital Medicine; Professor, University of Toronto: Toronto, ON, Canada*

Vlad Chiriac, PhD, MEd, ACP — *Professor, Durham College: Oshawa, ON, Canada*

Lance Corey, EMT-P, I/C, CCEMT, BS — *New Era, MI, USA*

Jon M. Crownover, NRP, EMSI, CCEMT — *Advanced Care Paramedic & EMS Instructor, University of Pittsburgh Medical Center (UPMC); Paramedic, Ross / West View EMS & Rescue: Pittsburgh, PA, USA*

Carol A. Cunningham, MD, FAAEM, FAEMS — *State Medical Director, Division of EMS, Ohio Department of Public Safety: Columbus, OH, USA*

Ian R. Drennan, ACP, PhD — *Associate Professor, Department of Family & Community Medicine, University of Toronto; Professor, Georgian College: Toronto, ON, Canada*

Rommie L. Duckworth, MPA, LP, EFO, FO — *Director, New England Center for Rescue & Emergency Medicine; EMS Coordinator, Ridgefield Fire Department: Sherman, CT, USA*

Bram Duffee, PhD, EMT-P — *Assistant Professor of Communication, Kennesaw State University; Research Fellow, Fielding Graduate University: Houston, TX, USA*

Peter I. Dworsky, MPH, EMT-P, FACPE — *Edison, NJ, USA*

Katherine L. Elkins, MPH, CPH, NRP — *DrPH Student, Bloomberg School of Public Health, Johns Hopkins University; Captain Lifemember Paramedic, Wheaton Volunteer Rescue Squad: Kensington, MD, USA*

Mary E. Fallat, MD — *Professor of Surgery, University of Louisville; Director of Surgical Quality, Norton Childrens Hospital: Louisville, KY, USA*

Rob Farmer, MBA, FACPE — *Tomball, TX, USA*

Antonio R. Fernandez, PhD, NRP — *Research Scientist, ESO; Adjunct Assistant Professor, University of North Carolina: Apex, NC, USA*

Jay Fitch, PhD — *Founding Partner, Fitch & Associates; Board Member, American College of Paramedic Executives: Natchez, MS, USA*

Paul M. Gallo, BS, EMT-P, EMSI — *Assistant Chief (Ret), Reading Fire Department: Reading, OH, USA*

Erik S. Gaull, NRP, CEM — *Paramedic/Firefighter III, Cabin John Park VFD: Cabin John, MD, USA*

Mary George, MD, MSPH, FACS — *Decatur, GA, USA*

Daniel R. Gerard, MS, RN, NRP — *President, International Association of EMS Chiefs; EMS Coordinator, Alameda Fire Department: Washington, DC, USA*

Stacy Gerlich, MA, EMT-P — *Battalion Chief (Ret), Los Angeles City Fire Department: Westlake Village, CA, USA*

Judah P. Goldstein, PCP, PhD — *Research Coordinator, Emergency Health Services, Department of Health & Wellness, Government of Nova Scotia; Assistant Professor, Dalhousie University: Halifax, NS, Canada*

Sean P. Graham, BS, NRP, CCP-C — *Medical Science Liaison, Emergency Care, Stryker: Bothell, WA, USA*

Frank Gresh, BS, MS — *Interim Chief Operating Officer / Chief Information Officer, EMS Authority (EMSA): Oklahoma City, OK, USA*

Mike Grill, MS, NRP, EFO — *Larkspur, CO, USA*

Jacob E. Guillott-Creel, MS, FP-C, CMTE — *Clinical Administration Coordinator, PHI Air Medical, LLC: Phoenix, AZ, USA*

Todd Heffern, MD, FACEP, FAEMS, NRP — *Assistant Professor, University of Tennessee: Knoxville, TN, USA*

Arthur Hsieh, MA, NRP — *Faculty Coordinator, Santa Rosa Junior College: Windsor, CA, USA*

Mack Hutchison, MHA, FACPE, NRP — *Clinical Manager, Metropolitan EMS (MEMS): Little Rock, AR, USA*

Jeffrey L. Jarvis, MD, MS, EMT-P — *Chief Medical Officer & System Medical Director, Metropolitan Area EMS Authority (MedStar911): Fort Worth, TX, USA*

Jan L. Jensen, ACP, MAHSR — *Executive Director, Emergency Health Services, Department of Health & Wellness, Government of Nova Scotia; Assistant Professor, Dalhousie University: Dartmouth, NS, Canada*

Randy D. Kearns, DHA, MSA, FACHE, FRSPH, CEM, NRP (Ret) — *Program Director / Associate Professor, University of New Orleans; Associate Professor of Research, Louisiana State University (LSU): New Orleans, LA, USA*

Adam Kipust, EMT-B — *Field Training Officer, EMS, University of California Los Angeles (UCLA): Los Angeles, CA, USA*

Judah A. Kreinbrook, BS, EMT-P — *Medical Student, School of Medicine, Duke University: Durham, NC, USA*

Jon R. Krohmer, MD, FACEP, FAEMS — *Adjunct Associate Professor, Department of Emergency Medicine, Michigan State University: Holland, MI, USA*

Brian LaCroix, BS, FACPE, CPPS, NRP (Ret) — *Executive Advisor, Cambridge Consulting Group: Farmington, MN, USA*

Alan Lieberman —

Jeffrey T. Lindsey, PhD, PM, EFO — *Program Director, University of Florida: Gainesville, FL, USA*

Cassie Longhart, DHA/QA, MHA/ED, EMT-I — *EMS Data Manager, Office of EMS & Trauma, Georgia Department of Public Health: Atlanta, GA, USA*

Beth Lothrop Adams, MA, BSN, NRP — *Quality Manager, Fairfax County Fire & Rescue Department; Adjunct Assistant Professor, George Washington University: Fairfax, VA, USA*

Jon Lovett, AS, NRP — *Manager, Prehospital EMS, Lawrence General Hospital; Senior Education Specialist, Boston Childrens Hospital: Plaistow, NH, USA*

Robbie MacCue, FP-C, MBA — *Founding Partner, EMS Leadership Academy; Assistant Chief, Town of Colonie EMS Department: Albany, NY, USA*

Russell D. MacDonald, MD, MPH, FRCPC, DRCPSC — *Medical Director, Toronto Paramedic Services; Professor / Faculty of Medicine, University of Toronto: Toronto, Ontario, Canada*

Renée S. MacPhee, PhD — *Associate Professor, Wilfrid Laurier University: Waterloo, ON, Canada*

Matthew McElhenie, DPA, NRP — *General Manager, Cambria Community Services District; Professor, Hartnell College: Cambria, CA, USA*

Kim D. McKenna, PhD, RN, NRP — *Director of Education (Ret), Saint Charles County Ambulance District: Kirkwood, MO, USA*

Russell D. Metcalfe-Smith, MSc, BSc(Hons), FRSPH, FHEA — *Associate Professor, Department of Surgery, Cedars-Sinai Medical Center: Los Angeles, CA, USA*

Anthony Minge — *Fitch & Associates: Platte City, MO, USA*

Dennis M. Mitterer, PhD, BSN, CSP, ARM — *Instructional Professor/Advisor, University of Florida: Gainesville, FL, USA*

Carl Moen, MPM, EMT-P — *Executive Director (Ret), Southern Alleghenies EMS Council: Everett, PA, USA*

Anne Montera, MHL, BSN, RN — *President / Chief Executive Officer, Caring Anne Consulting, LLC; Senior Advisor, Cambridge Consulting Group; Director of Nursing, VRpatients: Oxford, FL, USA*

Scott Moore — *Owner, Moore EMS Consulting: , USA*

Graham G. Munro, PhD, MHSM, BHSc, GradCert, RP — *Adjunct Senior Lecturer, Charles Sturt University: Pyrmont, NSW, Australia*

Kenneth Navarro, MEd, LP — *Training Specialist III, Emergency Medicine, University of Texas Southwestern Medical Center: Hurst, TX, USA*

Jeannie Newton-Riner, EdD, MHS/MHSA, CP-C — *Member, Board of Directors, American Paramedic Association (APA); Part-Time Faculty, Kennesaw State University: Acworth, GA, USA*

Nicholas R. North, MSNc, RN, NRP, CMTE — *Flight Nurse / Outreach Coordinator, Life Flight, UMass Memorial Health; EMS Coordinator, Mercy Medical Center: Belchertown, MA, USA*

Ricahrd W. Patrick, MS, Paramedic, EFO — *Director, National Fire Programs Directorate, U.S. Fire Administration, Federal Emergency Management Agency (FEMA): Fredrick, MD, USA*

Blaine Patterson, RN, FP-C — *Director, EMS, St Lukes Health System: Boise, ID, USA*

Brett A. Patterson, EMD-I — *Chair, Medical Council of Standards, International Academies of Emergency Dispatch (IAED): Clearwater, FL, USA*

P. Daniel Patterson, PhD, NRP — *Associate Professor, University of Pittsburgh: Pittsburgh, PA, USA*

Debra G. Perina, MD, FAEMS — *Professor Emeritus, Emergency Medicine, University of Virginia; Operational Medical Director, Thomas Jefferson EMS Council, Inc.: Ruckersville, VA, USA*

Les Polk, MS, FACPE, NRP — *National Director, Clinical Excellence, DocGo; ALS Educator, RWJBarnabas Health: Cranbury, NJ, USA*

Mark A. Potts, MPA, NRP, CEMSO, FP-C — *Critical Care Paramedic, LifeLink, Cape Fear Valley Hospital: Pinehurst, NC, USA*

Jonathan Pritchard, RN, MN, CCRN, CEN, CNRN, TCRN, NRP — *Deputy Chief, Cottage Grove Fire Department; Staff Nurse, Emergency Department, Regions Hospital: Cottage Grove, MN, USA*

Ben Proctor — *Combat Medic, US Army: Richmond Hill, GA, USA*

Aaron Reinert —

Louise Reynolds, RP, PhD, FACP — *Associate Professor in Paramedicine, Victoria University: Altona North, VIC, Australia*

Kayla Riel — *University of Missouri: , MO, USA*

Sattha Riyapan, MD, MPH — *Assistant Professor in Emergency Medicine, Mahidol University Siriraj Hospital: Bangkok, Thailand*

Eric A. Rosen, MA, BAS, NRP, FP-C, CCP-C, DICO-C — *Adjunct Professor / Clinical Educator, Temple University Health System: Jenkintown, PA, USA*

Wayne W. Ruppert, CVT, CCCC, NRP — *Director of Clinical Outreach, Tampa General Hospital Spring Hill (formerly Bravera Health Hospital): Wesley Chapel, FL, USA*

Ritu Sahni, MD, MPH, FAEMS, FACEP — *Medical Director, Clackamas County EMS; Medical Director, Washington County EMS: Lake Oswego, OR, USA*

Jose V. Salazar, MPH, NRP, FACEP, LMC — *Founder/Owner, High Performance Coaching & Consulting, LLC; Deputy Chief of EMS (Ret), Loudoun County Fire & Recue: Sterling, VA, USA*

Brian Schaeffer, MPA, EMTP — *Fire Chief, Columbia Fire Department: Columbia, MO, USA*

Ahmad Sharayah, PhD, MHS, Paramedic, FAEMS — *Department Head / Adjunct Assistant professor, Royal Jordanian Medical Services College : Amman, AMM, Jordan*

Carlos J.A. Silva, Paramedic — *Guimarães Fire Department; International Prehospital Medicine Institute; Sociedade Portuguesa de Emergência Pré-Hospitalar (Portuguese PreHospital Emergency Society): Guimarães, Portugal*

Hezedeane Smith, DM, CFO, FACPE — *Founder / Chief Executive Officer, Global Emergency Services Consulting Group, LLC; Adjunct Faculty, Embry Riddle Aeronautical University: Orlando, FL, USA*

Larry Starr, PhD — *Program Director, Leadership Doctorates, Thomas Jefferson University; Assistant Adjunct Professor of Pharmacy Systems Science, Geisinger Commonwealth School of Medicine: Wynnewood, PA, USA*

Robert E. Suter, DO, MHA — *Professor, University of Texas Southwestern Medical Center; Reserve Brigadier General, US Army: Dallas, TX, USA*

Simon Taxel, NRP, BA — *Crew Chief/ Public Safety Diver, City of Pittsburgh Bureau of EMS; Medical Specialist, Pennsylvania Strike Team 1 (PA-ST1): Pittsburgh, PA, USA*

Stephen E. Taylor, Paramedic, PhD, FAEMS — *EMS Specialist, East Carolina University; Pitt County EMS: Washington, NC, USA*

John Todaro, BA, NRP, RN, TNS, NCEE, CHSE, CHSOS — *Director, Eagle Emergency Education Consultants; Associate Advisor, Cambridge Consulting Group: Land O Lakes, FL, USA*

Tara Tucker —

Robert S. Wales, BS, NRP, ALM — *Medical Education Program Manager, Medtronic, Inc: Plano, TX, USA*

James J. Warin, MPA, NRP, MICP, CHSE — *Simulation Operations Specialist, Valley Health System; Paramedic, Hackensack Meridian Health University Medical Center: Hopatcong, NJ, USA*

Jonathan D. Washko, MBA, FACPE, NRP, AEMD — *Assistant Vice President, Center for EMS, Northwell Health: Northport, NY, USA*

Siegfried Weinert, NKV, EMD, SFK — Cross Border EMS Management, Notruf Niederösterreich (Emergency Call Lower Austria); NKV, LBA-EH, LBA-San, PAS, Austrian Red Cross: Wiener Neudorf, Lower Austria, Austria

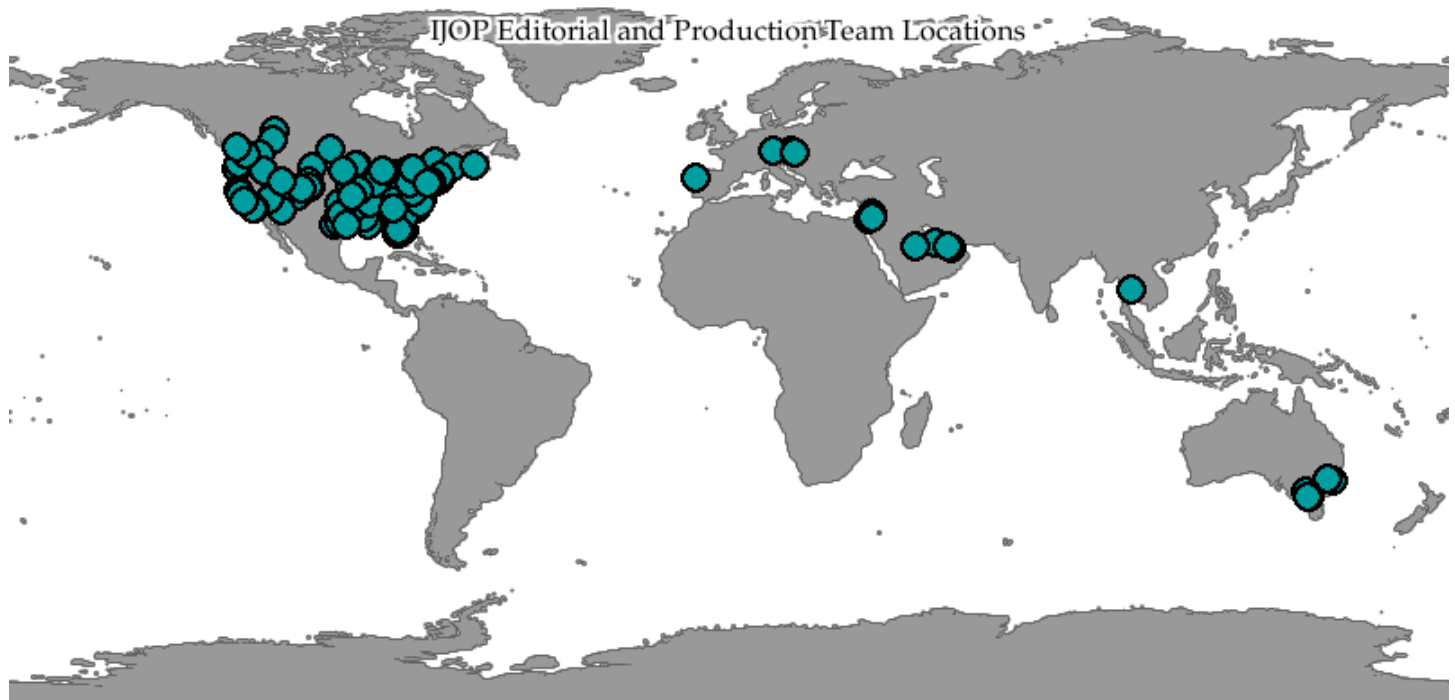
Katherine H. West, RN, BSN, MEd — Consultant, Infection Control Emerging Concepts, LLC: Palm Harbor, FL, USA

Marquita F. Whisonant, EdD(c), MS, CNS, NRP — Assistant Director, Center for Trauma & Critical Care Education, Virginia Commonwealth University; Assistant Professor, Reynolds Community College: Henrico, VA, USA

Joseph Williams, IV — National Director, Healthcare IT Products, Quality Outcomes Research Analytics, American Heart Association (AHA): Detroit, MI, USA

Matthew M. Womble, EMT-P(Ret), MHA — Regional Chief Operating Officer, American Red Cross (ARC): Edenton, NC, USA

Joshua A. Worth Sr, BS, NRP, CEMSO — Chief of EMS Operations, Medical Rescue Team South Authority; Member, Board of Directors, American Paramedic Association (APA): Pittsburgh, PA, USA



International Journal of Paramedicine (online ISSN 2831-6967) is an official journal of the National EMS Management Association. It is published quarterly by the National EMS Management Association, 2901 Williamsburg Terrace, Suite G, PO Box 472, Platte City, MO 64079. This journal is published exclusively online as an open-access resource at <https://internationaljournalofparamedicine.com>. Information on submissions is available at <https://internationaljournalofparamedicine.com/index.php/ijop/about/submissions>. Editorial query letters may be addressed to Mic Gunderson, Editor-In-Chief, at mic.gunderson@internationaljournalofparamedicine.com. For inquiries about sponsorships or advertising, please contact Pat Songer, Executive Director, National EMS Management Association; +01 816-858-6172; info@nemsma.org. Copyright © 2025 National EMS Management Association under Creative Common Attribution 4.0 International (CC BY-ND 4.0) licensing. Additional terms apply and can be accessed at <https://creativecommons.org/licenses/by-nd/4.0/>.

Copyright © 2025 National EMS Management Association. All rights reserved.

Table of Contents

July-September, 2025

Number 11

EDITORIALS

Ambulance Deserts: A Critical Challenge for EMS

Leadership in Achieving Equitable Emergency Care Access.....10
Barishansky R

RESEARCH REPORTS

Mental Health Symptoms, Stressors, and Coping: An Exploration of First

Responder Experiences Working in Rural, Suburban, and Urban Areas.....16
Torgerson C, Taylor N, Hughes M, Chapman K, & Kennel J

Strengthening EMS in Malawi: Piloting World Health Organization

Basic Emergency Care for Prehospital Providers in Zomba, Malawi.....36
Malherbe P, & Makunganya S

Integrating Community Paramedicine Topics into Degree-Level

Paramedic Education Programs: A Strategic-Pragmatic Approach.....55
O'Meara P, Wingrove G, & Ahlers M

CONCEPTS

Improving the Interfacility Transport Experience:

Development of a Mobile Delirium / Hospice Box72
Tillett Z, Troncoso R, Garfinkel E, Levy M, Cripso M, & Margolis A

LITERATURE SURVEILLANCE

Paramedicine Contents: December 2024 - February 202578

Buck B & McAdams J

Paramedicine Literature Search: December 2024 - February 2025.....83

Maxwell S & Morrissey B

GUIDELINES

Guidelines for Authors133



EDITORIALS

AMBULANCE DESERTS: A CRITICAL CHALLENGE FOR EMS LEADERSHIP IN ACHIEVING EQUITABLE EMERGENCY CARE ACCESS

Raphael M. Barishansky, DrPH*¹*Author Affiliations:* 1. RMB Consulting Services, LLC, USA.*Recommended Citation:* Barishansky, R. (2025). Ambulance deserts: A critical challenge for EMS leadership in achieving equitable emergency care access. *International Journal of Paramedicine*. (11), 10-13. <https://doi.org/10.56068/SVZN3119>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3414>.*Keywords:* ambulance, leadership, policy, funding, emergency medical services, EMS, paramedicine*Disclosures:* None.*Funding:* External funding was not used to support this work.*Received:* May 26, 2025*Revised:* NA*Accepted:* May 26, 2025*Pre-Issue Release:* June 11, 2025*Published:* July 8, 2025*Revision Published:* July 10, 2025**Corresponding Author:*rbarishansky@gmail.com*Revision:* The references were in error. Corrections have been made to the in-text citations and endnotes in this version.

ABSTRACT

The growing prevalence of ambulance deserts—geographic areas where residents live more than 25 minutes from the nearest ambulance station—poses a critical threat to health equity and public safety in the United States. Rooted in systemic underinvestment, workforce shortages, and fragmented policies, these deserts disproportionately affect rural and underserved communities, where response times can exceed 30 to 60 minutes during life-threatening emergencies. This paper examines the structural determinants of ambulance deserts, including the lack of statutory recognition of EMS as an essential service, outdated reimbursement models, and the absence of coordinated sustainability planning. Drawing on two decades of leadership experience across EMS, public health, and government, the author outlines five strategic actions for EMS leaders: securing essential service designation, advancing statewide sustainability plans, advocating for readiness-based funding, expanding Medicaid reimbursement pathways, and strengthening the EMS workforce. The paper also explores global parallels, offering key lessons for international health and emergency systems. Ultimately, ambulance deserts must be reframed as a public health emergency requiring bold leadership, integrated policy reform, and sustained public investment. EMS leaders are uniquely positioned to drive this transformation—if they act decisively and strategically.

In the United States, the public's expectation that dialing 911 will summon rapid emergency medical response is foundational to trust in the healthcare and public safety systems. However, this assumption is becoming increasingly untenable in many parts of the country. The emergence of ambulance deserts—defined as geographic areas where residents live more than 25 minutes from the nearest ambulance station—has exposed profound and dangerous inequities in prehospital emergency care access (Maine Rural Health Research Center, 2023).

This issue is particularly pronounced in rural and frontier regions, where systemic underinvestment and structural chal-

Author Interview:<https://youtu.be/idTZCBsy42A>

lenges intersect. In some counties, response times exceed 30, 40, or even 60 minutes, significantly increasing mortality risk in time-sensitive emergencies such as cardiac arrest, stroke, or trauma (Carr et al., 2006). Yet, while these trends are alarming, they are not intractable. Addressing ambulance deserts requires bold, informed leadership from within the EMS profession.

While this issue is acutely visible in the United States, the trends are mirrored in many countries where EMS infrastructure and policy have not kept pace with population needs—particularly in rural and under-resourced regions.

STRUCTURAL DETERMINANTS OF AMBULANCE DESERTS

The persistence of ambulance deserts reflects a confluence of factors: chronic underfunding of EMS systems, reliance on inadequate fee-for-service reimbursement models, workforce shortages exacerbated by geographic and economic disparities, and fragmented policy frameworks that fail to recognize EMS as a critical component of public infrastructure (National Association of State EMS Officials [NASEMSO], 2020).

Despite being the front line of healthcare in emergencies, EMS is not universally recognized as an essential service in the United States—unlike police and fire services. This statutory omission undermines consistent funding, workforce development, and system planning. The consequences are most visible in rural and underserved communities, where EMS agencies are often volunteer-based and financially precarious.

STRATEGIC ACTIONS FOR EMS LEADERS

EMS leaders must take an active role in reshaping policy, financing, and operations to confront and reverse the trend of ambulance deserts. Five key strategies are outlined below:

1. ADVOCATE FOR STATUTORY RECOGNITION OF EMS AS AN ESSENTIAL SERVICE

Only 11 U.S. states explicitly designate EMS as an essential service, a status that mandates public funding and system accountability. This designation must include clear statutory language regarding form, function, and financing.

Action: EMS leaders should engage state legislators using local data, case studies, and stakeholder coalitions to secure formal recognition of EMS as essential. This recognition can catalyze more stable funding and inclusion in state infrastructure planning (Barishansky, 2024).

2. PROMOTE STATEWIDE EMS SUSTAINABILITY PLANNING

A comprehensive sustainability plan is vital to ensure long-term EMS viability. Such plans should include service delivery assessments, financial modeling, workforce projections, and regionalization strategies.

Action: EMS professionals should collaborate with departments of health and emergency management to develop or update these plans. Offering technical expertise and participating in state-level task forces can advance sustainable system design (NASEMSO, 2020).

3. ADVOCATE FOR READINESS-BASED FUNDING

EMS systems must maintain constant operational readiness, including staffing, equipment, and training—even when not actively responding to calls. Yet current reimbursement models pay only for transport, creating financial disincentives that jeopardize readiness.

Action: Leaders should frame EMS funding as a public safety investment akin to fire or law enforcement readiness, advocating for state and federal appropriations to support baseline preparedness (National Highway Traffic Safety Administration [NHTSA], 2019).

4. EXPAND MEDICAID REIMBURSEMENT PATHWAYS

Innovative reimbursement mechanisms such as treatment-in-place, community paramedicine, and non-transport encounters offer opportunities to stabilize EMS agency revenue and enhance patient-centered care.

Action: EMS agencies should work with state Medicaid programs to adopt and scale models pioneered in states like Minnesota, Georgia, and Tennessee. Evidence from pilot programs indicates improved patient outcomes and system savings.

5. STRENGTHEN AND SUSTAIN THE EMS WORKFORCE

Recruitment and retention challenges are acute, particularly in rural areas. A robust EMS workforce strategy must include educational pipelines, scholarship and tuition assistance, rural incentives, and internal career advancement pathways.

Action: EMS leaders should form partnerships with academic institutions, pursue legislative support for workforce development programs, and build internal leadership development frameworks (Institute of Medicine, 2007).

GLOBAL IMPLICATIONS: LESSONS FOR INTERNATIONAL HEALTH AND EMERGENCY SYSTEMS

Although this analysis focuses on the United States, the phenomenon of ambulance deserts—and the underlying systemic challenges that create them—offers important lessons for policymakers around the world. Countries with rural, remote, or underserved populations face similar obstacles: uneven EMS coverage, under-resourced services, and challenges sustaining a qualified workforce.

In many high- and middle-income countries, EMS is increasingly expected to serve as the connective tissue between public safety and healthcare systems. Yet as the U.S. experience illustrates, when EMS is not structurally embedded in health and emergency planning—with statutory recognition, reliable financing, and integrated governance—inequities can deepen, particularly outside of urban centers.

Several cross-cutting lessons for international consideration include:

- Recognizing EMS as Essential Public Infrastructure: Formal designation of EMS as an essential service enables consistent public investment and helps guard against regional disparities in access.
- Financing for Readiness, Not Just Activity: Payment systems that reimburse only for patient transport fail to reflect EMS's core mission: being prepared to respond.

Readiness-based funding models can support preparedness and resilience, particularly in low-volume or rural settings.

- Investing in Rural and Frontier EMS Capacity: Targeted workforce incentives, educational pipelines, and community-based models (like community paramedicine) can help build EMS capacity in hard-to-serve areas.
- Integrating EMS into Broader Health and Disaster Systems: EMS should not operate in a silo. International planners should ensure that EMS is coordinated with hospitals, primary care, and disaster preparedness programs.

The U.S. experience with ambulance deserts is both a cautionary tale and a call to action. For countries seeking to strengthen health equity, system resilience, and emergency preparedness, ensuring timely access to EMS must be seen not as a luxury, but as a baseline responsibility of government and public health.

CONCLUSION: REFRAMING EMS AS CRITICAL INFRASTRUCTURE

Ambulance deserts are not merely logistical inconveniences; they are public health emergencies hidden in plain sight. Their persistence threatens not only individual patient outcomes but also system-wide preparedness and resilience. For EMS leaders, this is not simply a challenge of management—it is a test of vision, voice, and advocacy.

Addressing ambulance deserts will not be achieved through piecemeal efforts or passive reliance on legislative reform. It will require assertive and informed leadership from those within the EMS profession, supported by data, coalitions, and persistent public engagement. As the frontline stewards of emergency care, EMS leaders must lead the charge in redefining EMS as an essential, funded, and equitable component of America's public health and safety infrastructure.

REFERENCES

- Barishansky, R. M. (2024, September 9). Opinion: EMS Is an essential service — States should make it official. *Government Technology*. <https://www.govtech.com/em/safety/opinion-ems-is-an-essential-service-states-should-make-it-official>
- Carr, B. G., Caplan, J. M., Pryor, J. P., & Branas, C. C. (2006). A meta-analysis of prehospital care times for trauma. *Prehospital Emergency Care*, 10(2), 198–206. <https://doi.org/10.1080/109031205000541324>
- Institute of Medicine (U.S.). (2007). *Emergency medical services: At the crossroads*. National Academies Press. <https://doi.org/10.17226/11629>
- Jonk, Y., Milkowski, C., Croll, Z., & Pearson, K. (2023). *Ambulance deserts: Geographic disparities in the provision of ambulance services*. Maine Rural Health Research Center. <https://www.ruralhealthresearch.org/publications/1596>
- National Association of State EMS Officials (NASEMSO). (2020). *Model EMS System Guidelines*. <https://nasemso.org/wp-content/uploads/2020/12/National-Model-EMS-System-Guidelines.pdf>
- National Highway Traffic Safety Administration (NHTSA). (2019). *National EMS Assessment 2019*. U.S. Department of Transportation. <https://www.ems.gov/pdf/National-EMS-Assessment-2019.pdf>

THIS PAGE IS INTENTIONALLY BLANK



**JOIN
NEMSMA**

With nearly 800 members, NEMSMA represent CEO's, chiefs, and managers from every state and type of service, offering voice and vision for professional development and leadership.

NEMSMA is a frequent participant in panels, workgroups, and boards involving EMS in both governmental and non-governmental sectors.



NATIONAL
EMS
MANAGEMENT
ASSOCIATION

RESEARCH REPORTS

MENTAL HEALTH SYMPTOMS, STRESSORS, AND COPING: AN EXPLORATION OF FIRST RESPONDER EXPERIENCES WORKING IN RURAL, SUBURBAN, AND URBAN AREAS

Chelsey N. Torgerson, PhD^{*1}; Nicole L. Taylor, MA¹; Marena Hughes, MA²; Kyle A. Chapman, PhD²; Jamie Kennel, PhD, NRP^{3,4}

Author Affiliations: 1. Counseling, Therapy, and School Psychology Department, Lewis and Clark College, Portland, OR, USA; 2. Humanities and Social Sciences Department, Oregon Institute of Technology, Klamath Falls, OR, USA; 3. Emergency Medical Services Department, Oregon Institute of Technology, Klamath Falls, OR, USA; 4. Elson S Floyd College of Medicine, Washington State University, Spokane, WA, USA.

Recommended Citation: Torgerson, C., Taylor, N., Hughes, M., Chapman, K., & Kennel, J. (2025). Mental Health Symptoms, Stressors, and Coping: An Exploration of First Responder Experiences Working in Rural, Suburban, and Urban Areas. *International Journal of Paramedicine*. (11), 16-35. <https://doi.org/10.56068/SCUS4555>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3131>.

Keywords: first responders, mental health, coping, emergency medical services, EMS, paramedicine

Disclosures: None.

Funding: External funding was not used to support this work.

Received: May 24, 2024

Revised: March 7, 2025

Accepted: April 8, 2025

Pre-Issue Release: June 11, 2025

Published: July 8, 2025

Corrigendum Published: August 4, 2025

**Corresponding Author:*

torgersonc@lclark.edu

ABSTRACT

EMS first responders provide essential services to communities in rural, suburban, and urban locations across the United States. While the mental health experiences of first responders have been generalized across all geographic locations, less is known about the mental health differences among rural, suburban, and urban first responders. This study explored mental health symptom profiles, job stressors, coping mechanisms, and mental health resource availability of 118 first responders providing services in rural, suburban, and urban locations throughout Oregon. First responder agencies across Oregon were contacted by researchers and asked to distribute the electronic survey. First responders who received a survey link volunteered to anonymously participate in the study. Findings indicate common challenges as well as unique differences among first responders in different geographic locations. First, mental health profiles of the participants were provided. Symptoms of depression, generalized anxiety, suicidal ideation, PTSD, and bipolar disorder were present in participants. Depression, generalized anxiety, and PTSD was more evident in first responders in urban/suburban areas, while risk of suicide was more prevalent in rural first responders. Second, three primary themes of stressors were identified (along with a fourth “other” category): 1) larger societal stressors impacting first responders; 2) job-related stressors; mental health, relational, and 3) financial stressors from being a first responder. Sub-categories within themes ranged from organizational, patient-related, and position-specific stressors to financial, intrapersonal, and interpersonal stressors. Two themes of stress management were identified: function/purpose of coping strategies and coping strategies without an identified function/purpose. Suggestions, from respondents and authors, for EMS agencies are provided throughout. Future research is outlined.

INTRODUCTION

Emergency Medical Service (EMS) clinicians, henceforth called first responders, provide around-the-clock critical and lifesaving care in communities across the country. Unfortunately first responders experience higher rates of various mental health conditions when compared to the general public, including post-

Author Interview:

<https://youtu.be/Cj4GPCa9l3Q>



traumatic stress disorder (PTSD), depression, anxiety (e.g. Jones, 2017; Kleim & Westphal, 2011), substance misuse, and suicidal ideation (SAMHSA, 2018). These mental health conditions can have widespread impacts including quality of life (Cieslak et al., 2014) and the care they provide to their communities (SAMHSA, 2018). While the general role of first responders is similar across communities, the nature and characteristics of a community's emergencies, as well as the EMS resources available to respond to those emergencies, vary widely across communities (Iglehart, 2018; Greenwood-Ericksen & Kocher, 2019).

In Oregon, most EMS agencies (69%) are in rural areas and respond to emergencies in rural geographies (Oregon Rural & Frontier Emergency Medical Services, 2019). First responders in rural settings face unique job stressors when compared to their urban counterparts, potentially increasing the incidence of mental health conditions (Jones et al., 2023). For example, first responders in rural areas may be more likely to encounter patients they know personally due to smaller population sizes, though the effects of this remain unknown. Further, rural first responders are more likely to be volunteers as opposed to paid clinicians, a demographic with an increased risk of developing mental health conditions such as PTSD (Kleim & Westphal, 2011). Other stressors in rural EMS settings include limited resources and insufficient staffing, which result in increased workloads (Jones et al., 2023), which may also be experienced by urban and suburban first responder agencies (e.g. Watson, 2024). Additionally, first responders in urban areas may experience more frequent call volumes given the population density, which may result in a day-to-day stress for these first responders. Though findings suggest that being a first responder is stressful and mental health resources may be lacking across all locations, it remains unclear if rural and urban first responders are exposed to similar job stressors, have access to comparable organizational support services, or experience disparate rates of mental health conditions.

To address job stressors, many EMS systems have instituted Employee Assistance Programs (EAP) as well as peer support counselors to varying degrees of effectiveness (Levenson et al., 2012). While many rural EMS agencies have EAP, others still do not, which may leave rural first responders particularly exposed to increased job stressors without the support of formal mental health services (Jones et al., 2023). Without the support of EAP or peer support programs, first responders may utilize effective coping strategies such as visualization, emotional distancing, and humor, as well as harmful coping strategies such as self-medicating and alcohol abuse. Instead of decreasing stress, research demonstrates ineffective coping leads to increased family stress, including heightened rates of divorce (Regehr et al., 2002).

The purpose of this study is to identify if there are geographic differences in first responder mental health, job stressors, and coping resources by investigating (a) mental health symptom profiles; (b) common job stressors; (c) common job coping mechanisms; and (d) the mental health resources made available by the EMS agency.

METHODS

PARTICIPANTS AND RECRUITMENT

The sample included 118 adults over the age of 18 who were either employed or volunteered as a first responder in the state of Oregon. Professions included in the study were emergency medical technicians, paramedics, telecommunicator, and firefighters that

are front line workers at rural fire departments and ambulance transport agencies. The study excluded police officers and social workers. Participants were recruited by contacting first responder agencies and individuals directly across the state of Oregon. Contacts, mostly administrators at agencies, disseminated an invitation to participate with employees of their organizations via email. Participants then self-selected to participate in the study on a volunteer basis.

	Total (n=118)		Urban Work (n=33)		Suburban Work (n=31)		Rural Work (n=54)	
	n	%	n	%	n	%	n	%
Age								
mean, IQR	33, 11.4		27, 11		34, 16		37, 22	
Gender								
Female	34	29%	11	33%	8	26%	15	28%
Male	83	70%	21	64%	23	74%	39	72%
Race								
White non-Hispanic	107	91%	31	94%	29	94%	47	87%
BIPOC	11	9%	2	6%	2	6%	7	13%
Relationship Status								
Single	12	10%	4	12%	5	16%	3	6%
Dating	19	16%	8	24%	1	3%	10	19%
Married	79	67%	18	55%	23	74%	38	70%
Divorced	8	7%	3	9%	2	6%	3	6%
Sexual Orientation								
Hetero	98	83%	25	76%	25	81%	48	89%
LGBTQIA+	20	17%	8	24%	6	19%	6	11%
Parent Status								
Parent	68	58%	12	36%	19	61%	37	69%
Not a Parent	49	42%	21	64%	12	39%	16	30%
Income								
<\$100K	68	58%	22	67%	13	42%	33	61%
>\$100K	50	42%	11	33%	18	58%	21	39%
Part-time or full time								
Full-time Paid	97	82%	31	94%	25	81%	41	76%
Part-time Paid	11	9%	2	6%	4	13%	5	9%
Volunteer	10	8%	0	0%	2	6%	8	15%
Professional Identity								
Firefighter	27	23%	3	9%	8	26%	16	30%
Paramedic	68	58%	27	82%	18	58%	23	43%
EMT	13	11%	1	3%	4	13%	8	15%
First Responder	2	2%	0	0%	0	0%	2	4%
Dispatcher	1	1%	0	0%	0	0%	1	2%
Fire-Paramedic	6	5%	2	6%	1	3%	3	6%
Emergency Chaplin	1	1%	0	0%	0	0%	1	2%
Years of Service								
mean, IQR	20, 15		17, 10		23, 16		19, 17	

Table 1. Participant Demographics (N=118).

MATERIALS AND PROCEDURES

The study used an electronic Qualtrics survey to gather data. The survey included two primary components: quantitative measures of mental health questionnaires and diagnostic scales, and a series of open-ended qualitative questions related to issues of job stress, stress management strategies, and available resources for stress management. In addition to the quantitative and qualitative components, participants were asked a range of demographic questions including age, race, relationship and parenting status, gender identity, sexual orientation, income, professional identity, employment status, years of service, and geographic location. Identifying information was not gathered to protect participant anonymity. Geographic location was measured as rural, suburban, and urban. Participants self-identified their geographic location and specific definitions of rurality were not provided given the various and conflicting definitions of rural, urban, and suburban across many governmental agencies (e.g. Airgood-Obrycki et al., 2020). The USDA highlights the issue that individuals use geographical location for different purposes and have varying ways of defining rurality (USDA, 2025). In addition, others have found a disconnect between agency definitions such as RUCA (Rural-Urban Commuting Areas) and self-reported measures of geographic location among health care providers (Castle & Tak, 2021). Therefore, rather than providing a definition that may conflict with an individual's own understanding of their workplace, we elected to rely on self-reported identification of geographic location. The study protocol was reviewed and approved by the Institutional Review Board (IRB: 2019-27) at the Oregon Institute of Technology. Data collection took place in the late spring and early summer of 2021.

QUANTITATIVE MEASURES

Depression. Depression symptoms were assessed using the Patient Health Questionnaire (PHQ-9; Kronke et al., 2001). This measure includes 9 items, each measured on a 4-point Likert scale from 0 (*not at all*) to 3 (*nearly every day*). Participants were asked to respond to the questions based on the frequency of symptoms over the previous 2 weeks. Responses were summed to calculate an overall depression symptom score. Clinical cutoff for this measure is 10, which indicates a likelihood of a moderate depression.

Anxiety. Anxiety symptoms were assessed using the Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006). This measure includes 7 items, each rated on a 4-point Likert scale from 0 (*not at all*) to 3 (*nearly every day*). Participants were asked to respond to the questions based on the frequency of symptoms over the previous 2 weeks. Responses were summed to calculate the total anxiety symptom score, with a clinical cutoff of 8 (Plummer et al., 2016) and scores greater than 10 indicating moderate anxiety.

PTSD. Posttraumatic stress disorder (PTSD) symptoms were assessed using the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5; Weathers et al., 2013). This measure includes 20 items about a stressful event(s), each rated on 5-point Likert scales from 0 (*not at all*) to 4 (*extremely*). Participant responses were summed for an overall PTSD score, with a clinical cutoff of 31 indicating a likelihood of a PTSD diagnosis.

Bipolar. Symptoms of bipolar disorder were assessed using the Mood Disorder Questionnaire (MDQ; Hirschfeld, 2000). The MDQ is a five-part questionnaire. Part 1 includes 13 “yes/no” questions about the presence of symptoms. Part 2 includes a “yes/no” question about multiple symptoms being present at the same time. Part 3 asks about the impact of

symptoms on daily functioning using a 4-point scale ranging from *no problem* to *serious problem*. Part 4 includes a “yes/no” question about family history, and Part 5 consists of a “yes/no” question about a discussion with a medical provider. A clinical cutoff was indicated when the participant answered “yes” to 7 or more of the events in Part 1, answered “yes” to Part 2, and indicated *moderate problem* or *serious problem* for Part 3.

Suicide. Suicidal ideation was assessed using the Suicidal Ideation Attributes Scale (SI-DAS; Van Spijker et al., 2014). This measure includes 5 items, each focusing on a different aspect of suicidal thoughts, including frequency, controllability, closeness to attempt, distress associated with the thoughts, and the impact of thoughts on daily functioning. Responses were measured on a 10-point Likert scale ranging from 0 to 10. Each item in the questionnaire utilized a different definition of 0 to 10 in the Likert scale. Items were coded and summed. Higher scores indicated a higher risk of severe suicidal thoughts.

QUALITATIVE/OPEN-ENDED QUESTIONS

Respondents were asked a series of open-ended questions about job-related stress, reward, and resources. Specifically, respondents were asked the following questions:

- “What is stressful about your job?”
- “When you are feeling stressed or overwhelmed, what do you do to manage those feelings?”
- “What resources are available to help you combat stress from your job?”

ANALYSIS

DESCRIPTIVE STATISTICS

We conducted a descriptive analysis to demonstrate sample characteristics of the EMS clinicians by demographics (Table 1) and clinical characteristics (Table 2), stratified by geographic categories.

QUALITATIVE ANALYSIS

The analytical approach for the qualitative survey questions followed a conventional thematic analysis approach (Braun & Clarke, 2019). The responses were somewhat limited in their depth of description, explanation of meaning, and detailed accounting making more interpretive or discursive analysis inappropriate (Braun et al., 2021). Following the best practices outlined by Braun and Clarke (2023), the open-ended survey questions were meticulously reviewed multiple times, with the researchers taking initial notes based on their knowledge of mental health and emergency services. Two researchers with a background in mental and behavioral health manually coded the responses using a range of coding techniques including descriptive coding and criterion coding. The process largely followed the codebook thematic analysis approach (King & Brooks, 2018). The researchers implored a comparative approach ensuring agreement of coding labels. Attention was primarily focused on questions related to sources and management of job-related stress. As the questions of the survey were largely independent, analyzing responses as a coherent narrative was not possible. Each question was independently coded, and codes were then grouped in meaningful categories. At this stage, other members of the research team with backgrounds in social sciences and emergency medical services were included in the analysis process. Categories were identified and reviewed

by each team member. Some of the codes were revisited, and discussion of categories and potential themes emerged. Specifically, extensive discussion occurred about the identification of the data related to stress management due to the information provided by participants. Ultimately, data was organized by the mechanisms, or actions taken, as well as the function or purpose of those actions.

RESULTS

A total of 161 participants started the survey and 118 completed it (27% attrition). Of the 118 most participants worked in rural settings (54%), were men (70%), identified as non-hispanic white (91%), were married (67%), and worked in EMS in a paid full time capacity (82%). When compared to participants in urban settings, suburban and rural participants tended to be older (mean of 27 years old versus 34 and 37 respectively), had a higher percentage of participants who were married (55% urban versus 74% suburban and 70% rural), were more likely to be a parent (36% urban versus 61% suburban and 69% rural), and had a smaller proportion of participants who were employed in EMS on a full time basis (94% urban versus 81% suburban and 76% rural) (Table 1)

MENTAL HEALTH SYMPTOM PROFILE OF FIRST RESPONDER PARTICIPANTS

Table 2 presents a simple mental health symptom profile of the study participants. Data presented in this table is organized using clinical cutoff scores outlined by each measure. Symptoms of depression, generalized anxiety, suicidal ideation, PTSD, and bipolar disorder were present in participants. Depression, generalized anxiety, and PTSD appeared to be more evident in first responders in urban/suburban areas, while risk of suicide was more prevalent in rural first responders.

	Total (n=118)		Urban Work (n=33)		Suburban Work (n=31)		Rural Work (n=54)	
	n	%	n	%	n	%	n	%
Depression								
Mod-Severe	34	29%	11	33%	8	26%	15	28%
Generalized Anxiety								
Mod-Severe	65	55%	22	67%	17	55%	26	48%
Suicide								
Risk	65	55%	17	52%	16	52%	32	59%
High-risk	6	5%	3	9%	2	6%	1	2%
PTSD								
Positive Screening	42	55%	15	45%	10	32%	17	31%
Bipolar Disorder								
Positive Screening	11	9%	3	9%	2	6%	6	11%

Table 2. Mental Health Symptoms & Clinical Cutoff Scores (N=118).

PARTICIPANT IDENTIFIED STRESSORS OF BEING A FIRST RESPONDER

Participants were asked to identify stressors associated with being a first responder. We did not provide a definition of stress so as not to bias participants to answer the open-ended questions through a particular lens; therefore, participant responses are re-

flective of their individual perceptions of stress. Four themes of stressors were identified and are described below: Larger societal stressors impacting first responders; job-related stressors; mental health, relational, and financial stressors from being a first responder; and other responses.

LARGER SOCIETAL STRESSORS IMPACTING FIRST RESPONDERS

This theme reflects the broader socio-cultural-political stressors impacting first responders. This theme was exclusive to those living in urban/suburban areas. Participants mentioned social issues such as racism, widespread mental health concerns, housing issues, and the ongoing COVID-19 global pandemic. Codes within this category included COVID-19 and societal problems.

Categories	Codes	Examples from the Data
Larger Societal Stressors that Impact First Responders	COVID-19	"COVID-19 pandemic has increased my stress substantially. Before the pandemic I was rarely stressed, overwhelmed and anxious."
	Societal Problems	"racism"
		"Massive societal problems that people not in my job are unable to see, and I am unable to change. Such as massive widespread 911 and ER abuse. Rampant mental health problems where resources are allocated to the wrong people, and upper management not seemingly caring about EMS. For example how EMS are not receiving the covid vaccine first but administrators at the hospitals are."
		"Providing care for those that do not care for themselves. Caring for those that chronically want to hurt themselves- it's a feeling that I am one person prowling the entire county and attempting to stop people from hurting themselves. I want to ask them how it would feel if their primary goal is to stop me from harming myself- with me having a myriad of ways to do so 24/7. I feel that my responsibility as a medic is often chasing down a person running away from me as they slice their wrists while demanding that I put a stop to it."

Table 3.1. Larger Societal Stressors that Impact First Responders.

Note: Categories, codes, and examples from the data related to larger societal stressors that impact first responders.

JOB-RELATED STRESSORS

Participants identified several stressors due to the nature of their roles as first responders. Data was organized into four categories: agency and organizational stressors, position-specific stressors, stressors related to calls, and stressors related to patients.

Agency & Organizational Stressors. Participants named stressors specific to their respective agencies or organizations. Notably, several participants identified systemic issues within the field, ranging from a lack of communication within the agency they service to a broken public services system at-large. Another stressor identified was a lack of training. Urban/suburban respondents more frequently mentioned issues with management as a source of organizational stress.

Position-Specific Stressors. Participants also identified stressors that are unique to their roles. These stressors ranged from interrupted or lack of sleep to the weight of the responsibility of the crisis-response nature of their positions. There were several references to the "tough life-or-death" or "critical" nature of decision-making that is required of being a first responder. While urban/suburban respondents also mentioned this type of decision-making, this was particularly prominent among rural first responders. For example, one participant stated: "Many of my work-related responsibilities mean that my performance occurs at incredibly critical moments in the peoples' lives I serve. It can be

stressful to maintain acceptable levels of competency related to all the different critical 'hats' I wear."

Categories	Codes	Examples from the Data
Agency & Organizational Stressors	Lack of Training	"the lack of training, but the expectation to know the answers"
	Systemic Issues	"broken public services systems"
		"broken system, ineffective and unwilling to address route issues without monetary compensation"
		"No access to bathrooms, limited quarters, short hospital times, late calls, and the hazards without compensation (i.e. safety, lack of assistance from mutual aid providers)."
		"politics about getting proper certifications while waiting for organization to offer trainings."
Position-Specific Stressors	Lack of Sleep	"Most stressful part of my job isn't the emergency calls themselves. It is more the changes organizationally, lack of communication about changes or information needed for my position."
		"the most stressful part of my job is the lack of sleep that often accompanies it."
		"interrupted sleep with no pattern"
	Responsibility of Role	"lack of good quality sleep while at work."
		"Decisions that are life and death. Choosing who may get treatment to live and who may not. Dealing with grieving parents/children/family members/friends"
		"Many of my work related responsibilities mean that my performance occurs at incredibly critical moments in the peoples' lives I serve. It can be stressful to maintain acceptable levels of competency related to all the different critical 'hats' I wear."
		"there is so much expected from me but no one will help me improve myself. I feel like I'm going to fail everyone."
	Role of Supervision	"Making the tough life death decisions and carry them out. Never knowing what might need to be dealt with."
		"managing 100 employees in between calls", another said, "pressure to perform as a leader"
		"people not doing their job that I supervise."
	Workload	"I've moved from the front line to administration. The most stressful part of my job is the people I supervise. I work tirelessly to make sure they are well taken care of, have the best resources available to keep them safe, etc. I just worry about their well being and safety on the job the most."
		"workload"
		"Being too busy"
		"workload outside of my normal call volume."
Stress Related to Calls	Stress Related to Calls	"the seemingly endless paperwork"
		"Call volume"
		"past traumatic calls"
		"certain emergent situations can be very stressful"
		"kid calls, alcohol calls, abuse calls"
		"walking into situations completely different than what we were dispatched for"
Stress related to patients	Perceptions of abuse of the system	"the unexpected and the constant waiting for a critical call".
		"stupid people calling 911 for stupid reasons"
		"the amount of 911 calls that are not 911, breaking the system"
		"people that abuse the 911 system"
	Violence Toward Provider	"Constant Driving. Dealing with the same bullshit people and their bullshit problems over and over again who see me as nothing more than a taxi cab to where they can go and waste the ER's time multiple times a day. And the fact that the city of Portland encourages and caters to these pieces of shit to pursue their lifestyle (over hard working, contributing, citizens like myself) while the state of Oregon taxes me a ridiculous amount so that they can maintain it."
	Repeat Patients	"the behavior and shelter seeking calls are endless. They are most likely to get unpredictable and violent with us in the back alone."
	High Acuity Patients	"seeing the same person again and again and being unable to help them in a way that is sustainable."
		"frequent high acuity patients"

Table 3.2. Job Related Stressors.

Note: Categories, codes, and examples from the data related to job related stressors.

Similarly, supervisors reported that their role in overseeing employees added to the stress of their jobs and this was more commonly discussed among those in rural areas. Finally, sleep, along with additional duties such as documentation, was mentioned numerous times in various ways by participants as impacting their overall wellbeing.

Stressors Related to Calls. Many participants, especially those in urban/suburban settings, reported that call volume and the type of call impacted their stress levels. It appears that some calls, such as those involving children, alcohol-related incidents, or instances of abuse, may be more difficult or stressful. Other participants mentioned the anticipation of a tough call is challenging.

Stressors Related to Patients. Interestingly, some participants across locations have a perception that people misuse the 911 system. One participant provided detailed context of the city in which they provide services to articulate this perceived system misuse. Other stressors included violence toward the first responder, repeatedly providing services to the same person, and trying to provide care to people with high acuity symptoms.

MENTAL HEALTH, RELATIONAL, AND FINANCIAL STRESSORS FROM BEING A FIRST RESPONDER

Participants across geographic locations identified several stressors related to mental health, trauma exposure, relationships, and finances that impact first responders. Categories in this theme are intrapersonal stressors, interpersonal stressors, and financial stressors.

Intrapersonal Stressors. Participants across geographical locations frequently mentioned witnessing traumatic events, reliving traumatic calls, and the challenge of remaining calm while helping people in crisis. Participants also reported that the public's perception of first responders adds to their stress. Additionally, managing the uncertainty of their role and the results of their decisions made on calls were mentioned as sources of stress.

Interpersonal Stressors. Interestingly, the only stressful relationships mentioned in the data were related to conflicts with coworkers or working with colleagues perceived as indifferent.

Financial Stressors. Numerous participants indicated working multiple jobs and being underpaid in their roles as first responders.

OTHER RESPONSES

Some participants provided brief responses such as "not much" or "everything," while others declined to answer by leaving the field blank.

COPING FUNCTIONS AND STRATEGIES OF FIRST RESPONDERS

Participants were asked, "When you are feeling stressed or overwhelmed, what do you do to manage those feelings?" Interestingly, some participants provided both a coping strategy and the purpose or function of the skill while others only listed strategies or skills. Thus, we organized the data for this question into two themes: identified function/purpose of coping strategies and coping strategies without an identified function/purpose.

Categories	Codes	Examples from the Data
Intrapersonal Stressors	Perceptions from the Public	"dealing with the public and politics"
		"everyone, staff and citizens, seem to think they can do my job better than I can."
	Uncertainty	"constant uncertainty of what I am allowed to do and not do, and what I should do verses not doing"
		"the unknown of what the next call could be and if it will be a child"
		"the possibility of the patient having a poor outcome that results in death."
	Mental Health and Trauma	"younger adult/pediatric codes, traumatic events ie mva deaths, seeing dead people in various conditions and positions, remembering calls from past that flash through my memory often, always scrolling calls in my head with possible outcomes and most of them not ending well."
		"seeing people in traumatic situations and doing my best to help them when they're hurt, sick, or dying. I'll sometimes be mentally exhausted after a call when I had to try my hardest to keep someone alive."
		"the hours and schedule, traumatic events, death and dying, providing assistance that seems to not be wanted or appreciated. Helping others in their time of crisis but still needing to remain clam for others. Dealing with your own personal trauma and being triggered by events at work."
	Undervalued	"undervalued by other agencies and government bodies"
Interpersonal Stressors	Conflict with Co-workers	"people I work with"
		"coworkers that don't care"
		"interpersonal conflict with coworkers."
Financial Stressors	Multiple jobs	"multiple jobs"
	Underpaid	"Not even close to a livable wage. No tuition reimbursement or real retirement. I know I will be doing this until I physically break. And I will never be able to live without people. And every contract they try to take away more of our benefits and barely give us raises."

Table 3.3. Mental Health, Relational, and Financial Stressors from Being a First Responder.

Note: Categories, codes, and examples from the data related to mental health, relational, and financial stressors.

IDENTIFIED FUNCTION/PURPOSE OF COPING STRATEGIES

Several themes emerged when participants were asked to identify their coping strategies, including coping to avoid, coping to take action, and coping for cognitive restructuring (Folkman & Moskowitz, 2004).

Coping to Avoid. Several participants indicated utilizing various coping strategies to avoid, ignore, distract from, or forget their stressors. These responses were more common among participants in urban/suburban areas. Words such as "ignore" and "avoid" were used throughout participant responses. Some participants engaged in distracting hobbies, while others found productive ways, such as cleaning or organizing, to divert their attention. For some participants, compartmentalizing their stress in the moment, only to process it fully afterward, was a useful way of coping. Others mentioned putting up a front to manage their stress.

Coping to Take Action. Participant responses in this category ranged from taking action by prioritizing tasks or directly addressing the issue, to changing their role or position at work. Participants in rural areas provided details around addressing stressors proactively, whereas participants in urban/suburban areas more frequently cited taking a break.

Coping for Cognitive Restructuring. Some participants reported dwelling on their stressors, acknowledging the impact on their lives before they are able to move forward. These responses did not vary across geographic locations.

Categories	Codes	Examples from the Data
Coping to Avoid	Avoidance	"avoidance"
		"I usually try to ignore those feelings"
		"avoid them, cut them off. I enjoy being reckless on my days off" .
	Distraction or Distract Self	"I usually disconnect from work and distract myself with one of my hobbies. Usually video games are my go to distraction."
		"Stay busy doing something else. I reorganize my house repeatedly and clean to destress."
	Forget stressors	"I often drink to forget about my stressors and the overwhelming feelings."
	Compartmentalize	"I grew up in a very abusive household in a somewhat dangerous neighborhood. I developed thick skin. I have had very difficult medical problems and have to fight to not be a leech on society. So I learned to turn off my feelings. I could do cpr on my mother and my emt brain would take over. I would deal with my emotions later usually a few weeks later. I like to listen to songs and talk to my husband and friends, they are all in EMS as well."
		"push on till I have some down time to replay events"
	Put up a front	"I do my best to keep a "cool" exterior as I "stress" on the inside. I put up a good front to keep others calm."
Coping to take Action	Measure Accomplishments	"Exercise or work at other jobs I can actually measure some accomplishment"
	Prioritize tasks	"try to make list and prioritize my thoughts and jobs."
	Take a break	"Taking a break by reading a book or listening to music by myself is the most immediate thing, also talking to friends or family or co-workers depending on the situation causing the stress. Once I get home going on a run or just a long walk outside is also very helpful."
	Address the Issues	"Try to make progress towards addressing the source of stress. Find healthy ways of "setting" those feelings aside for a period of time. Occasionally escaping via minor intoxication."
		"Make a plan for the things that I can control especially in the moment of stress and reflect after on how I can do things better in the future for similar circumstances."
	Changed Position / Role at Work	"I moved off the car about 2 years ago and my depression and anxiety got a lot better once I had a better schedule and slept in my own bed every night."
Coping for Cognitive Re-structuring	Dwell	"Usually dwell on them, lose sleep for a while and slowly come back to normal"

Table 4.1. Identified Function / Purpose of Coping Strategies.

Note: Categories, codes, and examples from the data related to coping with an identified purpose or function.

COPING STRATEGIES WITHOUT AN IDENTIFIED FUNCTION/PURPOSE

Most participants only listed their preferred coping strategies without providing additional context. Data in this theme were organized into the following categories: active coping, avoidance coping, cognitive restructuring strategies, and social and relational coping strategies, in alignment with existing coping literature (Folkman & Moskowitz, 2004).

Active Coping Strategies. Participants in this category identified several preferred coping strategies, which could be grouped into the following subcategories: life changes, professional therapy approaches, grounding techniques, focus on health, and leisure time. Within each subcategory, data indicated that participants in rural areas were more likely to directly address stressors, while participants in urban/suburban areas were more likely to utilize grounding techniques. Coping strategies focused on health were common across geographic locations, except for sleep, which was more popular for people in urban/suburban areas. Responses in this category typically included a list of activities participants engaged in, such as "skiing," "sleeping," "reading a book," "listening to music," or "practicing relaxation techniques."

Categories	Codes	Examples from the Data
Active Coping Strategies	Life Changes	"take a break"
		"address the issue"
		"start working on the items that are making me feel that way to "lessen the load"
		"Sometimes I take a day off work for myself. "
	Professional therapeutic approaches	"counseling"
		"music therapy"
	Grounding Techniques	"relaxation techniques"
		"meditation"
		"mindfulness"
		"breathe"
	Focusing on Physical health	"avoid alcohol"
		"exercise" or "workout"
		"eat healthy"
		"hiking"
		"skiing"
		"go to sleep"
		"acupuncture and energy work"
	Leisure Time	"hobbies"
		"work on projects"
		"video games"
		"watch TV"
		"listen to music"
		"read a book"
		"play guitar"
		"relax"
		"spend time outside"
		"time alone"
		"write"
Avoidance Coping Strategies	Mental Disengagement	"bury them"
		"ignore them"
		"Shut down and keep to myself for several days."
	Substance Use	"I drink (prob. too much)"
		"Oddly enough I drink a lot of soda or beer which I normally don't do."
		"beer and edibles"
Cognitive Restructuring Strategies	Focus on Venting of Emotion	"Cry"
		"Count the days to retirement"
	Humor	"Humor usually comes first"
	Religious or Faith-based Coping	"Lean on my Faith in God"
		"pray"
Social and Relational Coping Strategies	Social and Relational Coping Strategies	"talk to family"; "talk to partner"; "talk to parent"
		"talk to other professionals"
		"talk to a friend"
		"spend time with family"
		"spend time with friends"
		"socialize"
		"talk"
		"play with the dog "

Table 4.2. Coping Strategies without an Identified Function / Purpose.

Note: Categories, codes, and examples from the data related to coping without an identified purpose or function.

Avoidance Coping Strategies. Participants provided coping strategies that could further be organized into mental disengagement and substance use. Responses varied across geographic locations, with statements like “ignore them” or “self-medicate” being common examples.

Cognitive Restructuring Strategies. Coping strategies in this category could further be organized into focus on and venting of emotions, humor, and religious or faith-based coping. Responses did not appear to be specific to geographic location. Phrases such as “cry,” “humor usually comes first,” and “pray,” were used.

Social and Relational Coping Strategies. Participants across all geographic locations mentioned social or relational coping strategies. Examples included “talk to family” or “spend time with friends.” Participants in urban/suburban areas were more likely to seek support from other professionals.

AVAILABLE RESOURCES FOR FIRST RESPONDERS TO ADDRESS STRESS AND OTHER MENTAL HEALTH CONCERNS

Participants were asked about available resources to address stress, and they largely provided information centered on two categories: support available through their job and support outside their agency. Differences across geographic locations were found, with urban/suburban respondents listing formal services and relationships such as therapists, while rural participants more frequently cited support from personal relationships such as coworkers, friends, and family.

SUPPORTS AVAILABLE THROUGH THE JOB

Participants mainly provided lists of programs and forms of support offered through their employers.

Program Embedded in the Agency. Participants in urban/suburban locations reported Critical Incident Stress Management (CISM; Everly & Mitchell, 1997) Programs were available to them in higher instances than rural participants. Other programs, such as peer support, chaplain services, 24/7 support teams, and therapy through work were also listed.

Benefits through Work. Participants across geographic locations identified benefits through work such as paid time off (PTO), EAP, and health insurance.

Supportive Colleagues. Many participants listed coworkers and supervisors as sources of support and understanding.

SUPPORTS AVAILABLE OUTSIDE OF THE AGENCY

Participants also provided lists of programs and forms of support found outside of their agency.

Personal Supports. Many participants identified positive supports in their personal life, such as partners, family, and friends. These supports were cited by more professionals in rural areas than in urban/suburban areas. Finally, some participants identified their faith or spiritual beliefs as a resource for coping.

Categories	Codes	Examples from the Data
Programs embedded in the agency	Peer support	"peer support"
	Chaplain	"chaplain"
	24/7 support team	"We have several outlets such as a team that is available 24/7 to peer talk about a bad call or just overly stressed in general."
	CISM program	"CISM group (peer lead)"
		"We have an excellent CISM team at work"
		"CISM which is an in-house way of checking on each others mental health"
	Therapy through work	"have a social worker at work that you can talk to anytime"
Benefits through the Work	PTO	"PTO"
	EAP	"EAP"
		"counseling with therapist (employee assistance program)"
		"We have the crisis line available and EAP available. Unfortunately these resources aren't geared toward first responders. When I see an EAP person, I tend to spend most of the time explaining what I do, how it impacts me and my family, etc. I think I stress those folks out more than they help me."
	Health Insurance	"We have health insurance for counseling."
		"All resources are provided by insurance companies or outside sources."
	Time off	"Time off helps me the most"
Supportive Colleagues	Coworkers	"We have a good support system at the station."
		"Coworkers are generally available to talk to each other as needed, and I have several coworkers that I am closer to where we feel comfortable calling each other to talk about stressful things even when off shift."
		"Team environment, coworkers that have been through similar stress, positive working environment."
		"coworkers"
	Supervisors	"Talking to senior staff members that may have experienced some situation"
		"supervisors"

Table 5.1. Supports Available through the Job.

Note: Categories, codes, and examples from the data related to available supports.

Mental Health Services Outside of the Agency. Participants working in urban/suburban settings listed personal therapist outside of work more frequently than those in rural areas. Conversely, participants in rural areas identified hotlines as professional supports more than their urban/suburban counterparts. One participant mentioned starting a support group outside of work independently.

KNOWLEDGE OF AVAILABLE RESOURCES

Participants across geographic locations indicated varying levels of awareness regarding available resources. Some expressed uncertainty about how to access these services, while others reported limited knowledge of the resources available to them. Some respondents mentioned that there were "several" resources accessible to them, while a few indicated that they were unaware of any such resources.

DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

The purpose of this study was to explore geographical differences in first responder's mental health symptoms, job stressors, coping mechanisms, and coping resources. Participant responses indicated geographical differences in all four areas.

Categories	Codes	Examples from the Data
Personal Supports	Positive supports in personal life	"wife"
		"family"
		"friends"
		"close friends and spouse"
	Coping skills	"physical activity and hobbies"
		"walking my dog, reading, tv..."
		"good coping skills"
	Faith	"Faith"
Mental Health Services Outside of the Agency	Support group outside of work	"Not much now, I am working on putting together a support group out side of work"
	Personal therapist	"I see a counselor"
		I also have a mental health counsellor that I see regularly
		"I think we have an EAP but I've heard negative things about it from other people. So I see a private therapist but I pay out of pocket and so I limit how often I see them."
		"local psychologists and mental health advocates"
	Hotlines	"I believe we also have a hotline for emergency workers."
		"Employee support phone line"
		"Helpline"
		"hotlines"

Table 5.2. Supports Available Outside of the Agency.

Note: Categories, codes, and examples from the data related to available supports.

MENTAL HEALTH PROFILES

More than half of the participants surpassed the clinical cutoff threshold for anxiety, suicide risk, and PTSD. This is in line with previous findings (SAMHSA, 2018). Upon examining mental health symptoms by geographic location, variability in symptoms was observed. For example, first responders in rural areas are at a greater risk of suicide than those in urban/suburban areas, consistent with broader research on suicidality in the general population (Centers for Disease Control, 2023). Moreover, anxiety and PTSD were reportedly lower for participants in suburban areas, while depression was higher in this group. Since most mental health symptom reporting for first responders is organized by profession rather than geographic location, these findings are interesting and warrant further exploration. Finally, bipolar disorder symptoms were higher for participants in rural areas. Given the mental health symptoms experienced by first responders across all geographic locations, it is recommended that first responder agencies identify appropriate pathways to support their employees, with particular attention to first responders in rural areas.

FIRST RESPONDER STRESSORS

Participants in urban/suburban locations identified larger societal stressors such as racism, the COVID-19 pandemic, housing issues, and severe mental health issues in the general population. Research on the general population residing in rural, suburban, and urban areas suggest that people across geographic locations have different views of larger social and political issues (Pew Research Center, 2018). Given this, the results of this study make sense. It should be noted that data was collected at a time in which the larger metropolitan areas in the region were still implementing social distancing requirements

and masking mandates that would eventually lift during data collection (Oregon Public Broadcasting, 2021). Moreover, in the year prior to data collection, the largest metro in Oregon had experienced:

- Widespread houselessness that increased in the wake of COVID-19 (Green et al., 2022);
- A nationally recognized and highly publicized Black Lives Matter protesting that lasted more than 100 days (Associated Press, 2020); and
- The implementation of new laws decriminalizing the possession of a controlled substance (Oregon Health Authority, 2020).

Given the regional context provided here, participant responses need to be understood with this in mind. It would be beneficial for agencies residing in larger metros to provide both additional training and access to resources regarding the impacts of broader socio-political and cultural influences on first responders. Future research needs to be conducted to determine if these stressors remain and to what extent these stressors impact first responder job satisfaction, job performance, and client care.

While participants in all geographic locations identified organizational stressors, which is in line with previous research (Donnelly, 2012), participants in urban/suburban areas were more likely to identify issues with management as a stressor. Staff shortages (Lexipol, 2023) and differences in agency leadership styles (Papazoglou, 2023) have been cited as potential stressors for first responders in previous findings. Another geographical discrepancy was stress related to call volume, with more densely populated urban/suburban areas experiencing higher call volumes for emergency services than their rural peers. High call volume has been looked at in previous research regarding stress in dispatchers (Hoang et al., 2022) and is indicated anecdotally as a possibility when discussing work-related first responder stressors. Agencies may benefit from examining organizational structures and implementing more productive management strategies to decrease the impact of call volume on burnout or stress.

The remaining stressors identified by participants could not be differentiated by geographic location. This suggests that first responders across geographic locations experience agency and organizational stressors, position-specific stressors, stress related to patients, intrapersonal stressors, interpersonal stressors, and financial stressors. Repeat exposure to critical or traumatic incidents and workplace pressures are well-known stressors for first responders. Additional stressors such as type of call (Alexander & Klein, 2018), staff shortages (Lexipol, 2023), and public perceptions influenced by media coverage (Lexipol, 2023) have also been identified. Various programs such as CISM and peer support programs (e.g., California Professional Firefighters, 2019) have been implemented to varying degrees across the country; however, first responder stress and burnout continue to be a problem. First responder agencies might benefit from collaborating with mental health professionals specializing in first responder care to identify targeted supports or programming to benefit first responders. Moreover, advocacy for policy changes that support the mental health and wellbeing of first responders may be warranted.

COPING

Geographical differences were observed in how participants cope with stress. Urban/suburban participants were more likely to employ coping strategies to avoid or forget their stressors. Conversely, rural participants were more likely to employ active coping to address the issue. Moreover, urban/suburban participants were more likely to take a break. When looking at coping strategies without a function, participants in urban/suburban areas were more likely to utilize grounding techniques. The remaining coping strategies and functions that were described did not differ across geographic location, indicating potentially universal coping strategies among first responders. Given participant responses, it seems that first responders cope in similar ways to the general public. Future research would benefit from a deeper understanding of first responder coping strategies, which could be used in the development and implementation of resources and supports tailored to their needs.

LIMITATIONS AND CONCLUSION

The aim of this study was to identify geographic differences in mental health, job stressors, and coping resources in first responders working in rural, suburban, and urban areas. Our findings suggest that future research focus on the unique experiences and needs of first responders working in rural communities. Although the findings from this paper provide significant contributions to the field, there are also limitations that need to be addressed. The sample consisted mostly of heterosexual, white males, highlighting the need for a more diverse sampling to hear from first responders holding marginalized identities to understand their experiences with mental health symptoms, stress, and coping. Additionally, because data collection occurred via online survey methods, researchers were unable to ask follow-up questions, which could have expanded our understanding of participant responses. Since participants volunteered to complete the electronic survey, it should be noted that people with mental health or stress-related issues may have been more or less likely to participate, which could impact results. Moreover, while our sample includes participants across geographic locations within the state of Oregon, results may not be generalizable to the entire country. Future studies should consider broader geographical representation to improve the external validity of findings. As addressed in the discussion section, data was collected at unique time in the state of Oregon, which could have impacted the results of this study. Finally, data was analyzed through the lens of geographic location to address our research question; however, it is suggested that future research be organized by the duration of time spent in the field to better understand needed resources for professionals at varying points in their careers.

In conclusion, this study illuminates the mental health symptoms, stressors, coping mechanisms, and available resources among first responders across diverse geographic settings. The findings underscore the critical need for support programs and policies aimed at enhancing the mental health of first responders, particularly those in rural areas. Areas of future research regarding the mental health of first responders are suggested.

REFERENCES

- Airgood-Obrycki, W., Hanlon, B., & Rieger, S. (2020). Delineate the US suburb: An examination of how different definitions of the US suburbs matter. *Journal of Urban Affairs*, 43(9), 1263-1284. <https://doi.org/10.1080/07352166.2020.1727294>
- Alexander, D. A., & Klein, S. (2001). Ambulance personnel and critical incidents. *British Journal of Psychiatry*, 178(1), 76–81. <https://doi.org/10.1192/bjp.178.1.76>
- Associated Press (AP; 2020). *Portland's grim reality: 100 days of protests, many violent*. Retrieved from <https://apnews.com/article/virus-outbreak-ap-top-news-race-and-ethnicity-id-state-wire-or-state-wire-b57315d97dd2146c4a89b4636faa7b70>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676x.2019.1628806>
- Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2020). The online survey as a qualitative research tool. *International Journal of Social Research Methodology*, 24(6), 641–654. <https://doi.org/10.1080/13645579.2020.1805550>
- Braun, V., & Clarke, V. (2023). Is thematic analysis used well in health psychology? A critical review of published research, with recommendations for quality practice and reporting. *Health Psychology Review*, 17(4), 695–718. <https://doi.org/10.1080/17437199.2022.2161594>
- California Professional Firefighters. (2019). *Tools to build a peer support/behavioral health program*. Retrieved from <https://healingourown.org/departments-resources>
- Castle, M. E., & Tak, C. R. (2021). Self-reported vs RUCA rural-urban classification among North Carolina pharmacists. *Pharmacy Practice*, 19(3), 2406. <https://doi.org/10.18549/pharmpract.2021.3.2406>
- Centers for Disease Control (CDC; 2023). *Suicide in rural America*. Retrieved from <https://www.cdc.gov/ruralhealth/Suicide.html>
- Cieslak, R., Shoji, K., Douglas, A., Melville, E., Luszczynska, A., & Benight, C. C. (2014). A meta-analysis of the relationship between job burnout and secondary traumatic stress among workers with indirect exposure to trauma. *Psychological Services*, 11(1), 75–86. <https://doi.org/10.1037/a0033798>
- Donnelly, E. (2012). Work related stress and posttraumatic stress in emergency medical services. *Prehospital Emergency Care*, 16(1), 76-85. <https://doi.org/10.3109/10903127.2011.621044>
- Everly, G.S. & Mitchell, J.T. (1997). *Critical Incident Stress Management (CISM): A new era and standard of care in crisis intervention*. Ellicott City, MD: Chevron.
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and Promise. *Annual Review of Psychology*, 55(1), 745–774. <https://doi.org/10.1146/annurev.psych.55.090902.141456>
- Green, T., Zapata, M., & Greene, J. (2022). *Oregon Statewide Homelessness Estimates 2021*. Portland State University Homelessness Research & Action Collaborative. https://pdxscholar.library.pdx.edu/hrac_pub/28
- Greenwood-Ericksen, M. B., & Kocher, K. (2019). Trends in emergency department use by rural and urban populations in the United States. *JAMA Network Open*, 2(4), e191919. <https://doi.org/10.1001/jamanetworkopen.2019.1919>
- Haugen, P. T., McCrillis, A. M., Smid, G. E., Nijdam, M. J. (2017). Mental health stigma barriers to mental health care for first responders: A systemic review and meta-analysis. *Journal of Psychiatric Research*, 94, 218-229. <http://doi.org/10.1016/j.jpsy-chires.2017.08.001>

- Hirschfeld, R. M. A., Williams, J. B. W., Spitzer, R. L., Calabrese, J. R., Flynn, L., Keck, P. E., Lewis, L., McElroy, S. L., Post, R. M., Rapoport, D. J., Russell, J. M., Sachs, G. S., & Zajecka, J. (2000). Development and validation of a screening instrument for bipolar spectrum disorder: The mood disorder questionnaire. *American Journal of Psychiatry*, 157(11), 1873–1875. <https://doi.org/10.1176/appi.ajp.157.11.1873>
- Hoang, M., Hillier, E., Conger, C., Gengler, D. N., Welty, C. W., Mayer, C., & Haynes, P. L. (2022). Evaluation of call volume and negative emotions in emergency response system telecommunicators: A prospective, intensive longitudinal investigation. *AIMS Public Health*, 9(2), 403–414. <https://doi.org/10.3934/publichealth.2022027>
- Iglehart, J. K. (2018). The challenging quest to improve rural health care. *The New England Journal of Medicine*, 378(5), 473–479. <https://doi.org/10.1056/NEJMp1707176>
- Jones, S. (2017). Describing the mental health profile of first responders: A systematic review. *Journal of the American Psychiatric Nurses Association*, 23(3), 200–214. <https://doi.org/10.1177/1078390317695266>
- Jones, R., Jackson, D., & Usher, K. (2023). First responder mental health, traumatic events and rural and remote experience. *Journal of Advanced Nursing*, 80(2), 835–837. Portico. <https://doi.org/10.1111/jan.15856>
- King, N., & Brooks, J. (2018). Thematic analysis in organisational research. *The SAGE handbook of qualitative business and management research methods: Methods and challenges*, 219–236. <https://doi.org/10.4135/9781526430236.n14>
- Kleim, B., & Westphal, M. (2011). Mental health in first responders: A review and recommendation for prevention and intervention strategies. *Traumatology*, 17(4), 17–24. <https://doi.org/10.1177/1534765611429079>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9. *Journal of General Internal Medicine*, 16(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Lexipol (2023). *Lexipol Survey Uncovers Alarming Staffing Shortages and Stress Levels Reported by First Responders*. Retrieved from <https://www.lexipol.com/resources/blog/lexipol-survey-uncovers-alarming-staffing-shortages-and-stress-levels-reported-by-first-responders>
- National Volunteer Fire Council (NVFC) (n.d.). *Share the load resources*. Retrieved from <https://www.nvfc.org/share-the-load-resources>
- Oregon Public Broadcasting (OPB; 2021). *Oregon ends mask and social-distancing mandates*. Retrieved from <https://www.opb.org/article/2021/06/30/oregon-ends-mask-social-distancing-mandate>
- Oregon Health Authority (OHA; 2020). *Drug addiction treatment and recovery act*. Retrieved from <https://sharedsystems.dhsoha.state.or.us/DHSForms/Served/le3509.pdf>
- Oregon Rural & Frontier Emergency Medical Services. Oregon Office of Rural Health. (2019). https://www.oregon.gov/omb/board/Documents/ORH_ListenTour_2019_Web.pdf
- Pew Research Center (2018). *What Unites and Divides Urban, Suburban and Rural Communities*.
- Papazoglou K. (2023). Stress, Prevention, and Resilience among First Responders. *International Journal of Environmental Research and Public Health*, 20(24), 7174. <https://doi.org/10.3390/ijerph20247174>
- Plummer, F., Manea, L., Trepel, D., & McMillan, D. (2016). Screening for anxiety disorders with the GAD-7 and GAD-2: a systematic review and diagnostic metaanalysis. *General Hospital Psychiatry*, 39, 24–31. <https://doi.org/10.1016/j.genhosppsych.2015.11.005>

- Regehr, C., Goldberg, G., & Hughes, J. (2002). Exposure to human tragedy, empathy, and trauma in ambulance paramedics. *American Journal of Orthopsychiatry*, 72(4), 505–513. <https://doi.org/10.1037/0002-9432.72.4.505>
- Substance Abuse and Mental Health Services Administration (SAMHSA) (2018). *Disaster technical assistance center supplemental research bulletin – First responders: Behavioral health concerns, emergency response, and trauma*. Retrieved from <https://www.samhsa.gov/sites/default/files/dtac/supplementalresearchbulletin-firstresponders-may2018.pdf>
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder. *Archives of Internal Medicine*, 166(10), 1092. <https://doi.org/10.1001/archinte.166.10.1092>
- USDA. (2005). *Rural classifications - What is rural?* Retrieved from <https://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/what-is-rural>
- van Spijker, B. A. J., Batterham, P. J., Cleave, A. L., Farrer, L., Christensen, H., Reynolds, J., & Kerkhof, A. J. F. M. (2014). The Suicidal Ideation Attributes Scale (SIDAS): Community-based validation study of a new scale for the measurement of suicidal ideation. *Suicide and Life-Threatening Behavior*, 44(4), 408–419. Portico. <https://doi.org/10.1111/sltb.12084>
- Watson, E. (2024). *Ambulance staffing crisis worsens in Multnomah County: AMR hired 32 paramedics in 2023, lost 44*. Retrieved from <https://www.kgw.com/article/news/investigations/multnomah-county-ambulance-amr-paramedic-staffing-shortage-crisis-response-times/283-43d0f6eb-927e-4252-a329-aa69ac05335a>
- Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013). *The PTSD checklist for DSM-5 (PCL-5)*. Scale available from the National Center for PTSD at <https://www.ptsd.va.gov>

RESEARCH REPORTS

STRENGTHENING EMS IN MALAWI: PILOTING WORLD HEALTH ORGANIZATION BASIC EMERGENCY CARE FOR PREHOSPITAL PROVIDERS IN ZOMBA, MALAWI

Petrus Malherbe, MB, ChB, MSc^{*1}; Siyaphera Makunganya, MSc²

Author Affiliations: 1. Ochsner Clinic Foundation, New Orleans, LA, USA; 2. Zomba Private Ambulances, Zomba, Malawi.

Recommended Citation: Malherbe, P. & Makunganya, S. (2025). Strengthening EMS in Malawi: Piloting World Health Organization basic emergency care for prehospital providers in Zomba, Malawi. *International Journal of Paramedicine*. (11), 36-54. <https://doi.org/10.56068/XFAC7829>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3231>.

Keywords: prehospital, Malawi, basic emergency care, emergency medical services, EMS, paramedicine

Acknowledgements: We extend our gratitude to Dr. Bridget Griffith who reviewed this research paper and gave guidance.

Disclosures: Mr. Makunganya is the founder of Zomba Private Ambulances, where this research was conducted. He does not stand to gain any financial benefit from the publication of this research and was not involved in the scoring or the statistical analysis of the data presented in this study. We have taken all necessary steps to ensure that the research process was conducted with the highest level of objectivity and integrity, and we believe that this potential conflict of interest does not impact the validity or reliability of the research findings. Dr Malherbe has no conflicts of interest to disclose.

Funding: External funding was not used to support this work.

Received: October 14, 2024

Revised: January 2, 2025

Accepted: April 19, 2025

Pre-Issue Release: June 11, 2025

Published: July 8, 2025

**Corresponding Author:*

malherbepj@gmail.com

Author Interview:

<https://youtu.be/KWFrDlccmyA>



ABSTRACT

Background: Malawi has no country-wide emergency medical services, with prehospital care majorly provided by laypersons. Transport is typically provided by private car or taxi with less than 2% of emergency patients receiving transport by ambulance. Zomba Private Ambulances is currently the only private ambulance group operating in south-eastern Malawi. Despite not having formal prehospital provider education in Malawi, Zomba Private Ambulances makes use of mid-level care practitioners, nurses, and first-aid-only providers to provide prehospital care. This study examined the use of an existing emergency training course to educate prehospital providers in Zomba, Malawi.

Methodology: This study used a pilot study, consisting of an educational intervention trial conducted in Zomba, Malawi. Prehospital providers from Zomba Private Ambulances underwent training in WHO Basic Emergency Care including lectures and skills workshops led by an emergency medicine registrar. Participants completed a pre- and post-course survey and assessment measuring demographic information and knowledge and confidence of basic emergency skills.

Results: 9 total prehospital providers underwent training, consisting of nurses, mid-levels, and providers with first-aid-only. Overall confidence increased significantly after completing the course (83.3 to 96.8% confidence). Knowledge retention varied across participant training levels (post-course scores being: mid-levels 80%, nurses 73%, and first-aid-only 42.6%). Overall, providers displayed increased knowledge post-course, however, post-course knowledge varied amongst domains (e.g., trauma, altered mental status, shock). Barriers to training were identified including lack of transport, other occupational responsibilities, and lack of understanding of course applicability for first-aid-only providers.

Conclusion: Using education tools such as WHO BEC assists in the knowledge and confidence of prehospital providers in Malawi. Further studies are required to assess the retention of knowledge and effective use in the field. Additional training should be more easily accessible to improve prehospital triage in Malawi. The expansion of prehospital care in Malawi should utilize contextually relevant training.

INTRODUCTION

Not unique to other Sub-Saharan African (SSA) countries, Malawi faces challenges with various development outcomes including emergency and prehospital care (World Bank 2022, Department of Economic and Social Affairs 2022, Healthdata.org, Kayambankadzanja et. al 2020, Sonenthal et. al 2022). With a population of 20 million people, Malawi is limited in providing comprehensive emergency care due to many factors, including, but not limited to, economic factors, large rural areas, and broadening burdens of disease (BOD) (World Bank 2022). While Malawian BOD were historically due to communicable diseases, increasing noncommunicable diseases have created increasing healthcare challenges (Healthdata.org, Sonenthal et. al 2022). Additionally, most Malawians live a median distance of 6km from any healthcare facility (Global Burden of Disease Profile 2022). Given the challenges affecting Malawian health, a robust emergency and prehospital system is required to provide comprehensive and timely care (Sonenthal et. al 2022).

Many SSA countries have either no, or immature, prehospital services, in addition to limited contextually relevant evidence-based prehospital guidelines (Malherbe et. al 2021, Mould-Millman et. al 2017). Malawi has no country-wide, nationally-run, emergency response, and prehospital care is majorly provided by laypersons, with the transport of patients typically provided by private car or taxi (Kayambankadzanja et. al 2020, Sonenthal et. al 2022, Sheikh et. al 2021). A 2020 longitudinal survey exploring prehospital care provided to victims of road traffic accidents with injuries brought to Queen Elizabeth Central Hospital (QECH) in Blantyre, Malawi, found that only 2% of victims brought to the hospital were by ambulance (Sheikh et. al 2021).

Given the limited prehospital care available in Malawi, organizations and private institutions have implemented measures to fill the void (Sheikh et. al 2021, Mills et. al 2023). Zomba Private Ambulances (ZPA) in Zomba, Malawi is currently the only private ambulance group operating in south-eastern Malawi (Mills et. al 2023, Makunganya 2023). Despite not having a formal prehospital provider education tract in Malawi, ZPA makes use of clinical assistants, nurses, and laypersons with first-aid-only training to fill the role of prehospital providers (Mills et. al 2023, Makunganya 2023). Despite successes in growing their organization, improvement in prehospital care requires providers to have prehospital-specific training in addition to prehospital-specific tools.

The World Health Organization (WHO) created an open course titled Basic Emergency Care (BEC) aimed at teaching basic emergency skills to healthcare providers in low- and middle-income settings (WHO Basic Emergency Care 2018, Broccoli et. al 2021). BEC has been implemented in multiple sub-Saharan African countries, including Malawi (Broccoli et. al 2021, Khongo et. al 2023). A 2013 Study performed by Broccoli et. al in Zambia demonstrated improved knowledge of confidence of physicians, mid-level providers, and nurses. In Malawi, a 2023 study conducted in the Neno district demonstrated similar results including improved knowledge and confidence of mid-level providers and nurses following completion of WHO BEC. BEC utilizes the ABCDE method, in addition to teaching approaches to trauma, difficulty in breathing, shock, altered mental status, and handover (WHO Basic Emergency Care 2018). See Appendix 1 for a summary of WHO BEC didactic content. BEC was designed for in-hospital care and no relevant prehospital tools exist for the sub-Saharan African context. This study aimed to explore the feasibility

ty of using WHO BEC to improve knowledge and confidence of prehospital providers in Zomba, Malawi.

METHODS

OVERARCHING METHODS

This study examines the feasibility of utilizing an established emergency training tool, WHO BEC, to improve knowledge and confidence in emergency skills of prehospital providers in Malawi by measuring recruitment, acceptability, adherence, and engagement. A pilot study was chosen given the small sample size and virtual lack of previous reporting of prehospital emergency knowledge and confidence in Malawi. The CONSORT extension for pilot studies was used in the reporting of this study. This study was approved by the Malawi National Health Sciences Research Committee (24/02/4362).

SETTING

The city of Zomba is in southern Malawi and has a population of 90,000, of which an estimated 60% of Zomba residents live in informal settlements (UN Habitat 2011). The city's largest healthcare facility is a tertiary hospital, Zomba Central Hospital (UN Habitat 2011). Study recruitment was carried out by contacting all ZPA prehospital providers via WhatsApp. The training on BEC was delivered at Zomba Private Ambulances headquarters in Zomba, Malawi in February 2024.

PARTICIPANTS AND SAMPLE SIZE

In contrast to typical efficacy trial studies, pilot studies do not perform sample size calculation or hypothesis testing and instead analyze the feasibility and acceptability of a study approach to be used in a larger-scale study. Invitation to participate in this study was offered to all ZPA prehospital providers who met eligibility criteria. Eligibility criteria included age greater than 18 years and prehospital provider employed by ZPA. Prehospital providers were defined as any person routinely providing formal prehospital care including doctors, nurses, mid-level providers (e.g., non-physician clinical assistants, midwives), paramedics, emergency medical technicians, and first-aid-only providers. Informed written consent was obtained from all providers.

INTERVENTIONS AND COURSE STRUCTURE

Successfully enrolled participants completed a pre-course survey and assessment, including demographic information and confidence and knowledge of basic emergency care (see Appendix 2 for demographics and survey and see Appendix 3 for knowledge assessment). Confidence was assessed by a 5-point Likert-scale with "strongly agree" equaling 100% confidence in performing, identifying, and discussing various emergency presentations and skills. The knowledge portion of the assessment utilized the validated BEC assessment. No blinding was done and all participants then received lectures by an emergency medicine registrar on basic emergency skills using the WHO BEC modules including the ABCDE and SAMPLE approach, approach to trauma, approach to difficulty in breathing, approach to altered mental status (AMS), and approach to shock (see Appendix 1 for a summary of modules). Following the completion of lectures, participants received hands-on training on all skills outlined by the BEC course. Following

lectures and skills training, participants completed the survey and assessment again for post-course assessment of confidence and knowledge of basic emergency care.

DATA COLLECTION AND ANALYSIS

Demographic information, confidence surveys, and knowledge assessments were collected on paper forms, deidentified, and entered into a password-protected Google Drive. Pre- and post-course confidence responses were converted into numerical values with “strongly agree” responses considered 100% confident. Simple descriptive statistics were used to describe the data using STATA. Despite being a pilot study to assess feasibility, testing for normality was performed (Shapiro Wilk $p > 0.05$) and parametric and non-parametric testing was performed where appropriate. Pre- and post-course confidence responses and mean module and overall scores were compared by training level (i.e., nurses, mid-levels, first-aid-only providers) using differences in means. Additionally, relationships between confidence and knowledge were assessed by calculating differences in means by groups.

RESULTS

DEMOGRAPHICS

A total of nine participants were enrolled and completed the course. 4 (44%) of the participants were nurses, 3 (33%) had no formal medical qualification and had only a first-aid certificate, and 2 (22%) were mid-levels (consisting of a clinical assistant student and a non-physician anesthetist). Prior formal prehospital training (e.g. paramedic, emergency care technician, intermediate life support) was reported by none of the participants. Participants reported 2.7 mean years of experience providing prehospital care with providers, with first-aid-only reporting an average of 2.5 years of experience and nurses and mid-levels both averaged 2.8 years of experience. None of the participants had ever completed WHO BEC. See Table 1 for a summary of the experience of all providers.

	Formal Prehospital Training	Mean Years of Prehospital Experience	Previous Complete WHO BEC
All (n=9)	0 (0%)	2.7	0 (0%)
Nurses (n=4)	0 (0%)	2.8	0 (0%)
First aid only (n=3)	0 (0%)	2.5	0 (0%)
Mid-levels (n=2)	0 (0%)	2.8	0 (0%)

Table 1. Summary of experience of prehospital providers at Zomba Private Ambulances.

CONFIDENCE IN PREHOSPITAL SKILLS

Testing for normality of confidence scores was not satisfied (Shapiro Wilk test $p < 0.05$) and nonparametric testing was utilized for analysis of confidence. A Wilcoxon signed-rank test was conducted and revealed a statistically significant ($p < 0.01$) difference in pre-course median (Mdn = 89) and post-course median (Mdn = 99) confidence levels ($z = 2.668$).

Variance in overall pre-course confidence was observed between training levels, with mid-levels reporting 91.5% confidence, nurses reporting 86.3% confidence, and providers with first-aid-only reported 74.0% pre-course confidence. It was observed that all participants had increased post-course confidence with mean post-course confidence in providing basic emergency skills of 96.8%, with a mean difference of 13.4%. Post-course confidence also varied by training levels with mid-levels reporting 100% confidence, nurses reporting 99.3% confidence, and providers with first-aid-only reporting 91.3% confidence.

By component, confidence in assessing and managing ABCDEs (95.6%) had the highest overall pre-course confidence, trailed by difficulty in breathing (88.9%), shock (86.7%), trauma (84.4%), and AMS (75.6%). Post-course assessment and management confidence by topic was generally high with mean differences being 4.4% for ABCDEs, 8.9% for difficulty in breathing 11.1% for trauma, 6.7% for shock, and 17.8% being altered mental status.

Pre-course confidence in discussing topics with colleagues was generally lower than reported assessment and management confidence, with discussing ABCDE confidence being 97.8%, trauma being 82.2%, difficulty in breathing being 77.8%, shock being 77.8%, and AMS being 64.4%. Participants reported generally high post-course confidence in discussing topics with colleagues with mean differences being 2.2% for ABCDE, 15.5% for trauma, 17.8% for difficulty in breathing, 17.8% for shock, and 31.1 for AMS. See Table 2 for pre- and post-course confidence.

KNOWLEDGE

Despite being a small sample size, assumption for normality was satisfied for knowledge assessments (Shapiro Wilk test $p > 0.05$). Paired sample t-testing was used to compare pre- and post-course knowledge means. Overall knowledge measured improved from 61.3% (95% CI: 49.8%-72.8%) to 64.4% (95% CI: 50.5%-78.4%).

Pre-course knowledge score measured overall was 61.3% with variance by topic with ABCDE being 48.9%, trauma being 77.8%, difficulty in breathing being 73.3%, shock being 60%, and AMS being 46.7%. Post-course knowledge score measured overall was 64.4% with variance by topic with ABCDE being 64.4% (MD 3.1%), trauma being 73.3% (MD -4.4%), difficulty in breathing being 77.8% (MD 4.4%), shock being 71.1% (MD 11.1%), and AMS being 46.7% (MD 0%).

OBSERVATIONS

During the course, observations were made regarding feasibility and challenges. Recruitment was widely successful with many ZPA employees being easily recruited, however, challenges included tardiness and other occupational responsibilities. Multiple participants arrived one to two hours after the course was set to begin. This delayed the course to be started, limiting dedicated lectures and skills time. Many participants reported lack of transport as the cause of their tardiness. Additionally, multiple other participants left early due to other responsibilities, such as working in the local hospital. Engagement in the course was high despite a lack of pre-course knowledge and training. Adherence to the training may be limited given that BEC was designed for healthcare

	(n = 9)			Nurses (n = 4)		Providers with first-aid-only (n = 3)		Mid-levels (n = 2)	
	Pre-course	Post-course	Mean Diff (SE)	Pre-course	Post-course	Pre-course	Post-course	Pre-course	Post-course
Overall confidence with basic emergency skills	83.3	96.8	13.4 (4.0)	86.3	99.3	74.0	91.3	91.5	100.0
Confidence assessing ABCDE	95.6	100.0	4.4 (2.9)	95.0	100.0	100.0	100.0	90.0	100.0
Confidence assessing and managing trauma	84.4	95.6	11.1 (7.5)	90.0	100.0	86.7	93.3	60.0	100.0
Confidence assessing and managing breathing difficulty	88.9	97.8	8.9 (3.5)	90.0	100.0	86.6	93.3	90.0	100.0
Confidence assessing and managing shock	86.7	93.3	6.7 (6.7)	85.0	95.0	93.3	86.7	80.0	100.0
Confidence assessing and managing altered mental status	75.6	93.3	17.8 (7.0)	85.0	100.0	73.3	80.0	60.0	100.0
Confidence discussing ABCDE with colleagues	97.8	100.0	2.2 (2.2)	95.0	100.0	100.0	100.0	100.0	100.0
Confidence discussing trauma with colleagues	82.2	97.8	15.5 (5.9)	90.0	100.0	100	93.4	40.0	100
Confidence discussing breathing complications with colleagues	77.8	95.6	17.8 (8.4)	90.0	100.0	93.3	86.6	30.0	100.0
Confidence discussing shock with colleagues	77.8	95.6	17.8 (8.4)	85.0	100.0	86.7	100.0	30.0	100.0
Confidence discussing altered mental status with colleagues	64.4	96.6	31.1 (8.8)	75.0	100.0	86.7	86.7	10.0	100

Table 2. Confidence using basic emergency care of prehospital providers at Zomba Private Ambulances.

	All Participants (n = 9)				
	Pre-course	Post-course	Mean Difference	Test Statistic (t)	p Value
Overall score	61.3	64.4	3.1	1.05	0.162
ABCDE component score	48.9	56.6	7.7	1.04	0.166
Trauma component score	77.8	73.3	- 4.4	-1.00	0.827
Difficulty breathing component score	73.3	77.8	4.4	0.61	0.279
Shock component score	60	71.1	11.1	1.89	0.048
Altered mental status component	46.7	46.7	0	0.00	0.500

Table 3. Knowledge of basic emergency care by medical qualification of prehospital providers at Zomba Private Ambulances.

professionals, and the content may have been above the current knowledge level of the first-aid-only providers.

DISCUSSION

Use of WHO BEC led to increased overall knowledge for prehospital providers at ZPA, however, testing for statistical significance across all variables was limited given the small sample size. When analyzed by training level (e.g., nurses, mid-levels, and first-aid-only) variance was observed. First-aid-only providers consistently scored lower than

	All Participants (n = 9)				
	Pre-course	Post-course	Mean Difference	Test Statistic (t)	p Value
Overall score	61.3	64.4	3.1	1.05	0.162
Nurses (n = 4)	69.0	73.0	4.0	0.78	0.495
Providers with First Aid only (n = 3)	44.0	42.6	-1.33	-0.23	0.840
Midlevels (n = 2)	72.0	80.0	8.0	-	-

Table 4. Knowledge of basic emergency care by training level of prehospital providers at Zomba Private Ambulances.

nurses and mid-levels, which was to be expected given that WHO BEC was designed for healthcare workers such as nurses and doctors. Given that first-aid-only providers do not have formal training as healthcare workers, it was to be expected that the course may be above their current level of understanding. Increased confidence was observed across the board following completion of the course. However, a gap between knowledge and confidence was observed, with all respondents reporting nearly complete confidence (average overall post-course confidence of 96.8%) despite an overall post-course knowledge measurement of 64.4%. This gap is disconcerting, as providers may have a false sense of security in performing emergency skills, while their knowledge of basic emergency skills remains limited.

Further research and future studies aimed at assessing the retention of knowledge and confidence over time would be useful to evaluate the sustainability and longevity of prehospital providers at ZPA who underwent WHO BEC training. Furthermore, the evaluation of how training translates to patient care and patient outcomes would be useful in informing future training and implementation of prehospital care in Malawi. Additionally, the unforeseen barriers to course completion such as tardiness, other occupational responsibilities, and limited pre-course contextual knowledge are valuable in planning for future training. Future studies would benefit from using interviews and focus groups to facilitate the capture of qualitative data, which would enhance understanding of didactic needs, experiences of participants, and perceptions of the training.

BEC was not created for prehospital providers and contextually relevant and appropriate prehospital training courses should be readily available. While BEC remains a

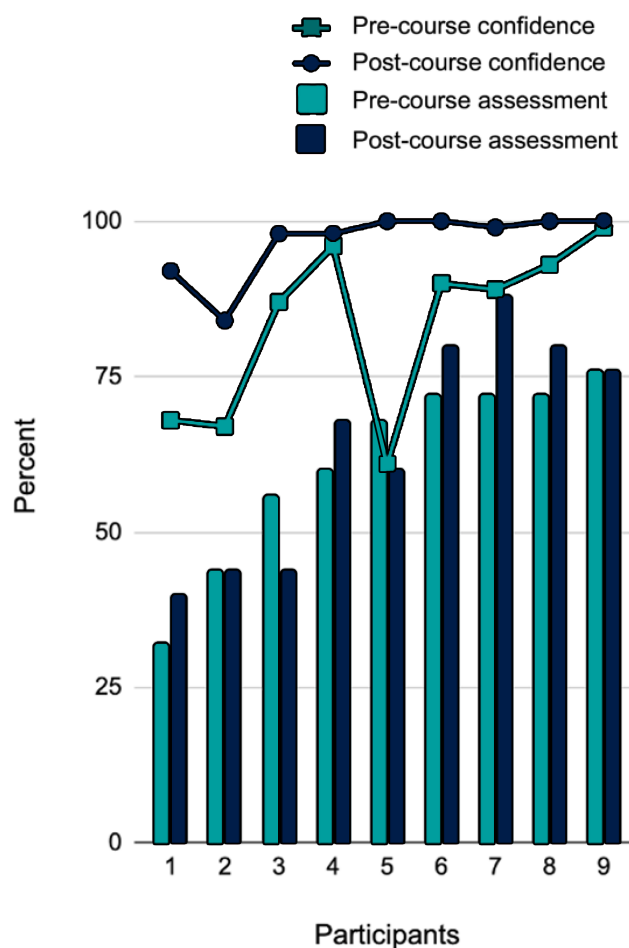


Figure 1. Pre- and post-course knowledge of basic emergency care versus confidence.

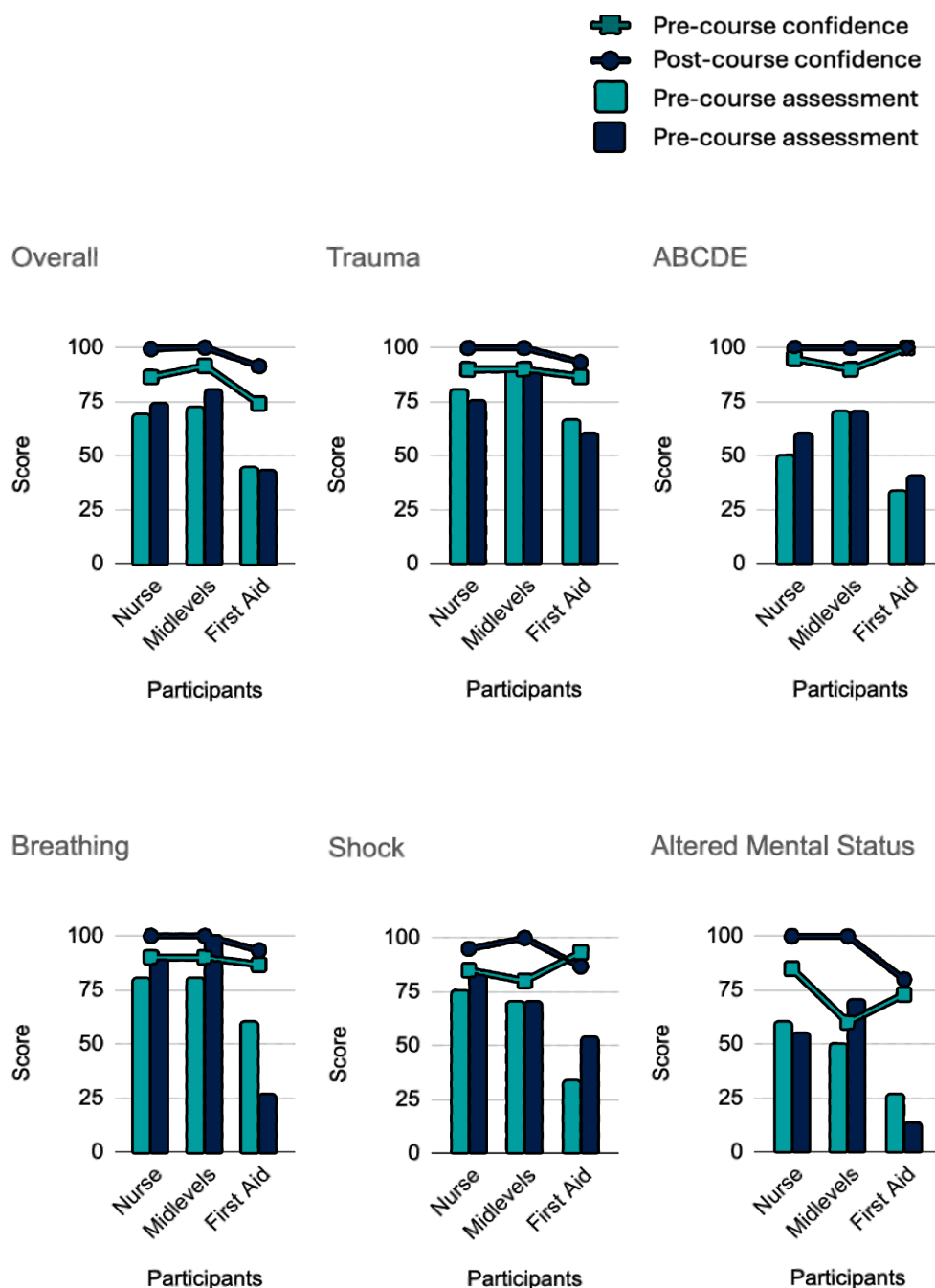


Figure 2. Pre- and post- course knowledge of basic emergency care versus confidence by training level of prehospital providers.

useful tool in providing emergency skills training for healthcare workers, BEC was not designed to be a prehospital tool. Having validated tools which are aimed at teaching prehospital skills to providers in resource-constrained settings is required to improve knowledge, confidence, and prehospital outcomes in countries like Malawi. Specifically, these tools could prioritize basic life support principals to maximize educational impact, minimizing overly complicated practices reserved for nurses, mid-levels, doctors, etc.

Furthermore, steps should be taken by the Malawian government to define the role of prehospital providers to ensure the appropriate training of prehospital providers within the country.

STRENGTHS AND LIMITATIONS

Given the themes observed, clear strengths and limitations were observed using WHO BEC to improve prehospital knowledge and confidence of prehospital providers. The assessment questions included in the WHO BEC course allowed for easy assessment of knowledge. Using confidence-based questions allowed for comparison between the knowledge-confidence gap of providers. As a pilot study, a descriptive approach allowed for the identification of major themes when using BEC to teach emergency skills to pre-hospital providers including improved knowledge and confidence in addition to barriers.

Limitations of the study include the pilot study's small sample size which limits the use of inferential statistical analysis. While descriptive statistics helped give valuable insight regarding feasibility, subsequent studies would benefit from a larger sample size with more rigorous statistical testing including interval and hypothesis testing. While pre- and post-course surveys are convenient for rapid assessment of knowledge and confidence, limitations exist including potential response bias. Participants may have provided answers that they believe researchers desired in addition to the possible inflation of responses and over-confidence. Additionally, pre- and post-course surveys typically only measure short-term changes in knowledge and confidence and fail to capture long-term behavior changes. Furthermore, self-reported confidence may fail to reflect actual competency, nuanced insights, or real-world applications.

Other limitations include the barriers mentioned by participants (tardiness, other occupational responsibilities, and lack of pre-course knowledge and training).

CONCLUSION

The use of WHO BEC, a validated emergency tool, is a feasible instrument to use for prehospital provider education and leads to improved knowledge and confidence. However, further studies should include larger sample sizes to improve statistical testing to minimize changes observed being due to chance. Gaps between knowledge and confidence exist and over-confident providers must be made aware of their actual knowledge and skill set. Gaps could be addressed by including more rigorous and frequent simulation-based assessments and practical and real-world assessments, ensuring subjects are aware of their scores. First-aid-only providers struggled to understand the complex materials which are aimed at nurses and doctors. The creation of validated prehospital-specific and contextually relevant tools aimed at teaching layperson and first-aid-only providers should be prioritized for improved training of prehospital providers in settings such as Malawi.

Finally, minimizing barriers could improve engagement and outcomes of future studies, including providing transport, multiple days of the course to accommodate various participants' schedules, and selection/development of tools which are relevant to all providers including first-aid only providers.

REFERENCES

- Broccoli, M. C., Dixon, J., Skarpiak, B., Phiri, G., Muck, A. E., & Calvillo Hynes, E. J. (2021). Application of the World Health Organization's basic emergency care course in Zambia. *African Journal of Emergency Medicine*, 11(1), 140–143. <https://doi.org/10.1016/j.afjem.2020.09.011>

- Growth Accelerator Malawi. (2023). *Zomba private ambulance benefits from the growth accelerator programme*. Retrieved February 1, 2024, from <https://growmalawi.org/zomba-private-ambulance-benefits-from-the-growth-accelerator-programme>
- Healthdata.org. (2022). *Global burden of disease profile: Malawi*. Retrieved January 23, 2022, from https://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_malawi.pdf
- Healthdata.org. (n.d.). Malawi. Retrieved January 23, 2024, from <https://www.healthdata.org/malawi>
- Khongo, B. D., Schmiedeknecht, K., Aron, M. B., Nyangulu, P. N., Mazengera, W., Ndararama, E., Tenner, A. G., Baltzell, K., & Connolly, E. (2023). Basic emergency care course and longitudinal mentorship completed in a rural Neno District, Malawi: A feasibility, acceptability, and impact study. *PLOS ONE*, 18(2), e0280454. <https://doi.org/10.1371/journal.pone.0280454>
- Kayambankadzanja, R. (2020). Emergency and critical care services in Malawi: Findings from a nationwide survey of health facilities. *Malawi Medical Journal*, 32(1), 19–23. <https://doi.org/10.4314/mmj.v32i1.5>
- Makunganya, S. (2023). *Zomba private ambulances*.
- Malherbe, P., Smit, P., Sharma, K., & McCaul, M. (2021). Guidance we can trust? The status and quality of prehospital clinical guidance in sub-Saharan Africa: A scoping review. *African Journal of Emergency Medicine*, 11(1), 79–86. <https://doi.org/10.1016/j.afjem.2020.08.005>
- Mould-Millman, N.-K., Dixon, J. M., Sefa, N., Yancey, A., Hollong, B. G., Hagahmed, M., Ginde, A. A., & Wallis, L. A. (2017). The state of Emergency Medical Services (EMS) systems in Africa. *Prehospital and Disaster Medicine*, 32(3), 273–283. <https://doi.org/10.1017/s1049023x17000061>
- Sheikh, S., Mulwafu, W., Gondwe, W. T. M., Nyirenda, M., Mbomuwa, F., & Chokhotho, L. (2020). Assessing knowledge and skills of laypersons bringing victims of road traffic collisions to Queen Elizabeth Central Hospital in Blantyre, Malawi. *Tropical Doctor*, 51(1), 24–28. <https://doi.org/10.1177/0049475520974365>
- Sonenthal, P. D., Nyirenda, M., Kasomekera, N., Marsh, R. H., Wroe, E. B., Scott, K. W., Bukhman, A., Connolly, E., Minyaliwa, T., Katete, M., & Banda-Katha, G. (2022). The Malawi emergency and critical care survey: A cross-sectional national facility assessment. *EClinicalMedicine*, 44, Article 101230. <https://doi.org/10.1016/j.eclinm.2022.101230>
- The World Bank. (2022). *Malawi overview*. Retrieved January 23, 2024, from <https://www.worldbank.org/en/country/malawi/overview#1>
- United Nations Department of Economic and Social Affairs. (2022). *Least developed country category: Malawi profile*. Retrieved January 23, 2024, from <https://www.un.org/development/desa/dpad/least-developed-country-category-malawi.html>
- UN-Habitat. (2011). *Malawi: Blantyre urban profile*.
- World Bank. (2023). *Rural population (% of total population) - Malawi*. Retrieved January 23, 2024, from <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=MW>
- World Health Organization. (2018). *Basic emergency care: Approach to the acutely ill and injured*. Retrieved from <https://www.who.int/publications/i/item/basic-emergency-care>

APPENDIX 1 - WHO BEC DIDACTIC CONTENT OVERVIEW

The ABCDE and SAMPLE history approach

- Hazards that must be considered when approaching an ill or injured person;
 - Elements to approaching an ill or injured person safely
- Components of the systematic ABCDE approach to emergency patients;
 - Assess an airway
 - Explain when to use airway devices
 - Explain when advanced airway management is needed
 - Assess breathing;
 - Explain when to assist breathing;
- Assess fluid status (circulation)
 - Provide appropriate fluid resuscitation;
- Describe the critical ABCDE actions;
- List the elements of a SAMPLE history;
- Perform a relevant SAMPLE history.

Approach to Trauma

- ABCDE: Trauma primary survey
- DO: Important conditions to recognize and manage in the primary survey (signs, symptoms and management)
- ASK: Key history findings (SAMPLE history)
- CHECK: Trauma secondary survey
- DO: Important conditions to recognize and manage based on the history and secondary survey (Signs, symptoms and management)
- Special populations
- Trauma in pregnancy
- Special considerations in children
- Disposition considerations

Approach to difficulty in breathing

- Recognize signs of difficulty in breathing (DIB)
 - List the high-risk causes of difficulty in breathing
 - Perform critical actions for high-risk causes of difficulty in breathing.

Approach to shock

- Recognize signs of shock/poor perfusion
- Perform critical actions for patients with shock
- Assess fluid status
- Select appropriate fluid administration based on age, weight, and condition
- Recognize malnourishment, anaemia and burns and adjust fluid resuscitation.

Approach to altered mental status

- Recognize key history findings suggestive of different causes of altered mental status
- Recognize key physical findings suggestive of different causes of altered mental status
- List high-risk causes of altered mental status in adults and children;
- Perform critical actions for high-risk causes of altered mental status.

APPENDIX 2

Demographics

1. What is your gender identity?
 - A. Male
 - B. Female
 - C. Non-binary
 - D. Other _____
 - E. Prefer not to answer
2. What healthcare qualification did you receive?
 - A. Nurse
 - B. Clinical Assistant/ Mid-level
 - C. Doctor
 - D. Paramedic
 - E. Ambulance technician
 - F. Other _____
3. Have you ever completed a prehospital certification? (examples; paramedic degree, ambulance technician diploma, first responder diploma)
 - A. Yes; please specify _____
 - B. No
4. How long have you been providing prehospital care formally?
 - A. 0 – 6 months
 - B. 6 – 12 months (1 year)
 - C. 12- 18 months (1.5 years)
 - D. 18 – 24 months (2 years)
 - E. 24 – 30 months (2.5 years)
 - F. 30 – 36 months (3 years)
 - G. 36 – 42 months (3.5 years)
 - H. 42 – 48 months (4 years)
 - I. > 4 years; please specify time _____
5. Have you ever completed WHO's Basic Emergency Care Course?
 - A. Yes; please specify when and where _____
 - B. No

Confidence

1. I feel confident in my ability to assess the ABCDE's.
 - A. Strongly agree
 - B. Agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
2. I feel confident in my ability to assess and manage a trauma patient.
 - A. Strongly agree
 - B. Agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree

3. I feel confident in my ability to assess and manage a patient with difficulty breathing.
 - A. Strongly agree
 - B. Agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
4. I feel confident in my ability to identify and manage a patient in shock.
 - A. Strongly agree
 - B. Agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
5. I feel confident in my ability to assess and manage a patient with altered mental status.
 - A. Strongly agree
 - B. Agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
6. How likely are you to recommend this course to your colleague?
 - A. Very likely
 - B. Likely
 - C. Neutral
 - D. Unlikely
 - E. Very unlikely
7. I feel this course benefitted me as a prehospital provider.
 - A. Not at all
 - B. Very little
 - C. Somewhat
 - D. To a great extent
8. This course has improved my ability to perform basic emergency skills as a pre-hospital provider.
 - A. Not at all
 - B. Very little
 - C. Somewhat
 - D. To a great extent

9. In your opinion, how challenging do you think each of the following may be for you?

	Not at all Challenging	Slightly Challenging	Moderately Challenging	Very Challenging	Extremely Challenging
Performing ABCDE assessment	☐	☐	☐	☐	☐
Assessing and managing a trauma patient	☐	☐	☐	☐	☐
Assessing and managing breathing complications	☐	☐	☐	☐	☐
Recognising and treating shock	☐	☐	☐	☐	☐
Assessing and managing altered mental status	☐	☐	☐	☐	☐
Performing successful handover to receiving providers	☐	☐	☐	☐	☐

10. Currently, how comfortable do you feel discussing the following topics with colleagues?

	Not at all Challenging	Slightly Challenging	Moderately Challenging	Very Challenging	Extremely Challenging
The ABCDE assessment	☐	☐	☐	☐	☐
Assessment and management of a trauma patient	☐	☐	☐	☐	☐
Assessment and management of breathing complications	☐	☐	☐	☐	☐
Recognising and treating shock	☐	☐	☐	☐	☐
Assessing and managing altered mental status	☐	☐	☐	☐	☐
Handover to receiving providers	☐	☐	☐	☐	☐

11. Currently, how comfortable do you feel discussing the following topics in the clinical environment?

	Not at all Challenging	Slightly Challenging	Moderately Challenging	Very Challenging	Extremely Challenging
The ABCDE assessment	☐	☐	☐	☐	☐
Assessment and management of a trauma patient	☐	☐	☐	☐	☐
Assessment and management of breathing complications	☐	☐	☐	☐	☐
Recognising and treating shock	☐	☐	☐	☐	☐
Assessing and managing altered mental status	☐	☐	☐	☐	☐
Handover to receiving providers	☐	☐	☐	☐	☐

APPENDIX 3 - WHO BECC ASSESSMENT

1. A mother brings in her 3-year-old child because of difficulty in breathing. On assessment, you hear loud, high-pitched sounds with breathing in. What is the most immediate concern?
 - A. Severe infection
 - B. Shock
 - C. Asthma Attack
 - D. Upper airway obstruction
2. An elderly woman fell at home. She had normal vital signs but complained of neck and knee pain prior to transport. During transport, she starts snoring and gurgling when taking a breath. What is the most appropriate method to immediately manage this problem?
 - A. Placing her in the recovery position
 - B. Administering salbutamol
 - C. Jaw thrust
 - D. Head tilt / chin lift
3. A 50-year-old man has collapsed in a store and you are called to assist him. He is unconscious, has a respiratory rate of four breaths per minute and a pulse of 100 beats per minute. The collapse was witnessed and there is no trauma. What is the best next step?
 - A. Begin chest compressions
 - B. Open the airway
 - C. Begin bag- bag-valve-mask ventilations
 - D. Check pupils
4. A 2-year-old boy is brought to you for being more sleepy than normal. He is unconscious. You open his airway, and insert an oropharyngeal airway. What is your next step?
 - A. Check blood pressure
 - B. Check AVPU scale
 - C. Check glucose
 - D. Check breathing
5. You are listening to the lungs of a 26-year-old man who has sudden onset chest pain and he is taking 30 breaths a minute. Which lung-sound finding is most suggestive of pneumothorax?
 - A. Crackles on both sides
 - B. Absent lung sounds on one side
 - C. Stridor
 - D. Wheezing on both sides
6. Which of the following is a component of the trauma primary survey?
 - A. Examine the arms for any fractures
 - B. Check the skin color and temperature
 - C. Examine the ears for any drainage of blood or clear liquid
 - D. Check skin pinch

7. You are assessing a man who was in a car crash. He is very confused, but the remainder of his primary survey is normal. How do you perform a SAMPLE history if the patient is too confused to answer your questions?
 - A. You do not need to do a SAMPLE history in a trauma patient?
 - B. Ask the patient repeatedly until he is able to answer
 - C. Ask bystanders or family member for the information
 - D. Assume that there is no important information
8. A 23-year-old man is carried in after diving head first into a river. He is speaking and his airway is open but he cannot walk or move his arms or legs. What is the first thing you must do?
 - A. Place an IV line
 - B. Examine him for other injuries
 - C. Immobilize the cervical spine
 - D. Give him a tetanus vaccination
9. You are evaluating a 21-year-old male who was in a motorcycle crash. He was thrown from the motorcycle and suffered injuries to his face, chest and legs. When you compress his pelvis, he screams in pain. His vital signs are: blood pressure 90/40 mmHg, heart rate 120 bpm, respiratory rate 25/min. What should be your next step?
 - A. Place in a pelvic binder
 - B. Administer tetanus vaccine
 - C. Provide antibiotics
 - D. Clean the abrasions with soap and water
10. A young woman has been brought in after an explosion. She has an open airway, a respiratory rate of 30/min, heart rate 125 bpm, blood pressure of 85/50 mmHg, has moist pale skin and she complains of abdominal pain. She has small wounds to her skin but there is no obvious bleeding. What would you do to manage this patient?
 - A. Place two large-bore cannulae and give 1 litre of fluid
 - B. Offer her a drink of water
 - C. Check her temperature
 - D. Provide antibiotics
11. You are evaluating a 34-year-old female complaining of difficulty in breathing, coughing, and fever for 3 days. Which of the following actions should you do first?
 - A. Check blood pressure
 - B. Administer antibiotics
 - C. Start an IV
 - D. Check the lung sounds
12. A 67-year-old man with a history of a heart attack is complaining of difficulty in breathing that is worse whenever he lies flat. His legs are both swollen, which has become worse in the past 2 weeks. What is the most likely cause of his difficulty in breathing?
 - A. Heart failure
 - B. Asthma
 - C. Pneumothorax
 - D. Pneumonia

13. There was a fire in a nearby house and a patient is brought to you with burned nasal hairs and shortness of breath. What should you do first?
 - A. Give oxygen
 - B. Give intramuscular adrenaline
 - C. Start an IV line
 - D. Perform needle decompression
14. A 30-year-old woman was stung by a bee and now has difficulty in breathing, facial swelling, and a rash. She has a history of severe allergic reactions to bee stings. What medication should you give?
 - A. Naloxone
 - B. Benzodiazepine
 - C. Adrenaline
 - D. Aspirin
15. You are assessing a 10-year-old boy for difficulty in breathing. You notice that the skin on his fingertips and around his mouth has a blue color. What is this finding called?
 - A. Retractions
 - B. Nasal flaring
 - C. Crepitus
 - D. Cyanosis
16. A 7-year-old boy has had lethargy, vomiting and diarrhoea for the past 4 days. His vital signs are: blood pressure 80/40 mmHg, heart rate 140 beats per minute, respiratory rate 18 breaths per minute. The patient vomits when you try to give anything by mouth. What is your most immediate management?
 - A. Start an IV line and give fluids
 - B. Continue to attempt oral rehydration
 - C. Place a nasogastric (NG) tube and hydrate through it
 - D. Rapidly transfer to a referral hospital
17. You are taking care of a 28-year-old man who was shot in the abdomen. He is lethargic and the vital signs are as follows: blood pressure 80/40 mmHg, heart rate 130 beats per minute, respiratory rate 20 breaths per minute. There is heavy bleeding from the gunshot wound and the abdomen is rigid and tender. What is the first intervention you should give this patient?
 - A. IV fluids
 - B. Intraosseous line
 - C. Surgery
 - D. Adrenaline
18. A child that presents with sunken eyes, small amounts of dark urine, dry mucous membranes and abnormal skin pinch testing is most likely suffering from:
 - A. Pneumonia
 - B. Head injury
 - C. Dehydration
 - D. Hypoglycaemia

19. A 60-year-old man states he has been weak and dizzy for the past week. His vital signs are: blood pressure 90/50 mmHg, heart rate 125 beats per minute, respiratory rate 16 breaths per minute. His skin is cool and pale. He states that his stools have been black for the past 2 days. What is the most likely cause of his shock?
 - A. Stomach bleeding
 - B. Abdominal trauma
 - C. Dehydration
 - D. Severe infection
20. You are assessing a 23-year-old man who was stabbed in the chest. You expose the chest to find one stab wound in the right chest with minor bleeding. He is complaining of severe difficulty in breathing and there are no lung sounds on the right side. His neck veins are distended and his skin is cool and sweaty. His vital signs are: blood pressure 86/56 mmHg, heart rate 136 beats per minute, respiratory rate 28 breaths per minute. What is your next step?
 - A. Chest tube placement
 - B. Needle decompression
 - C. Blood transfusion
 - D. Start IV fluids
21. You are evaluating ABCDE on a 4-year-old boy who has a fever and a cough. He is not responding to you calling his name, but if you pinch the sole of his foot, he moans. What is his level on the AVPU scale?
 - A. Alert
 - B. Verbal
 - C. Pain
 - D. Unresponsive
22. A 37-year-old male is brought in by his wife with fever and confusion. She says since the fever began 3 days ago he has become increasingly confused. There has been no trauma. On examination you notice that his neck is stiff. What is the most likely cause of his altered mental status?
 - A. Pneumonia
 - B. Infection around the brain
 - C. Stroke
 - D. Drug use
23. A 46-year-old man comes in to check his blood pressure. His vital signs are: blood pressure 160/90, heart rate 120, respiratory rate 18, and blood glucose is 5 mmol/L. While you are examining him he has a seizure/convulsion. What treatment should you give?
 - A. Benzodiazepine
 - B. Glucose
 - C. Antibiotics
 - D. Naloxone
24. A 36-week pregnant woman is having a seizure/convulsion. She has a recent history of high blood pressure as well. What treatment should you give?
 - A. Magnesium sulphate
 - B. Glucose
 - C. Nitroglycerin
 - D. Nothing, the seizure/convulsion will stop on its own

25. You are assessing a 6-month-old infant and find a depressed fontanelle. What does this physical examination finding suggest?
- A. Infection in the brain
 - B. Dehydration
 - C. Pneumonia
 - D. Hypoglycaemia

RESEARCH REPORTS

INTEGRATING COMMUNITY PARAMEDICINE TOPICS INTO DEGREE-LEVEL PARAMEDIC EDUCATION PROGRAMS: A STRATEGIC-PRAGMATIC APPROACH

Peter O'Meara, PhD^{*1,2,3}; Gary Wingrove, FACPE, CP-C^{4,5}; Mary Ahlers, MEd, BSN, ACP^{6,7,8}

Author Affiliations: 1. Board of Directors, American Paramedic Association (APA), Windsor, CO, USA; 2. International Journal of Paramedicine (IJOP), Hagerstown, MD, USA; 3. Monash University, Melbourne, Australia; 4. International Roundtable on Community Paramedicine (IRCP), Duluth, MN, USA; 5. Paramedic Foundation, Duluth, MN, USA; 6. University of Cincinnati, Cincinnati, OH, USA; 7. Paramedic Health Solutions, Cincinnati, OH, USA; 8. Paramedic Network, LLC, Cincinnati, OH, USA.

Recommended Citation: O'Meara, P., Wingrove, G., & Ahlers, M. (2025). Integrating community paramedicine topics into degree-level paramedic education programs: A strategic-pragmatic approach. *International Journal of Paramedicine*. (11), 55-70. <https://doi.org/10.56068/OXMS2700>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3264>.

Keywords: community paramedicine; mobile integrated healthcare, education, higher education, curricula, emergency medical services, EMS, paramedicine

Disclosures: None.

Funding: This research study was funded by The Savvik Foundation and Paramedic Health Solutions, both non-profit corporations with charity 501 (c)(3) tax-exempt status in the United States.

Received: October 14, 2024

Revised: April 2, 2025

Accepted: April 30, 2025

Pre-Issue Release: June 11, 2025

Published: July 8, 2025

***Corresponding Author:**

peter.omeara@monash.edu

ABSTRACT

Introduction: Community paramedicine programs address the needs of diverse and often underserved communities and individuals with varied social and chronic disease needs. Community paramedics have adopted knowledge, skills, and behaviours characteristic of primary healthcare professionals. Paramedics often lack access to higher education that enables autonomous practice alongside other health professionals. This study aimed to develop an educational framework supporting the integration of community paramedicine topics into degree-level education programs that would equip them to meet contemporary and future expectations.

Methods: The emerging roles and professional capabilities expected of community paramedics as clinicians and practitioners guided this research. The curriculum framework was designed through an examination of existing curricula, the community paramedicine literature, and questionnaire responses from two panels of expert paramedicine professionals drawn from countries where community paramedicine is established or emerging. Purposively recruited panelists comprised practicing community paramedics, students and educators, professional leaders, and subject matter experts.

Findings: The first panel largely supported those topics that comprise the Paramedic Health Solutions curriculum Version 4.0. They recommended more inclusive language that recognises social and cultural disadvantages, highlights person-centered care, additional topics, and increases the load and depth of study. In phase two of the project, the panel supported the integration of community paramedicine topics into paramedic degrees. After input from a second expert panel, an International Community Paramedic Education Framework was finalised to guide educators.

Discussion: The educational framework is focused on the knowledge, skills, and behaviours relevant to community paramedicine that can be integrated into paramedicine degrees. Its implementation will equip graduates with the capabilities to practice as clinicians or practitioners in primary care settings and across the acute and low-acuity domains of practice in collaboration with other health and social service professionals.

INTRODUCTION

Across much of the developed and developing world, paramedic entry-to-practice education has moved into the higher education

Author Interview:

<https://youtu.be/1sknckTV9so>



sector (Brooks, Cooke, Spencer, & Archer, 2016; Brooks, Grantham, Spencer, & Archer, 2018; Catterall, Bromwich, Phillips, & Eaton, 2016; College of Paramedics, 2024; Dabrowski et al., 2017; Hosseini, Forouzandehfar, Dadgarmoghadam, & Malekzadeh, 2017; Majchrowska et al., 2021; Sobuwa & Christopher, 2019; Vincent-Lambert, Bezuidenhout, & van Vuuren, 2014). This development has been associated with the modernization of paramedic models of care and the professionalization of paramedicine (Makrides, Ross, Gosling, Acker, & O'Meara, 2022). Paramedics in those systems, dubbed professionally autonomous paramedic systems (Figure 1), are often described as practitioners who sit alongside other registered or licensed healthcare professionals (Office of the National Rural Health Commissioner, 2023; Paramedic Board of Australia, 2021).

In contrast, paramedics practicing in directive paramedic systems (Figure 1) that lack many of the signature characteristics of modernization and professionalization, such as clinical Bachelor's degrees, self-governance, and nationally-recognised health professional registration, are generally seen as clinicians who are qualified to engage in clinical practice under the direct or indirect supervision of health practitioners (Figure 1) (American College of Emergency Physicians, 2015). Support for change is evident amongst paramedicine leaders and advocates in several countries.

All roads must lead to a professionally autonomous EMS system in the U.S. This is not just a grand aspiration, it is a necessary precursor to the development of an EMS system that provides the most effective and efficient care to the citizens of the U.S. A professionally autonomous system is also necessary to support a workforce dedicated to the provision of paramedicine clinical care (Maguire et al., 2024).

Proposals to develop paramedicine roles and capabilities have been under discussion in Canada despite the regulatory and educational challenges "... that must be bridged to enable a secure transition to autonomous and independent practice," according to Dr. Mike Austin, who goes on to say that:

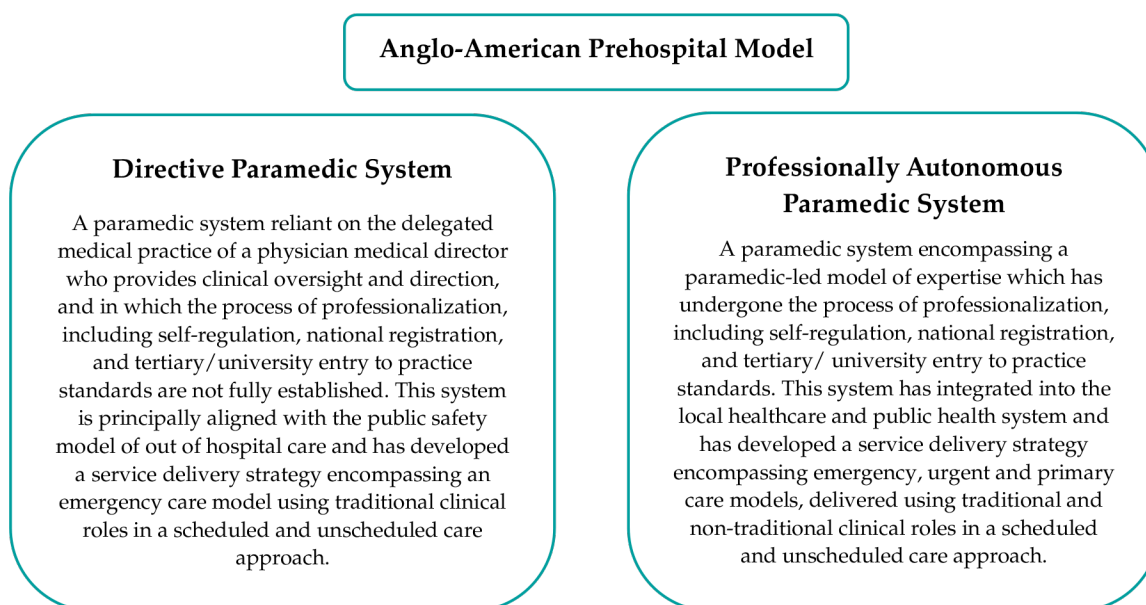


Figure 1: Definitions of Professionally Autonomous and Directive Paramedic Systems (Makrides, Ross, Gosling, & O'Meara, 2022)

... there is a growing movement in Canada advocating for the development of university Paramedicine Degree programs. These initiatives not only aim to provide advanced training but also aspire to cultivate paramedicine leaders capable of navigating and succeeding in this new, more advanced domain (Careless, 2024).

This study formed part of a larger project to harmonize the international community paramedicine (CP) curricula. The focus here is the development of a CP curriculum framework that encourages the integration of relevant topics into existing or future clinical degree-level programs that will equip paramedicine graduates to practice as community paramedics in either directive or professionally autonomous paramedic systems. This educational preparation will prepare graduates to further develop their capabilities across multiple practice settings and domains (College of Paramedics, 2024).

CP programs have emerged in both directive and professionally autonomous systems to address the needs of diverse and often underserved communities and individuals with a wide range of social and chronic disease needs (van Vuuren et al., 2021). In these CP models of care, the underlying philosophy and staffing configurations are determined by historical influences, existing health and social services, funding, and regulatory architecture. Irrespective of the paramedic system utilized, community paramedics have largely adopted knowledge, skills, and behaviours that are characteristic of primary healthcare professionals (Moritz, 2018).

A common characteristic of directive paramedic systems is that specialist or extended training of paramedics and primary care technicians (inclusive of emergency medical technicians) engaged in CP programs tends to rely on certificates or short courses to prepare them for practice (Caffrey, Barnes, & Olvera, 2018; Jensen, 2020). From a clinical governance standpoint, these community paramedics work under the supervision or direction of other registered or licensed health professionals, most notably physicians (National Association of State EMS Officials, 2021; Richmond, 2016). In the United States, the 2019 EMS Scope of Practice explicitly states that:

EMS personnel are not independent clinicians, but are expected to execute many treatment modalities based on their assessments and protocols in challenging situations (National Association of State EMS Officials, 2021).

This raises questions about the content and level of training that these primary care providers need to acquire and maintain the professional capabilities to undertake their CP roles. Little scholarly work has been completed to ascertain answers to these educational questions, with most CP courses built on the foundation of existing paramedicine training programs of varying structure and content (Spelten et al., 2024). Existing CP education programs generally offer additional topics that seek to address the needs of individual CP programs (Paramedic Health Solutions, 2021). The length and depth of these courses vary, with few accredited externally, while it is rare to see students offered college or higher education credits for their efforts to improve their knowledge, skills, and behaviours. However, some countries are better placed to ensure that paramedics are prepared for CP roles.

... where the education and training are university based, paramedics are in general well equipped for basic community paramedicine roles. We do need to con-

sider that this may not be the case in countries where there is limited Bachelor's degree level education available (Spelten et al., 2024).

The expected roles and capabilities of community paramedics at the clinician and practitioner levels guided this research. For this study, **Community Paramedic Clinicians** are entry level community paramedics who have the competencies and capabilities to practice as clinicians in a wide range of primary and urgent care settings. They bring their core paramedic knowledge, skills, and behaviours together with additional CP-related education and training to the health and social needs of individuals and communities. In contrast, **Community Paramedic Practitioners** have also acquired, and continue to demonstrate, an enhanced knowledge base, complex decision-making skills, competence, and judgment in community paramedic practice (O'Meara, Ahlers, & Wingrove, 2024).

METHODS

The CP harmonization curriculum project acknowledged at its onset that curricula need to be socially and culturally sensitive to the needs of communities. In addition, the project considered the advantages of appropriate, affordable, and accessible education programs that would strengthen and sustain CP programs. As a core value, the curriculum framework was developed on the premise that paramedicine is predominantly an evolving autonomous health discipline, rather than a public safety occupation (Williams, Beovich, & Olaussen, 2021).

The curriculum framework was designed through an examination of existing curricula, the CP literature, and questionnaire responses from two expert panels drawn from six countries where CP is established or emerging. These purposively recruited panelists comprised: practicing community paramedics, students, and educators; professional leaders; and subject matter experts who were recruited through an approved process of informed consent. [Monash University Human Research Ethics Committee, Project ID: 36288] The open-text responses were thematically analysed to identify the shared social and cultural needs of CP curricula at an international level.

Study data were collected and managed using REDCap electronic data capture tools hosted at Monash University (Harris et al., 2019; Harris et al., 2009). REDCap (Research Electronic Data Capture) is a secure, web-based software platform designed to support data capture for research studies, providing 1) an intuitive interface for validated data capture; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for data integration and interoperability with external sources.

In the first round of consultation, Panel 1 members were invited to complete an online questionnaire that asked them to assess and comment on the relevance of the existing modules of the Paramedic Health Solutions (Version 4.0) CP curriculum (Paramedic Health Solutions, 2021). Further to this, panelists were invited to provide suggestions for improvement. The Paramedic Health Solutions (PHS) curriculum was designed to provide a benchmark that could be utilised globally to help develop paramedicine programs that recognise the emergence of CP as either an integral part of core paramedicine practice or as a specialty program that operates on a stand-alone basis (North Central EMS Institute, 2012; Paramedic Health Solutions, 2021).

In a second round of consultation, a modified curriculum framework and revised topics were returned to Panel 1 members for assessment and further comment. They were asked to complete a multiple-choice questionnaire (5-point Likert scale) and provide open-text responses related to four proposed educational levels (micro-credentials, Associate's degree, Bachelor's degree, and Master's degree) to ascertain their opinion of the suggested curriculum framework and the modified content. Following this stage, a further draft curriculum framework was developed to incorporate this expert feedback.

The penultimate draft was then sent to a smaller second group of purposively recruited expert informants to validate the curriculum at four levels (Certificate, Associate's degree, Bachelor's degree, and Master's degree). Where appropriate, the panelists' collective suggestions were incorporated into the curriculum and published in the *International Community Paramedic Curriculum: A Guide for Educators* (O'Meara et al., 2024).

FINDINGS

The SQUIRE-EDU extension of the SQUIRE guidelines was used to report the overall findings of the community paramedicine curriculum harmonization project. This paper uses the same approach when reporting on the integration of CP-related topics into degree-level education programs. This process increased the completeness, transparency, and replicability of this effort to improve the education of community paramedics (Ogri-nc, Armstrong, Dolansky, Singh, & Davies, 2019).

Our findings, analysis, and discussion examine the rationale for CP being included in degree-level paramedicine programs and identifies topics relevant to those practicing CP at an introductory level. The Master's-level curriculum for specialist or advanced community paramedic practice was omitted from this paper on the basis that it is largely outside the reach of those practicing in directive paramedic systems that lack the professionalization markers that characterize the autonomous paramedic practice of advanced paramedic practitioners (Eaton et al., 2022). Likewise, the Certificate-level curriculum is not directly considered here as the curriculum framework broadly retains the content and duration of the previous community paramedic curriculum and is more suited to the technician-level provider.

The findings are presented across the three stages of the project. They include summaries of the expert feedback on the Paramedic Health Solutions Curriculum (Version 4.0) and the draft curriculum framework. The developmental work between the three questionnaires concentrated on articulating program values and expectations within an educational framework compatible with existing and evolving paramedicine higher education programs.

ASSESSING THE PARAMEDIC HEALTH SOLUTIONS (PHS) COMMUNITY PARAMEDICINE CURRICULUM

In the first round of consultation, 65 experts from five countries were invited to participate. Thirty-four from Australia, Finland, the United States (U.S.), and Canada completed an online questionnaire that asked them to assess and comment on the relevance of the PHS CP curriculum. These panelists – 14 from Australia, 14 from the U.S., one from Finland, and five from Canada - described themselves as: subject matter experts (16), paramedic agency or professional body leaders (4), accreditation or certification agency

members (2), practicing community paramedics (4), or prospective community paramedics or students (8).

They overwhelmingly felt that the existing 10 modules of the PHS curriculum are either essential or relevant to CP. (Table 1) There was some uncertainty expressed about the Personal Safety & Wellness and Pandemic Response topics. In both cases, the negative views of the topics were held across both directive and professionally autonomous systems, with four informants having negative views of both topics. The reasons for their reservations were articulated in their open-text responses.

Paramedic Health Solutions Modules	Essential	Relevant	Unsure	Not Relevant
1. Introduction to Community Paramedicine	26	8	0	0
2. Systems of Care	22	11	1	0
3. Social Determinants of Health	28	6	0	0
4. Community Paramedicine Operations	25	8	1	0
5. Community Paramedic Interventions	24	10	0	0
6. Cultural Competence	21	12	1	0
7. Personal Safety & Wellness	15	11	7	1
8. Chronic Disease Management	28	6	0	0
9. Mental Health	23	10	1	0
10. Pandemic Response	10	17	4	3

Table 1. Relevance of existing modules to community paramedicine.

Eighteen expert panelists made general comments across the ten modules, with all but two of the nine individuals with negative ratings taking the opportunity to comment. The themes (Table 2) that emerged from the open-text comments indicated support for the curriculum intent, even though some considered the PHS curriculum U.S.-centric. Several pointed out that the curriculum had not drawn on the experiences of community paramedicine in the United Kingdom (U.K.), where paramedics are working in a wide range of primary care settings such as medical practices and urgent care centres (College of Paramedics, 2023; Health Education England, 2019).

Panelist comments (Table 2) focused on identifying gaps in the PHS curriculum (Question 2), such as palliative care and cultural safety, the minimal time allocated to learning, and a lack of sensitivity to person-centered care. Some hinted that these shortcomings had been or could be addressed through more robust entry-to-practice education for paramedics through the transfer of paramedic education to higher education institutions that offer degree-level education. This view is consistent with the latest version of the U.K. paramedic curriculum framework (College of Paramedics, 2024) and established Bachelor of Paramedicine programs in Australia.

Twenty-three of the panelists suggested improvements to the curriculum (Question 3) and provided their rationale for additional topics and module. In some cases, the suggestions were concise, while in others they offered extensive commentaries.

Emergent Themes	Representative Feedback (by Country)
Support for PHS Topics	These [topics] represent a very strong foundation. They also incorporate key areas to support a functional community paramedic in most systems. (U.S. panelist)
	These modules are important and reflect the differences in working as a paramedic or a community paramedic, which I think, is also important when we think about what role these CPs are going to fill. (Finnish panelist)
	I think cultural competence and personal wellbeing are adequately covered in other areas of practice, such as undergraduate education and in ongoing professional development. The CP role within the PHS is already covered in Systems of Care. Pandemic response is going to be so varied and dependent on so many region-specific factors, I don't think it should be covered by a single module that is meant to apply to many. The CP role in a pandemic will be dictated by multiple, region specific factors and policies. (U.S. panelist)
Internationalisation of Curriculum	I wonder if this [curriculum] needs revisiting based on the most recent international evidence around how we as a global community are defining CP ... (Canadian panelist)
	The module content again seems to exclude UK models, and whilst Canada has had great success in proactive models of community paramedicine, the UK has great reactive models, and I believe in an international curriculum, this needs to be inclusive. (Australian panelist)
Curriculum Gaps and Language	Suggest a move towards structural determinants of health, such as acknowledging the effects of colonialism on indigenous people (Canadian panelist)
	At first glance, the modules seem to be lacking in geriatric-specific content. Although I may have missed it, more information on falls, frailty - maybe the 5Ms would be helpful (Mind, Mobility, Medications, Multimorbidity, and Matters Most). Some aspects of palliative or end-of-life care provision may be helpful. (Canadian panelist)
	The whole document needs a revisiting around philosophy, language, approach, which is not patient-centric, focused on co-designed care plans, or creating culturally safer care for racialized or other marginalized populations (which is the sandbox where CP states they are playing). (Canadian panelist)
	... current scoping/discussion around cultural competency - this section needs extensive revisiting again as far as language, what cultural competency is, and lens on which cultural competency is painted "as a skill set that is needed to be developed so that CP interventions are more effective, and the difference between compliance and non-compliance" ... (Canadian panelist)
	... there are places where patients are referred to as a product of their disease (i.e., psychiatric patient), rather than talking about the kind of care or support the patient may need - i.e., patients with psychiatric support needs or psychiatric diagnoses (patient first). I also note problematic language throughout like "compliance and non-compliance" when referring to patients. (Canadian panelist)
Higher Education and Credit Load	Some content areas are quite large, for example, interventions and chronic disease management, and may require more than the allocated didactic hours to achieve the learning outcomes. (Australian panelist)
	... hours of learning are way too short. This is based on a U.S. "certificate" study. You cannot dumb down this advanced level of care and need to introduce it to a clinician level, not a technician level or it will fail ... (Australian panelist)

Table 2. Emergent themes from question 2 (first round of consultation).

Although the provision of a palliative care approach, and ability to support patients with palliative care needs is needed for entry-level to practice paramedics in general, competency in this area is also needed by community paramedics who are seeing patients who would benefit from a palliative care approach in their case load, often with advancing chronic disease, co-morbidity, patient groups where there are attempts to deter ED usage, patients with complex care needs in community and high health system needs. This is a major hole. (Canadian panelist)

The suggestions for inclusion included a mix of topics that are typically part of entry-to-practice health professional education or are included in advanced clinical practice education programs at the graduate level. In common with the responses to Question 2, panelists identified the lack of patient-centered care language or acknowledgment of cultural sensitivity in the PHS curriculum.

In the Cultural Competence unit, there needs to be some inclusion for 'First Nations' in Section 6.1.7. The language of this unit needs to reflect currency of being 'Culturally Safe' in practise/practice. (Australian panelist)

Many of these suggested topics, such as palliative care, pharmacology, geriatrics, public health, law & ethics, research literacy, and professionalism/regulation are found in existing Bachelor of Paramedicine programs. There was concern about the limited focus on interprofessional practice. These suggested inclusions are consistent with the U.K. College of Paramedics recently released Curriculum Framework (College of Paramedics, 2024).

Interprofessional practice concepts - must be a minimum requirement, WHO outlines this, and the Delphi consensus on community paramedic definition found this to be a core tenet of defining the community paramedic role. (Australian panelist)

I was thinking the right word for the skills of cooperation with other social and health care providers ... wondering if could this be pointed out more strongly. (Finnish panelist)

I believe it is essential that CPs possess a fairly high level of research literacy, so that they can understand evidence-based medicine and best practices at a level that is not superficial. (U.S. panelist)

Other suggestions related to advanced education and regulatory issues, such as non-medical prescribing, that are beyond our scope here, however, they were addressed separately in the International Community Paramedic Curriculum Guide to Educators (O'Meara et al., 2024).

DRAFT COMMUNITY PARAMEDICINE CURRICULUM FRAMEWORK

Following analysis of this collective feedback, a comparison was made between the PHS CP curriculum and a selection of nationally regulated Bachelor of Paramedicine programs, the most recent U.K. Paramedic Curriculum Guide, (College of Paramedics, 2024) and consideration of future endorsements of advanced practice from regulatory bodies in the U.K., Ireland and Australia. This led to the pragmatic development of an educational framework that was more internationally consistent with higher education frameworks for paramedicine and other healthcare professions. Individual subject descriptions and academic expectations were adapted from the publicly available outlines of paramedic subjects that are already offered across established paramedicine degree programs.

These considerations were progressed on the basis that CP training in directive paramedic systems would have greater utility as an integrated component of the entry-to-practice of paramedic education at degree level. In addition to extending the depth and breadth of individual topics, this approach would afford graduates academic credit for their efforts to improve their knowledge, skills, and behaviours through education (Patterson, Probst, Leith, Corwin, & Powell, 2005). Informants drawn from professionally autonomous paramedic systems argued that a reliance on short courses to train community paramedics was an inherent weakness of the PHS curriculum.

The most significant additions to the PHS curriculum were the articulation of course objectives, the development of a structure consistent with higher education systems, and higher academic credits. In addition, statements of the expected program outcomes were provided in terms of professional capabilities. Individual subject descriptions were drafted with an emphasis on inclusive and culturally appropriate language.

A curriculum framework for Associate's (60 credit points) and Bachelor's degrees (90-120 credit points) was developed that integrates 7-12 in-depth CP subjects of 3 credit points each, alongside paramedic subjects that focus on medical and health emergencies. (Figure 2) We adopted the U.S. higher education credit system throughout the paper in the interests of consistency. There was no distinction made between three- and four-year bachelor degrees on the basis that degrees in North America generally include 30 credit points of general studies.

In consideration of technicians/clinicians transitioning into CP, it was initially proposed that the PHS curriculum be re-packaged as micro-credentials, however later consultation convinced us to recommend that these short courses be offered as Certificate qualifications with appropriate credits to provide a career pathway for technician-level community paramedics (O'Meara, Wingrove, & Ahlers, 2024).

Seven CP-related subjects in the framework would contribute 21 of 60 credit points toward an Associate's Degree in Paramedicine (Community Paramedic Clinician). The balance of the Associate's Degree would consist of topics that address acute care and general studies. In the case of a Bachelor of Paramedicine (or equivalent), twelve CP-related subjects would be expected to contribute 36 of 90 credit points. The balance of the

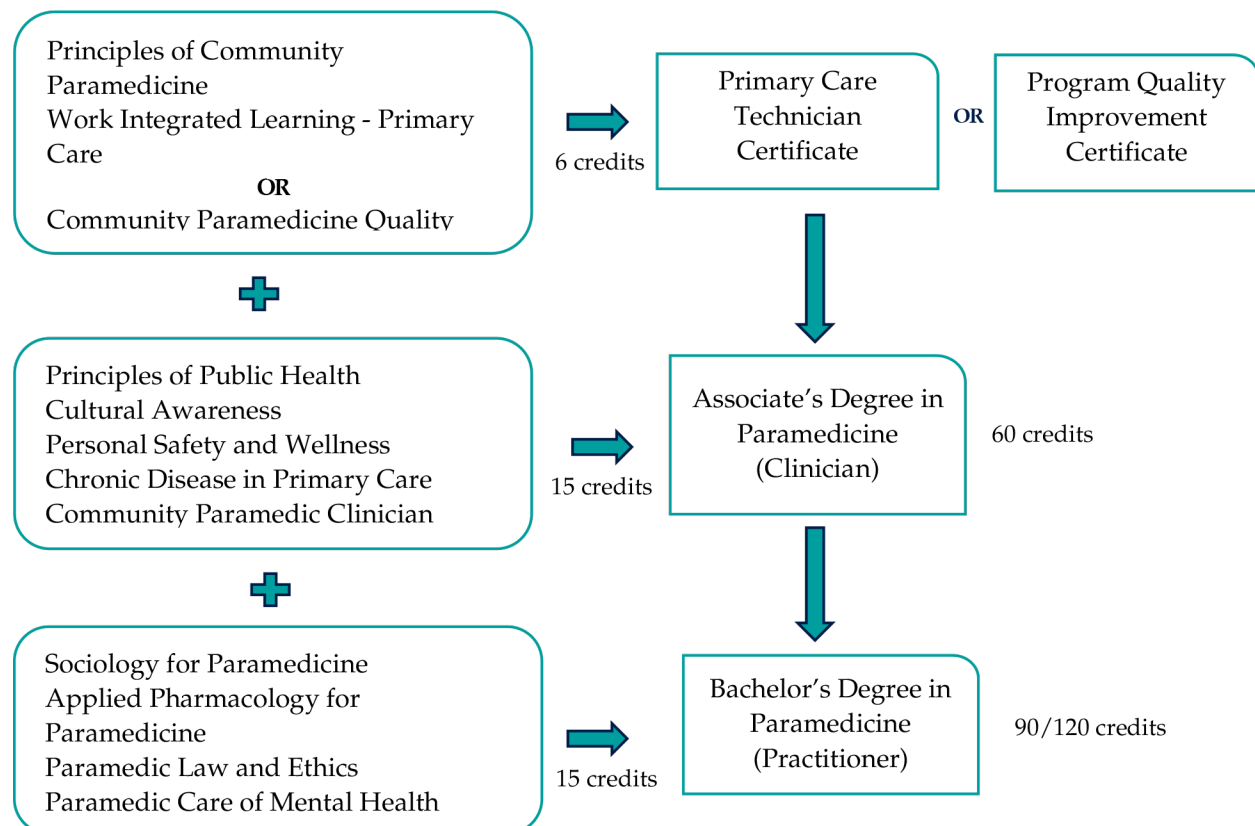


Figure 2. Certificate and Undergraduate Educational Framework

Bachelor's Degree will be made up of topics that address acute care and general studies as required to satisfy local regulatory expectations.

INTEGRATION INTO PARAMEDICINE ASSOCIATE'S AND BACHELOR'S DEGREES

The recommended Associate's and Bachelor's degree programs share subjects, academic expectations, and pedagogies. At both program levels, students would have the opportunity to acquire relevant clinical skills and study the principles of public health, disease across the lifespan, health disparities, and chronic disease processes as they relate to community needs across diverse populations. They would share the same strategies and methods for teaching, learning, and assessment as determined by individual higher education providers in conjunction with the requirements of appropriate professional associations and regulatory bodies.

We suggest that student learning is achieved through a reflective and critical approach to the application of knowledge and skills in paramedic science and practice. A variety of assessment styles may be employed to test the spectrum of knowledge, performance, practical application of skills, and the personal and professional awareness required. On-going formative assessment allows for feedback on performance throughout the course, while summative assessment ensures that the student meets academic and professional requirements. Assessment of competence and the subsequent award are determined in partnership between academic and clinical supervisors. An integral aspect of all courses is clinical practice through work-integrated learning placements that meet the requirements of professional associations and regulators.

An Associate's Degree in Paramedicine (Community Paramedic Clinician) would be designed for those planning to practice as entry-level community paramedic clinicians in directive paramedic systems. On the other hand, a community paramedicine-related bachelor's degree would enable paramedics to practice as community paramedic practitioners (not as advanced paramedic practitioners). These graduates would develop the capacity to:

- critically analyse and synthesise research in the field of community paramedicine;
- develop appropriate responses to issues in health and well-being;
- evaluate current and future issues in community paramedicine;
- adapt their skills, knowledge, and community paramedic practice to new evidence;
- work independently and collaboratively in interprofessional teams;
- contribute to scholarship in community paramedicine;
- communicate an in-depth understanding of the roles of community paramedics; and
- apply professional judgment, highly-developed skills, and depth of community paramedicine knowledge in a broad range of contexts.

These differences account for proportionate changes in expected academic load, with Associate's students expected to undertake 630 hours of didactic study and supervised clinical activities, plus 105 hours of work-integrated learning in primary healthcare and aged care settings. Bachelor's students would undertake 1,080 hours of didactic study and supervised clinical activities, with 180 hours of work-integrated learning activities in primary care and aged care settings.

Graduates of these degree-level programs would be eligible for healthcare professional registration/certification with their respective national regulatory bodies. In some cases, this might involve the sitting of a separate licensing board examination in CP. Graduates with an Associate's Degree in Paramedicine (Community Paramedic Clinician) would have the knowledge, skills, and behaviours that enable graduates to practice as community paramedic clinicians in collaboration with other healthcare and social service professionals. They would be qualified to contribute to a CP program by implementing predesigned prevention programs that address health disparities intended to improve the health of diverse populations. Credits may be granted toward a Bachelor's degree qualification.

Graduates with Bachelor's degrees that incorporate community paramedicine would have the knowledge, skills, and behaviours that enable them to practice autonomously as community paramedic practitioners alongside other healthcare and social service professionals. Graduates would be qualified to contribute to CP programs through prevention programs that address health disparities intended to improve the health of diverse populations. Completion of the Bachelor's degree may qualify graduates for admission to postgraduate education programs.

REVIEW OF A DRAFT CURRICULUM FRAMEWORK

A revised community paramedic curriculum framework was presented to Panel 1, who completed a multiple-choice questionnaire in which they expressed strong support for integrated paramedic degree programs. In addition, they were invited to further expand their views about the integration proposal. Panel members from the U.S. and Canada made significant contributions to answering this question, even though most had limited exposure to clinically-oriented Bachelor of Paramedicine programs. The emergent themes related to degree-level curriculum were expressed as: (1) a step forward; (2) refinements indicated; (3) and, interprofessional practice.

1. A STEP FORWARD

Panelists lauded the opportunity to integrate CP and primary health topics into general paramedic education. Those from the U.S. saw Associate's degrees as a step toward Bachelor's degrees.

This is an opportunity to create a workable crosswalk between North American 4-year programs and the EU 3-year programs. Just like making the "paramedic" universal, for the concept to be fluid around the world, we need to compare apples to apples. (U.S. panelist)

... we need a degree program beyond the AAS Degree in the United States. We must establish an educational standard (minimum standard). I suppose the start is that all paramedic programs must be a 2-year degree program. The certification only must be eliminated. From this point, we move towards a BS program in Paramedicine. Within this degree program, we could place some of the education regarding Community Paramedicine. (U.S. panelist)

2. *REFINEMENTS INDICATED*

Australian panelists had few doubts about the value of integrating CP and primary health curricula into Bachelor's degrees. Australian and Canadian panelists stressed the need to refine and modernize the descriptions of subjects related to mental health, palliative care, and Indigenous studies, as well as a stronger emphasis on person-centered care. Others had specific suggestions for topics that could be included in paramedic educational programs.

Whilst the move to a higher level qualification is a positive one. I believe there are some aspects of community paramedicine that have not been considered in the curriculum outlined. These being clinical leadership and critical decision-making processes. Although these may be covered in standard paramedic/EMT courses, there is a different aspect to it when working in community paramedicine and integrating with multiple stakeholders. (Australian panelist)

... we need to get away from this top down language when we are promoting patient-centered care and get away from the idea that we are driving this ship - we are to be co-navigating the ship with the patient/family/caregiver/community with a shared focus on their own defined goals (goal oriented care) - this needs to be "engage with" "collaborate" "engage in" "supporting" etc. ... (Canadian panelist)

3. *INTERPROFESSIONAL PRACTICE*

Panelists identified some areas for improvement, including the need for interprofessional practice topics and an associated move beyond paramedic scopes of practice to how paramedics can work with others. Further comments related to specific subjects that have not formed part of traditional paramedicine courses in the past.

It would be of significant benefit to leverage some of the work in IPE and embed expectation/competencies/objectives related to actual interprofessional competencies ... (Canadian panelist)

All of these look great - would be good to see the inclusion of education and competencies for interprofessional practice and communication as a part of each module (Australian panelist)

A second panel of expert informants from the U.S., Canada, and the U.K. verified the proposal's validity and desirability. While the number of responses was disappointing, the overall insight offered was valuable and helped finalise the Guide to Educators. Their feedback supported the penultimate version of the guide, which had been refined and edited to incorporate the suggestions from Panel 1. Their comments related to the integration of CP into degree-level programs included technical questions about the variations in how degrees are structured internationally, pointed out the need for greater sensitivity in the language used concerning disadvantaged populations, as well as suggesting that existing degree programs could incorporate some of the curriculum recommendations. Where practicable, edits were made to the Guide that aided clarity and sensitivity. Their feedback was broadly consistent with those from Panel 1 and relevant excerpts are provided below.

Palliative care is both a philosophy and approach to care - consider the subject as "Palliative Approach to Care for Paramedicine" - good to see this section includes grief support. Include advance care planning as precursor to goals of care. Inter-professional practice is key to delivering a palliative approach to care. Good to see medical assistance in dying be addressed (jurisdictional dependent) - paramedic preparedness for role here. 'End-of-life' is colonial language - many cultures, including Indigenous cultures, do not believe human death is an ending, but rather a continued journey. (Canadian panelist)

The Syllabus for the Associate Degree in Paramedicine (Community Paramedic Clinician) appears very comprehensive. I find the Bachelor's Degree in Paramedicine Community Paramedic Practitioner very exciting as a concept. It would be great to see this develop in the UK as an alternative to the Standard BSc Paramedic Science route we have and could be a real viable alternative for individuals as a direct entry route for those who do not wish to join a traditional NHS Ambulance Service. (U.K. panelist)

DISCUSSION

Community Paramedicine is a model of care that has existed for over two decades and is more than ready to be integrated into mainstream paramedic education programs alongside other healthcare professionals. Community paramedics are required to navigate the complex needs of individual users and population groups through parts of the healthcare and social service systems that are unaccustomed to working alongside paramedics. Likewise, paramedics now confront the specter of changing roles that require knowledge, skills, and behaviours that increasingly overlap with those of primary healthcare professionals.

Our CP curriculum framework (O'Meara et al., 2024), which was developed through this research, was designed to precede and inform the process of integrating CP-related topics into degree programs while at the same time supporting the modernization of paramedic systems and the professionalization of the discipline. We concentrated on identifying and describing the knowledge, skills, and behaviours relevant to CP that can be integrated into paramedicine degrees to equip graduates with the capabilities to practice as interprofessional clinicians or practitioners in primary care settings.

In many countries, students, individual users, and communities are already benefiting from improved paramedic education that includes CP-related topics that support contemporary and emerging practice. Others recognize that they face barriers and obstacles to enhanced paramedicine education. In the U.S. context, Maguire and colleagues recently argued that the road to the provision of optimal paramedic care to communities goes through the university and that there is a critical need for paramedicine clinicians to meet academic requirements consistent with their roles as health professionals (Maguire et al., 2024). According to these authors, resistance to the implementation of academic prerequisites for paramedics "... reflects a narrow perspective that overlooks the intricate network of essential elements required to ensure that the profession can best accomplish its mission to deliver optimal care its communities" (Maguire et al., 2024).

Ultimately, decisions about the future of CP education will be made by communities and service users who determine their local needs and priorities. It is therefore incumbent on

the advocates for improved CP education to provide the evidence for change, as well as guidance on how the vision can be successfully implemented (Spelten et al., 2024). This imperative applies whether they are arguing for foundational training for technicians at a Certificate level or for educational pathways that enable the widespread availability of paramedics with the education and capabilities required to undertake roles as paramedic practitioners or advanced paramedic practitioners.

Whether on the ground at the community interface or at a policy level, community paramedics and others will need well-thought-out implementation strategies that increase their chances of sustainable success. Combined with broader policy changes related to funding and governance, our findings can help paramedic systems, regulators, and professional organizations considering the wider adoption of Degree-level education for entry-to-practice paramedics providing care to diverse and underserved populations a way to navigate the future.

REFERENCES

- Medical Direction of Mobile Integrated Health Care and Community Paramedicine Programs. (2015). *Annals of Emergency Medicine*, 66(6), 692–693. <https://doi.org/10.1016/j.annemergmed.2015.08.020>
- Brooks, I. A., Cooke, M., Spencer, C., & Archer, F. (2015). A review of key national reports to describe the development of paramedic education in England (1966–2014). *Emergency Medicine Journal*, 33(12), 876–881. <https://doi.org/10.1136/emergmed-2015-205062>
- Brooks, I. A., Grantham, H., Spencer, C., & Archer, F. (2018). A Review of the Literature: The transition of entry-level paramedic education in Australia from vocational to higher education (1961–2017). *Australasian Journal of Paramedicine*, 15, 1–11. <https://doi.org/10.33151/ajp.15.2.584>
- Caffrey, S. M., Barnes, L. C., & Olvera, D. J. (2018). Joint position statement on degree requirements for paramedics. *Prehospital Emergency Care*, 23(3), 434–437. <https://doi.org/10.1080/10903127.2018.1519006>
- Careless, J. (2024, 4th January 2024). Paramedics key to solving Canada's healthcare labor crisis. *EMS World*. Retrieved from <https://www.hmpgloballearningnetwork.com/site/emsworld/feature-story/paramedics-key-solving-canadas-healthcare-labor-crisis>
- Catterall, M., Bromwich, K., Phillips, A., & Eaton, G. (2016). Oxford Brookes faculty take on Turkish Paramedic Rally and International Congress 2015. *Journal of Paramedic Practice*, 8(5), 228–230. <https://doi.org/10.12968/jpar.2016.8.5.228>
- College of Paramedics. (2023). *Diploma in primary and urgent care*. Retrieved from https://collegeofparamedics.co.uk/COP/ProfessionalDevelopment/Diploma_in_Primary_and_Urgent_Care.aspx
- College of Paramedics. (2024). *Paramedic Curriculum: Curriculum for all paramedic education programmes leading to professional registration*. Retrieved from: <https://collegeofparamedics.co.uk/COP/ProfessionalDevelopment/Developing%20a%20New%20Paramedic%20Curriculum.aspx>
- Dabrowski, M., Szczepa ski, B., Rachubinski, P., Kapler, M., Dabrowska, A., Szarpak, Ł., Zieli ski, M., Surzyn, E., & Nowicki, M. (2017). Evolution and challenges of the paramedic profession in Poland. *Anestezjologia i Ratownictwo*, 2, 176-183. Retrieved from https://www.researchgate.net/publication/320272111_Evolution_and_challenges_of_the_paramedic_profession_in_Poland

- Eaton, G., Wong, G., Tierney, S., Roberts, N., Williams, V., & Mahtani, K. R. (2021). Understanding the role of the paramedic in primary care: a realist review. *BMC Medicine*, 19(1). <https://doi.org/10.1186/s12916-021-02019-z>
- Harris, P. A., Taylor, R., Minor, B. L., Elliott, V., Fernandez, M., O'Neal, L., McLeod, L., Delacqua, G., Delacqua, F., Kirby, J., & Duda, S. N. (2019). The REDCap consortium: Building an international community of software platform partners. *Journal of Biomedical Informatics*, 95, 103208. <https://doi.org/10.1016/j.jbi.2019.103208>
- Harris, P. A., Taylor, R., Thielke, R., Payne, J., Gonzalez, N., & Conde, J. G. (2009). Research electronic data capture (REDCap)—A metadata-driven methodology and workflow process for providing translational research informatics support. *Journal of Biomedical Informatics*, 42(2), 377–381. <https://doi.org/10.1016/j.jbi.2008.08.010>
- Health Education England. (2019). *Paramedic Specialist in Primary and Urgent Care Core Capability Framework*. London: National Health Service, Retrieved from <https://www.hee.nhs.uk/sites/default/files/documents/Paramedic%20Specialist%20in%20Primary%20and%20Urgent%20Care%20Core%20Capabilities%20Framework.pdf>
- Hosseini, S. M. , Forouzandehfar, H. , Dadgarmoghadam, M. and Malekzadeh, J. (2017). Investigating the compliance of emergency medicine technician curriculum with job requirements from the viewpoint of the workers at Mashhad University of Medical Sciences in 2015. *Future of Medical Education Journal*, 7(1), 41-45. <https://doi.org/10.22038/fmej.2017.8882>
- Jensen, A.-L. D. (2020). *Higher Education in the United States' Emergency Medical Services: A Phenomenological Study: American College of Education*. Retrieved from <https://www.proquest.com/docview/2468574843>
- Maguire, B. J., Maniscalco, P. M., Gerard, D., R, Phelbs, S., Cormier, S. B., & Handal, K., A. (2024). *Creating the Emergency Medical Services System of the Future: the role of the EMS Education Agenda*. U.S.A.: Verizon.
- Majchrowska, A., Pawlikowski, J., Jojczuk, M., Nogalski, A., Bogusz, R., Nowakowska, L., & Wiechetek, M. (2021). Social prestige of the paramedic profession. *International Journal of Environmental Research and Public Health*, 18(4), 1506. <https://doi.org/10.3390/ijerph18041506>
- Makrides, T., Ross, L., Gosling, C., Acker, J., & O'Meara, P. (2022). Defining two novel sub models of the Anglo-American paramedic system: A Delphi study. *Australasian Emergency Care*, 25(3), 229–234. <https://doi.org/10.1016/j.aucec.2021.11.001>
- Makrides, T., Ross, L., Gosling, C., & O'Meara, P. (2023). A conceptual framework for the exploration of the relationship between systems of paramedicine and system performance. *Australasian Emergency Care*, 26(2), 149–152. <https://doi.org/10.1016/j.aucec.2022.09.004>
- Moritz, D. (2018). The Regulatory Evolution of Paramedic Practice in Australia. *Journal of law and Medicine*, 25(3), 765-781. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/29978666/>
- National Association of State EMS Officials. (2021). *National EMS scope of practice model 2019: Including change notices 1.0 and 2.0* (Report No. DOT HS 813 151). National Highway Traffic Safety Administration. Retrieved from <https://www.nhtsa.gov/node/103856>
- North Central EMS Institute. (2012). *Community Paramedic Curriculum 3.0*. In (pp. 241). St Cloud, Minnesota: NCEMSI.

- O'Meara, P., Ahlers, M., & Wingrove, G. (2024). *International Community Paramedic Curriculum: A Guide for Educators*. In. Cincinnati: The Paramedic Network.
- O'Meara, P., Wingrove, G., & Ahlers, M. (2024). An international community paramedic career structure. *International Journal of Paramedicine*, 8, 18–33. <https://doi.org/10.56068/slii4700>
- Office of the National Rural Health Commissioner. (2023). *Ngayubah Gadan (Coming together) Consensus Statement: Rural and Remote Multidisciplinary Health Teams*. Australian Government, Retrieved from <https://www.health.gov.au/sites/default/files/2023-06/the-ngayubah-gadan-consensus-statement-rural-and-remote-multidisciplinary-health-teams.pdf>
- Ogrinc, G., Armstrong, G. E., Dolansky, M. A., Singh, M. K., & Davies, L. (2019). SQUIRE-EDU (Standards for Quality Improvement Reporting Excellence in Education): Publication guidelines for educational improvement. *Academic Medicine*, 94(10), 1461–1470. <https://doi.org/10.1097/acm.0000000000002750>
- Paramedic Board of Australia. (2021). *Professional capabilities for registered paramedics*. Canberra, Retrieved from <https://www.paramedicineboard.gov.au/Professional-standards/Professional-capabilities-for-registered-paramedics.aspx>
- Paramedic Health Solutions. (2021). *Community Paramedicine 4.0 Curriculum*. In (pp. 224). Cincinnati: Paramedic Health Solutions.
- Patterson, P. D., Probst, J. C., Leith, K. H., Corwin, S. J., & Powell, M. P. (2005). Recruitment and retention of emergency medical technicians: a qualitative study. *Journal of Allied Health*, 34(3), 153-162. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/16252678/>
- Richmond, N. (2016). *Medical Direction for MIH-CP Programs*. Paper presented at the EMS World Expo, New Orleans, Louisiana. http://agendalink.co.fort-bend.tx.us:8085/docs/2016/CCTR/20160823_2843/23272_EMS%20World%20Expo.pdf
- Sobuwa, S., & Christopher, L. D. (2019). Emergency care education in South Africa: Past, present and future. *Australasian Journal of Paramedicine*, 16, 1–5. <https://doi.org/10.33151/ajp.16.647>
- Spelten, E., Thomas, B., van Vuuren, J., Hardman, R., Burns, D., O'Meara, P., & Reynolds, L. (2024). Implementing community paramedicine: A known player in a new role. A narrative review. *Australasian Emergency Care*, 27(1), 21–25. <https://doi.org/10.1016/j.auec.2023.07.003>
- van Vuuren, J., Thomas, B., Agarwal, G., MacDermott, S., Kinsman, L., O'Meara, P., & Spelten, E. (2021). Reshaping healthcare delivery for elderly patients: The role of community paramedicine; a systematic review. *BMC Health Services Research*, 21(1). <https://doi.org/10.1186/s12913-020-06037-0>
- Vincent-Lambert, C., Bezuidenhout, J., & van Vuuren, M. J. (2014). Are further education opportunities for emergency care technicians needed and do they exist? *African Journal of Health Professions Education*, 6(1), 6-9. Retrieved from <https://www.ajol.info/index.php/ajhpe/article/view/104905>
- Williams, B., Beovich, B., & Olaussen, A. (2021). The definition of paramedicine: An international Delphi study. *Journal of Multidisciplinary Healthcare*, 14, 3561–3570. <https://doi.org/10.2147/jmdh.s347811>



Cambridge

CONSULTING GROUP

An Unprecedented Team of Experts



Before we became consultants, we were consumers of EMS consulting services and never really satisfied with what we bought. We believe our team's knowledge and experience can make a difference for you.

Proud to support the IJOP and the development of new and deeper insights into the art and science of paramedicine

www.cambridgecg.net



CONCEPTS

IMPROVING THE INTERFACILITY TRANSPORT EXPERIENCE: DEVELOPMENT OF A MOBILE DELIRIUM / HOSPICE BOX

Zachary Tillett, MD, NRP¹; Ruben Troncoso Jr., MD, MPH¹; Eric Garfinkel, DO¹; Matthew J. Levy, DO, MSc¹; Michelle Crispo, MD²; Asa Margolis, DO, MPH, MS¹

Author Affiliations: 1. Department of Emergency Medicine, School of Medicine, Johns Hopkins University, Baltimore, MD, USA; 2. Department of Emergency Medicine, Maine Medical Center, Portland, ME, USA.

Recommended Citation: Tillett, Z., Troncoso, R., Garfinkel, E., Levy, M., Crispo, M., & Margolis, A. (2025). Improving the interfacility transport experience: Development of a mobile delirium/hospice box. *International Journal of Paramedicine*. (11), 72-77. <https://doi.org/10.56068/XMNT1470>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3290>.

Keywords: interfacility transport; hospice; delirium; end of life care; equipment; emergency medical services, EMS, paramedicine

Disclosures: None.

Funding: External funding was not used to support this work.

Received: December 24, 2024

Revised: February 23, 2025

Accepted: April 7, 2025

Pre-Issue Release: June 11, 2025

Published: Pending

***Corresponding Author:**
zbtevms@gmail.com

ABSTRACT

As the U.S. populace ages, interfacility transport teams face unique challenges in addressing the needs of two rapidly growing patient populations. Both elderly individuals at risk for delirium and those transitioning to comfort-based care, such as hospice are increasingly utilizing interfacility transport resources as the interact with the medical system. Current care modalities for patients are primarily centered on medical stability during transport and do not adequately address aspects such as patient comfort or alignment with goals when a patient is on hospice or at risk for delirium.

To address these challenges, a delirium/hospice care box was designed and implemented as part of a high-volume critical care transport program. This box was created to enhance the patient experience by targeting cognitive engagement, comfort, and sensory support. Items included in the box for cognitive engagement consisted of a Bluetooth speaker intended to play music of the patient's choice, fidget toys, sound amplifiers for those who are hard of hearing, and realistic baby dolls for patients with advanced dementia. Comfort and sensory support items included a medical-grade, wipeable weighted blanket, sunglasses, oral care products, essential oils, a clip-on fan, and other items. These were selected based on prior research demonstrating their benefits for this population.

The box was funded by a hospital grant and implemented within a busy interfacility transport team at a quaternary care academic center. The goals of the box included enhancing the transport experience, potentially reducing delirium, and aligning the care provided during interfacility transports with the goals of a unique but growing patient population.

INTRODUCTION

Every day in the United States, approximately 10,000 Americans transition into the age 65 and older group, and by 2030, all living baby boomers will have reached this milestone (United States Census Bureau, 2019). In the face of an aging American populace, interfacility transport teams need to be forward-thinking about how to approach this rapidly growing patient population to enhance the quality of care provided. As the population ages, there will inevitably be an increase in both patients at risk for developing delirium and those actively experiencing it. Patients

Author Interview:

<https://youtu.be/5E7SFbjKd1Q>



most at risk of developing delirium—i.e., the elderly, chronically ill, and medically frail—comprise a significant portion of those who may require interfacility transport (Institute of Medicine [IOM] Committee on Approaching Death, 2015).

Further data suggests that non-pharmacologic interventions geared towards increasing comfort may help prevent patients from developing delirium (Patel et al., 2014). Additionally, non-pharmacologic, comfort-focused interventions can help reduce overall cognitive decline among hospitalized geriatric patients (Lachs et al., 1998). Delirium is both a resource-intensive and costly burden for the current healthcare system, with estimates as high as \$150 billion spent annually to manage this condition (Leslie et al., 2008). Thus, transport teams should attempt to mitigate delirium during transport to enhance patient experience and comfort, and minimize the risk of delirium development. While little evidence exists on whether interfacility transport directly contributes to delirium, interfacility transport includes many risk factors for precipitating delirium, such as an unfamiliar environment, disruption of routine medications, lack of toileting, restraints (seatbelts), potential disruption of the sleep-wake cycle, and uncomfortable stretchers. Failing to address these potential deliriogenic risks of interfacility transport could contribute to the strain the healthcare system is currently facing, and will continue to face, with an aging population.

Another growing patient population that transport crews may increasingly encounter includes those entering end-of-life care. In congruence with the nation's aging, there has been an increase in hospice enrollment, with 1.72 million eligible Medicare beneficiaries enrolling in hospice care in 2020, marking a 6.8% increase from the previous year (National Hospice and Palliative Care Organization, 2018). As more patients transition to hospice, transport crews will be asked with increasing frequency to transport these patients to facilities or home.

There is potentially significant physiologic crossover between those at risk for delirium and those entering hospice care models. These patients are often medically frail with limited reserves, making them at high risk for delirium, similar to the geriatric patient population. Furthermore, the overall goals of care among hospice patients are different, focusing primarily on maximizing comfort rather than pursuing curative treatments. Aligning the care delivered with individual patient goals is paramount for transport teams and should be a focal point in delivering the highest quality of care.

The development of a delirium/hospice box aims to optimize transport for these two populations, considering their known risk profile for delirium and the need for comfort-focused care. The box contents were carefully selected to provide transport clinicians with non-pharmacologic tools to support optimal care and comfort.

IMPLEMENTATION

This patient care box was implemented within an interfacility critical care transport program at a quaternary care academic center responsible for approximately 22,000 patient transports annually. Clinicians were notified via email prior to deployment, and contents and usage instructions were provided in the email and in the box itself. Stored in the supervisor's office, the box was accessible for any transport as determined by dispatch information. No formal protocol was created for mandating implementation of the box and currently it is up to crews to deploy the box as they see fit. When employed, the box

is secured on an open seat accessible by clinicians during transport as per standard protocol for securing bags during transport.

The equipment was funded by a hospital grant award, with a total cost of \$600. Options exist to reduce the cost by selecting alternative items, such as substituting a less expensive weighted blanket, which constituted about one-third of the cost. Large items were designed to be wipeable and reusable, while smaller, inexpensive items were disposable. Items selected fell into two domains: cognitive engagement and comfort/sensory support (Table 1).

Comfort/Sensory Focused Items
Small stroller fan, plug in/battery powered, articulating tripod mount with 4 speed
Essential oil – 8 pack (including lavender)
Ultrasonic portable aromatherapy diffuser
Sommerfly Relaxer™ wipe clean travel sized weighted blanket, medium, 12 LB
Flameless candle set 3x, battery powered with remote
Biotene oral mouth rinse, dry mouth, fresh mint
Xylimelts dry mouth, stick on melts, 40 count
Medicine cups – 100 count paper, disposable
Blue mouth sponge 50 count, disposable
Aviator style sunglasses with case
Cognitive Engagement
Personal sound amplifier (Pocket Talker)
Blue tooth portable speaker system
Fidget decahedron, large fidget toy
Adult/Autism fidget toy set – 5 piece
Realistic sleeping infant doll 2x, one light skin tone, one dark skin tone

Table 1. Hospice box contents.



Figure 1. Box contents.

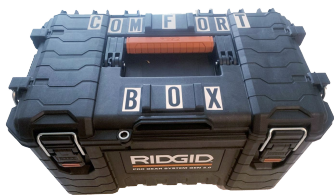


Figure 2. Box.

COGNITIVE ENGAGEMENT

The first domain, cognitive engagement, includes a Bluetooth speaker for music, which has been shown to prevent delirium and reduce anxiety, physiological stress, and sedation needs in mechanically ventilated patients (Johnson et al., 2018; Yang et al., 2010; Chou et al., 2016). Several fidget toys are included for anxious patients or those with hyperactive delirium. Two realistic-style baby dolls were also selected based on evidence suggesting they improve emotional states, reduce disruptive behaviors, and may help prevent delirium (Smith et al., 2013; Rosland et al., 2008). Lastly, a personal sound amplifier device (pocket talker) with headphones was included to facilitate communication with patients who have hearing difficulties.

COMFORT AND SENSORY SUPPORT

The second domain focuses on comfort and sensory support. A medical-grade, wipeable 12-pound weighted blanket was selected based on evidence that it reduces anxiety and benefits patients with behavioral issues or advanced dementia resistant to medications (Haring et al., 2011; Siedlecki et al., 2020; Thompson et al., 2010). Additional items include flameless candles for ambiance, sunglasses to reduce light exposure, and oral care items for hospice patients, as dry mouth and thirst are common among this population (Kunzmann et al., 2000). To manage air hunger and dyspnea, a small clampable fan was included, which can help non-hypoxic patients feel less short of breath (Hajat & Stein, 2018; Smith et al., 2009). Essential oils with a diffuser were also included, as lavender aromatherapy can help reduce pain and anxiety, and enhance sleep (Hartley & Perencevich, 2020; Buchman et al., 2002).

LIMITATIONS

There are notable limitations around the development of this box. While the box is based off of best practice guidelines and included input from experts in emergency medicine, interfacility medicine and palliative care there is limited supporting literature around creation of a project such as this. Given the lack of associated literature many of the studies for which the objects in the box are based are of low quality, and may not be generalizable to a broader population or may not apply in the interfacility space. Furthermore, several of the studies cited are not based in the US which may limit the applicability to a US based population. The box contents may need to be readdressed and amended based on clinician experience and as more literature around this topic is produced.

CONCLUSION

The delirium and hospice box was designed to improve the patient experience during transport and align care with patients' overall goals. While data on whether these items reduce delirium or improve transport experience is limited, many of these tools are used in healthcare settings for their established benefits. Reusable equipment and comfort-focused tools can potentially help manage anxiety, pain, and delirium in two rapidly growing patient populations.

REFERENCES

- Buchman, A. S., Schneider, J. A., Leurgans, S., et al. (2002). Physical activity and Alzheimer's disease pathology in older adults. *Neurology*, 58(9), 1303-1309. <https://pubmed.ncbi.nlm.nih.gov/12442972>
- Chou, R., Gordon, D. B., de Leon-Casasola, O. A., et al. (2016). Management of postoperative pain: A clinical practice guideline from the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council. *JAMA*, 315(14), 1524-1534. <https://jamanetwork.com/journals/jama/fullarticle/1687827>
- Hajat, C., & Stein, E. (2018). The global burden of multiple chronic conditions: A narrative review. *Preventive Medicine Reports*, 12, 284-293. <https://pubmed.ncbi.nlm.nih.gov/30066326>
- Haring, R., Feng, Y. S., Moock, J., et al. (2011). Self-perceived quality of life predicts mortality risk better than a multi-biomarker panel, but the combination of both does best. *BMC Medicine*, 9, 136. <https://pubmed.ncbi.nlm.nih.gov/32204779>
- Hartley, D. M., & Perencevich, E. N. (2020). Public health interventions for COVID-19: Emerging evidence and implications for an evolving public health crisis. *JAMA*, 323(19), 1908-1909. <https://pubmed.ncbi.nlm.nih.gov/32396914>
- Institute of Medicine (US) Committee on approaching death: Addressing key end of life issues. (2015). *Dying in America: Improving quality and honoring individual preferences near the end of life*. National Academies Press (US). <https://www.ncbi.nlm.nih.gov/books/NBK553009>
- Johnson, K., Fleury, J., & McClain, D. (2018). Music intervention to prevent delirium among older patients admitted to a trauma intensive care unit and a trauma orthopedic unit. *Intensive and Critical Care Nursing*, 47, 7-13. <https://doi.org/10.1016/j.iccn.2018.03.007>
- Kunzmann, U., Little, T. D., & Smith, J. (2000). Is age-related stability of subjective well-being a paradox? Cross-sectional and longitudinal evidence from the Berlin Aging Study. *Psychology and Aging*, 15(3), 511-526. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10431603>
- Lachs, M. S., Williams, C. S., O'Brien, S., et al. (1998). The mortality of elder mistreatment. *Journal of the American Geriatrics Society*, 46(5), 564-570. <https://doi.org/10.1111/j.1532-5415.2000.tb03885.x>
- Leslie, D. L., Marcantonio, E. R., Zhang, Y., Leo-Summers, L., & Inouye, S. K. (2008). One-year health care costs associated with delirium in the elderly population. *Archives of Internal Medicine*, 168(1), 27-32. <https://doi.org/10.1001/archinternmed.2007.4>
- National Hospice and Palliative Care Organization. (2018, November 1). *NHPCO facts and figures: Hospice care in America*. <https://www.nhpc.org/nhpc-facts-and-figures-report-shows-growing-number-of-hospice-patients>
- Patel, M. S., Day, T., Small, D. S., et al. (2014). Using default options within the electronic health record to increase the prescribing of generic-equivalent medications: A quasi-experimental study. *PLOS ONE*, 9(3). <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0123090>

- Rosland, A. M., Kieffer, E., Israel, B., et al. (2008). When is social support important? The association of family support and professional support with specific diabetes self-management behaviors. *Journal of General Internal Medicine*, 23(12), 1992-1999. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8507228>
- Siedlecki, K. L., Tucker-Drob, E. M., & O'Shea, D. M., et al. (2020). Life satisfaction across adulthood: Different determinants at different ages? *Journal of Gerontology: Series B*, 75(5), 1130-1140. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7986422>
- Smith, A. K., McCarthy, E. P., Paulk, E., et al. (2009). Racial and ethnic differences in advance care planning among patients with cancer: Impact of terminal illness acknowledgment, religiousness, and treatment preferences. *Journal of Palliative Medicine*, 12(6), 555-560. <https://doi.org/10.1177/0269216315607180>
- Smith, A. K., White, D. B., & Arnold, R. M. (2013). Uncertainty—the other side of prognosis. *New England Journal of Medicine*, 368(26), 2448-2450. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8950087>
- Thompson, C., Fan, M. Y., Unützer, J., et al. (2010). Pain intensity and pain interference in depressed older adults: Findings from the IMPACT study. *Pain Medicine*, 11(5), 765-774. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8740773>
- United States Census Bureau. (2019, December 10). <https://www.census.gov/library/stories/2019/12/by-2030-all-baby-boomers-will-be-age-65-or-older.html>
- Yang, X., Cheng, B., & Xu, T. (2010). Estrogen and cognitive function in postmenopausal women: A systematic review and meta-analysis. *Menopause*, 17(5), 1086-1092. <https://pubmed.ncbi.nlm.nih.gov/20492042>



LITERATURE SURVEILLANCE

PARAMEDICINE CONTENTS: MARCH-MAY 2025

SECTION EDITORS: Brad Buck, BS, NRP, CP^{*1,2,3}; Julius McAdams, BME, FP-C, CCP-C^{4,5,3}

Section Editor Affiliations: 1. Mayo Clinic Ambulance Service, Rochester, MN, USA; 2. Board of Directors, American Paramedic Association (APA), Windsor, CO, USA; 3. International Journal of Paramedicine (IJOP), Hagerstown, MD, USA; 4. AirLink/VitaLink, Novant Health, Wilmington, NC, USA; 5. International College of Advanced Practice Paramedics (I-CAPP), Washington, DC, USA.

Recommended Citation: Buck, B. & McAdams, J. (2025). Paramedicine contents: March-May 2025. *International Journal of Paramedicine*, (11), 78-82. <https://doi.org/10.56068/CFHY3058>. Retrieved from: <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3425>

Keywords: tables of contents, literature search, literature surveillance, paramedicine, EMS, emergency medical services

Published: July 8, 2025

Disclosures: None.

Funding: External funding was not used to support this work.

**Corresponding Author:* bbuck@americanparamedics.org

To help paramedicine professionals keep current with the literature in our discipline, the 'Paramedicine Contents' section shares recent tables of contents of scholarly journals that are primarily focused on the paramedicine discipline.

JOURNAL OF EMS MEDICINE

<https://jemsmed.org>

VOLUME 4 ISSUE 2, MAY 2025

The role of naloxone in out-of-hospital cardiac arrest management: a call for integration into Advanced Cardiac Life Support protocols. Frank Harmon Colvett. Pages 25 – 28. <https://doi.org/10.35616/jemsm.2025.00164>

Multiorganizational and multidisciplinary high-fidelity simulation of extracorporeal cardiopulmonary resuscitation for out-of-hospital cardiac arrest. <https://doi.org/10.35616/jemsm.2024.00115>

Impact of a resuscitation protocol prioritizing airway clearance in the COVID-19 pandemic for patients with ventricular fibrillation: a retrospective observational study in Nagoya, Japan. <https://doi.org/10.35616/jemsm.2024.00129>

JOURNAL OF PARAMEDIC PRACTICE

<https://www.paramedicpractice.com>

VOLUME 17, ISSUE 3 – MARCH 2025

Would she like a drink? <https://www.paramedicpractice.com/content/editorial/would-she-like-a-drink>

Not a step back: the power of change in a woman's career. <https://www.paramedicpractice.com/content/international-womens-day/not-a-step-back-the-power-of-change-in-a-womans-career>

Blood pressure measurement. <https://www.paramedicpractice.com/content/fundamental-skills/blood-pressure-measurement>

Pharmacokinetics In paramedic practice. <https://www.paramedicpractice.com/content/pharmacology-series/pharmacokinetics-in-paramedic-practice>

A paramedic approach to empowering children and their guardians via health literacy. <https://www.paramedicpractice.com/content/research/a-paramedic-approach-to-empowering-children-and-their-guardians-via-health-literacy>

Intranasal analg. <https://www.paramedicpractice.com/content/research/intranasal-analgesia-for-prehospital-management-of-children-in-pain>

Patient safety: emergency application of safety science. <https://www.paramedicpractice.com/content/book-reviews/patient-safety-emergency-application-of-safety-science>

ECG case series for paramedics: March 2025. <https://www.paramedicpractice.com/content/ecg-case-series/ecg-case-series-for-paramedics-march-2025>

Spotlight on Research. <https://www.paramedicpractice.com/content/spotlight-on-research/spotlight-on-research-34>

The OSCE: a terrifying but important necessity. <https://www.paramedicpractice.com/content/student-column/the-osce-a-terrifying-but-important-necessity>

What is criticality? <https://www.paramedicpractice.com/content/mastery-in-writing/what-is-criticality>

VOLUME 17, ISSUE 4 – APRIL 2025

World Health Day. <https://www.paramedicpractice.com/content/editorial/world-health-day>

ECG case series for paramedics: April 2025. <https://www.paramedicpractice.com/content/ecg-case-series/ecg-case-series-for-paramedics-april-2025>

Cardiac monitoring. <https://www.paramedicpractice.com/content/fundamental-skills/cardiac-monitoring>

First responders and mental health intersection: what a case of suicide could teach us. <https://www.paramedicpractice.com/content/leadership-and-management/first-responders-and-mental-health-intersection-what-a-case-of-suicide-could-teach-us>

Prehospital pharmacological interventions in acute coronary syndrome. <https://www.paramedicpractice.com/content/pharmacology-series/prehospital-pharmacological-interventions-in-acute-coronary-syndrome>

Reducing frequent caller use of ambulance services: a review of effective strategies. <https://www.paramedicpractice.com/content/research/reducing-frequent-caller-use-of-ambulance-services-a-review-of-effective-strategies>

Synthetic opioid toxicity and har. <https://www.paramedicpractice.com/content/drug-misuse-series/synthetic-opioid-toxicity-and-harm-reduction-the-evolving-role-of-paramedics>

Spotlight on Research. <https://www.paramedicpractice.com/content/spotlight-on-research/spotlight-on-research-35>

Taking the holistic route. <https://www.paramedicpractice.com/content/nqp-perspective/taking-the-holistic-route>

So, what is mastery? <https://www.paramedicpractice.com/content/mastery-in-writing/so-what-is-mastery-1>

VOLUME 17, ISSUE 5 – MAY 2025

Generative artificial intelligence 5: reflective practice. <https://www.paramedicpractice.com/content/cpd-generative-artificial-intelligence-part-5/generative-artificial-intelligence-5-reflective-practice>

A call to action. <https://www.paramedicpractice.com/content/editorial/a-call-to-action>

Stay sceptical! <https://www.paramedicpractice.com/content/mastery-in-writing/stay-sceptical>

Respiratory rate assessment. <https://www.paramedicpractice.com/content/fundamental-skills/respiratory-rate-assessment>

Can sustainability and paramedic practice co-exist? <https://www.paramedicpractice.com/content/leadership-and-management/can-sustainability-and-paramedic-practice-co-exist>

Blood gas analysis to aid decisions in non-traumatic out-of-hospital cardiac arrest. <https://www.paramedicpractice.com/content/research/blood-gas-analysis-to-aid-decisions-in-non-traumatic-out-of-hospital-cardiac-arrest>

Potential barriers to end-of-life care provision by paramedics in the community. <https://www.paramedicpractice.com/content/clinical-practice/potential-barriers-to-end-of-life-care-provision-by-paramedics-in-the-community>

Impact of COVID-19 restrictions on paramedic undergraduate education. <https://www.paramedicpractice.com/content/education/impact-of-covid-19-restrictions-on-paramedic-undergraduate-education>

JOURNAL OF PARAMEDICINE AND EMERGENCY RESPONSE

<https://www.ipress.tw/J0233>

(No new content)

PARAMEDICINE

<https://journals.sagepub.com/home/PAM>

VOLUME 22 ISSUE 2, MARCH 2025

Doing better with survey-based research in paramedicine. <https://doi.org/10.1177/27536386251318443>

Implementation of a strategy to manage EMS COVID-19 patient disposition with physician consultation: A retrospective descriptive study. Pages 60 - 69. <https://doi.org/10.1177/27536386241279072>

Understanding the emergency medical service response to patients who are at imminent risk of out-of-hospital cardiac arrest. <https://doi.org/10.1177/27536386241302116>

'How can you not be traumatised': Experience of paramedics occupationally exposed to suicide. <https://doi.org/10.1177/27536386241283986>

Mapping the future: A scoping analysis of paediatric content in Australian paramedic curriculum. <https://doi.org/10.1177/27536386241286346>

VOLUME 22 ISSUE 3, MAY 2025

Time heals all wounds: A commentary on global quality measurement in paramedicine. <https://doi.org/10.1177/27536386251330909>

Representing contemporary paramedic practice in Canada: Development of the national competency framework for paramedics. <https://doi.org/10.1177/27536386241284092>

Sleep, dietary intake and physical activity changes with onset of shift work in intern paramedics. <https://doi.org/10.1177/27536386241288304>

Capabilities for the paramedic preceptor role: A scoping review. <https://doi.org/10.1177/27536386241305157>

PREHOSPITAL AND DISASTER MEDICINE | CAMBRIDGE CORE

<https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine>

VOLUME 40 - ISSUE 2 - APRIL 2025

Review of Powered, Safe Patient-Handling Equipment for Emergency Medical Services via an Insurance Safety Intervention Grant Program. <https://doi.org/10.1017/S1049023X25000196>

The Effect of Prehospital Protocol Modification during COVID-19 on First-Pass Intubation Success Rates. <https://doi.org/10.1017/S1049023X25000238>

Paramedic Management of Non-Traumatic Back Pain in a Large Australian Ambulance Service: A Retrospective Study. <https://doi.org/10.1017/S1049023X25000251>

Development of the Perceived Challenges in Disaster Response Scale (PCDRS): Validity and Reliability Study. <https://doi.org/10.1017/S1049023X25000263>

Prehospital Care Post-Road-Crash: A Systematic Review of the Literature. <https://doi.org/10.1017/S1049023X25000202>

Factors Influencing Patient Presentation and Transfer to Hospital Rates During Mass-Gathering Stadium Events: A Scoping Review. <https://doi.org/10.1017/S1049023X25000287>

Assessing Intent: Repetitive Strikes on Ukrainian Health Care Facilities. <https://doi.org/10.1017/S1049023X2500024X>

Does Adding Thrombectomy-Capable Stroke Centers in a Regional Stroke Care System Affect Procedural Volume? <https://doi.org/10.1017/S1049023X25000275>

PREHOSPITAL EMERGENCY CARE

<https://www.tandfonline.com/journals/ipec20>

VOLUME 29, ISSUE 2

Measures of Patient Acuity Among Children Encountered by Emergency Medical Services by the Child Opportunity Index. <https://doi.org/10.1080/10903127.2024.2333493>

Development of a Computable Phenotype for Prehospital Pediatric Asthma Encounters. <https://doi.org/10.1080/10903127.2024.2352583>

Mapping Prehospital Clinician Impression to Hospital-Based Diagnoses in Children Transported to the Hospital by Emergency Medical Services. <https://doi.org/10.1080/10903127.2024.2370511>

- Differences in Out-of-Hospital Cardiac Arrest Outcomes Among 5 Racial/Ethnic Groups. <https://doi.org/10.1080/10903127.2024.2335639>
- Does Single Dose Epinephrine Improve Outcomes for Patients with Out-of-Hospital Cardiac Arrest and Bystander CPR or a Shockable Rhythm? <https://doi.org/10.1080/10903127.2024.2348663>
- Drone-Facilitated Real-Time Video-Guided Feedback Helps to Improve the Quality of Lay Bystander Basic Life Support: A Randomized Controlled Simulation Trial. <https://doi.org/10.1080/10903127.2024.2351970>
- Prehospital Ground and Helicopter-Based Extracorporeal Cardiopulmonary Resuscitation (ECPR) Reduce Barriers to ECPR: A GIS Model. <https://doi.org/10.1080/10903127.2024.2355652>
- Influence of Patient Weight on Prehospital Advanced Airway Procedure Success Rates. <https://doi.org/10.1080/10903127.2024.2338459>
- Emergency Medical Service Attendances for Adults with Repeat Falls in Western Australia: A State-Wide Retrospective Cohort Study. <https://doi.org/10.1080/10903127.2024.2338915>
- Dispatch Categories as Indicators of Out-of-Hospital Time Critical Interventions and Associated Emergency Department Outcomes. <https://doi.org/10.1080/10903127.2024.2342015>
- Prehospital Treatment of Atrial Fibrillation: Infusion Pump for Bolus and Infusion? <https://doi.org/10.1080/10903127.2024.2349745>
- Prehospital Whole Blood Administration for Pediatric Gastrointestinal Hemorrhage: A Case Report. <https://doi.org/10.1080/10903127.2024.2372808>
- Acute Non-ST Segment Elevation Myocardial Infarction Following Intravenous Injection of Sublingual Suboxone. <https://doi.org/10.1080/10903127.2024.2374999>
- Use of Emergency Mental Health Dispatch Training by a 9-1-1 Medical Dispatcher Assisting a Caller Expressing Suicidal Intent: A Case Report. <https://doi.org/10.1080/10903127.2024.2399800>

LITERATURE SURVEILLANCE

PARAMEDICINE LITERATURE SEARCH: MARCH-MAY 2025

SECTION EDITORS: Shaughn Maxwell, PsyM, EMT-P^{*1,2}; Brenda M. Morrissey, DPA, FP-C, FACPE^{3,4,2}

Section Editor Affiliations: 1. South County Fire and Rescue, Everett, WA, USA; 2. International Journal of Paramedicine (IJOP), Hagerstown, MD, USA; 3. Northwell Health, Great Neck, NY, USA; 4. Second Chance Safety, LLC, Floral Park, NY, USA.

Recommended Citation: Maxwell, S. & Morrissey, B. M. (2025). Paramedicine literature search: March-May 2025. *International Journal of Paramedicine*, (11), 83-132. <https://doi.org/10.56068/VGXW1674>. Retrieved from: <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3451>

Keywords: literature search, emergency medical services, EMS, paramedicine

Disclosures: None.

Funding: External funding was not used to support this work.

Published: July 8, 2025

**Corresponding Author:* smaxwell@southsnofire.org

To help paramedicine professionals to keep abreast of the literature in our discipline, the Paramedicine Literature Search provides the results of a standardized search of the PubMed database. This search results will include articles from journals that many paramedicine professionals may already be familiar with. The search strategy is also designed to include articles in journals they may not be commonly monitoring, such an article about ambulance care for cancer patients that appeared in an oncology journal.

The formatting of the Paramedicine Literature Search allows the reader to scan the titles of articles and click into the article link, when provided, for additional details.

The authors have made a diligent effort in designing of the search strategy to balance sensitivity (i.e., getting all relevant articles in paramedicine) with the specificity (i.e., excluding articles not relevant to paramedicine). The balance is imperfect. As a result, it should be noted that the results do not include every relevant article and includes some non-relevant articles.

The search strategy is filtered to only include articles published in a time frame listed below. This will include articles with electronic and print publication dates in that date range. Some of the publication dates may fall outside of this range due to how the article metadata was indexed by the publisher.

The following results were obtained on July 4, 2025 from the PubMed website (<https://pubmed.ncbi.nlm.nih.gov/>) using the following search terms and Boolean logic:

"paramedic"[Text Word] OR "paramedics"[Text Word] OR "pre-hospital"[Text Word] OR "pre-hospital"[Text Word] OR "emergency medical technician"[Text Word] OR "emergency medical

technicians"[Text Word] OR "Ambulance"[Text Word] OR "emergency medical services"[-Text Word] OR "fire-rescue"[Text Word] OR "fire-rescue"[Text Word]

Search Filter: Publication range of March 1, 2025 to May 31, 2025.

- Intraosseous Vascular Access. Dornhofer PMcMahon K Kellar JZ. 2025 May 9. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Advancing Emergency Care With Digital Twins. Li H. JMIR Aging. 2025 Apr 21;8:e71777. doi: 10.2196/71777. <https://doi.org/10.2196/71777>
5. Prehospital management. retnik A. Eur J Trauma Emerg Surg. 2025 May 6;51(1):198. doi: 10.1007/s00068-025-02825-7. <https://doi.org/10.1007/s00068-025-02825-7>
- Dispatch Decisions and Emergency Medical Services Response in the Prehospital Care of Status Epilepticus. McInnis RP. West J Emerg Med. 2025 May 18;26(3):549-555. doi: 10.5811/westjem.21266. <https://doi.org/10.5811/westjem.21266>
- Pre-hospital emergency anaesthesia in 2025: ten years on from the modification of induction regimes. Hodgkinson M. Scand J Trauma Resusc Emerg Med. 2025 Mar 13;33(1):42. doi: 10.1186/s13049-025-01354-x. <https://doi.org/10.1186/s13049-025-01354-x>
- Prehospital Management of Adults With Traumatic Out-of-Hospital Circulatory Arrest-A Joint Position Statement. Breyre AM. Ann Emerg Med. 2025 Mar;85(3):e25-e39. doi: 10.1016/j.annemergmed.2024.12.015. <https://doi.org/10.1016/j.annemergmed.2024.12.015>
- Pre hospital emergency medical dispatches following heat waves: A systematic review study and meta-analysis. Hosseinzadeh A. J Therm Biol. 2025 Apr;129:104086. doi: 10.1016/j.jtherbio.2025.104086. Epub 2025 Feb 28. <https://doi.org/10.1016/j.jtherbio.2025.104086>
- Pre-hospital ECPR for refractory cardiac arrest - The PRECARE pilot feasibility study. Kruit N. Resuscitation. 2025 Jul;212:110631. doi: 10.1016/j.resuscitation.2025.110631. Epub 2025 May 12. <https://doi.org/10.1016/j.resuscitation.2025.110631>
- The relationship between intervention and transport times in pre-hospital emergency medical services and resuscitation success. Turan A. Int Emerg Nurs. 2025 Jun;80:101623. doi: 10.1016/j.ienj.2025.101623. Epub 2025 May 22. <https://doi.org/10.1016/j.ienj.2025.101623>
- EMS Facilitated Intubation Without Paralytics. Zahustecher NRoantree RAGKing KCGGoldstein S. 2025 Mar 28. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Ambulance Use Appropriateness: Emergency Medical Service Technicians' and Triage Nurses' Assessments and Patients' Perceptions. Piras I. Nurs Rep. 2025 May 9;15(5):165. doi: 10.3390/nursrep15050165. <https://doi.org/10.3390/nursrep15050165>
- Response to Bollig and Zelco. Hooper M. Scand J Trauma Resusc Emerg Med. 2025 May 1;33(1):73. doi: 10.1186/s13049-025-01394-3. <https://doi.org/10.1186/s13049-025-01394-3>
- Can heroic roadside care save lives?. Lee P. Trauma Surg Acute Care Open. 2025 Apr 30;10(Suppl 2):e001504. doi: 10.1136/tsaco-2024-001504. eCollection 2025. <https://doi.org/10.1136/tsaco-2024-001504>
- Emergency Medical Services Streaming Enabled Evaluation In Trauma: The SEE-IT Feasibility RCT. Taylor C. Health Soc Care Deliv Res. 2025 May 28:1-38. doi: 10.3310/EUFS2314. Online ahead of print. <https://doi.org/10.3310/EUFS2314>
- Early Recognition of Sepsis in Prehospital Settings: A Review of Screening Tools and Practices. Tirado WC. Adv Emerg Nurs J. 2025 Apr-Jun 01;47(2):152-167. doi: 10.1097/TME.0000000000000561. Epub 2025 Apr 1. <https://doi.org/10.1097/TME.0000000000000561>
- Helicopter Emergency Medical Services as a Tool for Prehospital Emergency Rescue in Northern Italy. Stirparo G. Air Med J. 2025 May-Jun;44(3):189-194. doi: 10.1016/j.amj.2025.02.005. Epub 2025 Mar 1. <https://doi.org/10.1016/j.amj.2025.02.005>
- Patient safety in non-conveyance within prehospital emergency medical services: a register-based study. Møller FA. Intern Emerg Med. 2025 May 22. doi: 10.1007/s11739-025-03980-w. Online ahead of print. <https://doi.org/10.1007/s11739-025-03980-w>
- Sepsis Alerts in the Pre-hospital Setting: An Observational Retrospective Study of Emergency Medical Services' Response in Portugal (2020-2023). Moutinho A. Cureus. 2025 Apr 18;17(4):e82528. doi: 10.7759/cureus.82528. eCollection 2025 Apr. <https://doi.org/10.7759/cureus.82528>
- Emergency Medicine: The Paradigm Shift. Tintinalli JE. J Acute Med. 2025 Mar 1;15(1):1-10. doi: 10.6705/j.jacme.202503_15(1).0001. [https://doi.org/10.6705/j.jacme.202503_15\(1\).0001](https://doi.org/10.6705/j.jacme.202503_15(1).0001)
- Implementing ultrasound in emergency medical services: assessing physician proficiency and training requirements. Engelen C. Scand J Trauma Resusc Emerg Med. 2025 May 20;33(1):92. doi: 10.1186/s13049-025-01391-6. <https://doi.org/10.1186/s13049-025-01391-6>
- Emergency medical services level of training is associated with mortality in trauma patients: A combined prehospital and in hospital database analysis. Harrison J. J Trauma Acute Care Surg. 2025 Mar 1;98(3):402-409. doi: 10.1097/TA.00000000000004540. Epub 2025 Jan 9. <https://doi.org/10.1097/TA.00000000000004540>
- Helicopter emergency medical services: a pillar of prehospital care. Artero-García A. Emergencias. 2025 Apr;37(2):149-151. doi: 10.55633/s3me/109.2024. <https://doi.org/10.55633/s3me/109.2024>

- Impact of the COVID-19 pandemic on prehospital emergency medical service: a scoping review. Richter H. Front Public Health. 2025 Mar 19;13:1543150. doi: 10.3389/fpubh.2025.1543150. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1543150>
- Recent Advances in Prehospital and In-Hospital Management of Patients with Severe Trauma. Kim JY. J Clin Med. 2025 Mar 24;14(7):2208. doi: 10.3390/jcm14072208. <https://doi.org/10.3390/jcm14072208>
- Determinants of prehospital and in-hospital delay in patients with symptomatic carotid stenosis and their influence on the outcome after elective carotid endarterectomy. Kirchhoff F. Stroke Vasc Neurol. 2025 Apr 29;10(2):e003098. doi: 10.1136/svn-2024-003098. <https://doi.org/10.1136/svn-2024-003098>
- Hospital admissions following emergency medical services in Germany: analysis of 2 million hospital cases in 2022. Roessler M. Med Klin Intensivmed Notfmed. 2025 Apr;120(3):230-237. doi: 10.1007/s00063-024-01148-6. Epub 2024 Apr 23. <https://doi.org/10.1007/s00063-024-01148-6>
- Evaluation of interventions in prehospital and in-hospital settings and outcomes for out-of-hospital cardiac arrest patients meeting the termination of resuscitation rule in Japan: A nationwide database study (The JAAM-OHCA Registry). Shiozumi T. Resuscitation. 2025 Mar;208:110530. doi: 10.1016/j.resuscitation.2025.110530. Epub 2025 Feb 5. <https://doi.org/10.1016/j.resuscitation.2025.110530>
- Advancing Trauma Care in Sri Lanka: System Overview and Developmental Priorities. Varathan K. Cureus. 2025 Apr 21;17(4):e82674. doi: 10.7759/cureus.82674. eCollection 2025 Apr. <https://doi.org/10.7759/cureus.82674>
- REBOA for remote damage control resuscitation and the race against time. Marsden M. Curr Opin Anaesthesiol. 2025 Apr 1;38(2):100-106. doi: 10.1097/ACO.0000000000001474. Epub 2025 Feb 13. <https://doi.org/10.1097/ACO.0000000000001474>
- Frostbite: a treatment guideline for prehospital treatment in a military environment. Turner BL. BMJ Mil Health. 2025 Mar 21;171(2):152-154. doi: 10.1136/military-2023-002380. <https://doi.org/10.1136/military-2023-002380>
- Paramedic Practitioners within ambulance services: views of Australian policymakers, health professionals, and consumers. Wilkinson-Stokes M. BMC Health Serv Res. 2025 Apr 10;25(1):533. doi: 10.1186/s12913-025-12614-y. <https://doi.org/10.1186/s12913-025-12614-y>
- Vicarious Traumatization Among Emergency Medical Service Personnel: A Systematic Review. Meeker SA. Trauma Violence Abuse. 2025 Mar 18:15248380251320990. doi: 10.1177/15248380251320990. Online ahead of print. <https://doi.org/10.1177/15248380251320990>
- Out-of-hospital births and the experiences of emergency ambulance clinicians and birthing parents: a scoping review of the literature. Hill M. BMJ Open. 2025 May 2;15(5):e086967. doi: 10.1136/bmjopen-2024-086967. <https://doi.org/10.1136/bmjopen-2024-086967>
- Assessing the experience and attitude of emergency medical services staff toward linguistic diversity challenges in a Middle Eastern pre-hospital emergency care environment using machine learning analysis methods. Farhat H. Qatar Med J. 2025 Mar 3;2025(1):19. doi: 10.5339/qmj.2025.19. eCollection 2025. <https://doi.org/10.5339/qmj.2025.19>
- Nordic physician-staffed prehospital services - organisation and preparedness for major emergency surgical procedures. Galos P. Scand J Trauma Resusc Emerg Med. 2025 May 23;33(1):95. doi: 10.1186/s13049-025-01416-0. <https://doi.org/10.1186/s13049-025-01416-0>
- Aggressive Behavior Risk Assessment Tool for Emergency Medical Services. Kim SC. J Am Coll Emerg Physicians Open. 2025 Mar 18;6(3):100095. doi: 10.1016/j.acepjo.2025.100095. eCollection 2025 Jun. <https://doi.org/10.1016/j.acepjo.2025.100095>
- Ambulance transport to hospital in patients with a palliative ambulance management plan. Luey J. Intern Med J. 2025 Jun;55(6):1019-1023. doi: 10.1111/imj.70101. Epub 2025 May 27. <https://doi.org/10.1111/imj.70101>
- Confined space airway management: a narrative review. Rudolph SS. Scand J Trauma Resusc Emerg Med. 2025 May 5;33(1):79. doi: 10.1186/s13049-025-01357-8. <https://doi.org/10.1186/s13049-025-01357-8>
- Application of mixed reality in prehospital emergency nursing education: A scoping review. Li L. Nurse Educ Pract. 2025 May 27;86:104415. doi: 10.1016/j.nepr.2025.104415. Online ahead of print. <https://doi.org/10.1016/j.nepr.2025.104415>
- Prehospital antibiotics and intravenous fluids for patients with sepsis: protocol for a 242 factorial randomised controlled trial. Scales DC. BMJ Open. 2025 May 27;15(5):e104257. doi: 10.1136/bmjopen-2025-104257. <https://doi.org/10.1136/bmjopen-2025-104257>
- Pre-Hospital and Post-Hospital Quality of Care in Traumatic Spinal Column and Cord Injuries in Iran. Zeinadini-Meymand A. Global Spine J. 2025 Mar;15(2):603-614. doi: 10.1177/21925682231202425. Epub 2023 Sep 21. <https://doi.org/10.1177/21925682231202425>
- Spatial analysis of prehospital emergency medical services accessibility: a comparative evaluation of the GAUSS-probability two-step floating catchment area model in Handan City. Tian F. Front Public Health. 2025 Mar 28;13:1548462. doi: 10.3389/fpubh.2025.1548462. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1548462>
- How stepwise interventions in pre-hospital emergency care enhance out-of-hospital cardiac arrest management in a Megacity in China. Xu H. Resuscitation. 2025 May;210:110594. doi: 10.1016/j.resuscitation.2025.110594. Epub 2025 Mar 26. <https://doi.org/10.1016/j.resuscitation.2025.110594>
- Frailty and prehospital emergency care: implications for paramedic education. Krohn JN. Age Ageing. 2025 May 3;54(5):afaf126. doi: 10.1093/ageing/afaf126. <https://doi.org/10.1093/ageing/afaf126>

- Competence expected from advanced-level paramedics by emergency medical services managers in Finland: a modified Delphi study. Tanninen A. *Scand J Trauma Resusc Emerg Med*. 2025 Apr 15;33(1):62. doi: 10.1186/s13049-025-01384-5. <https://doi.org/10.1186/s13049-025-01384-5>
- Trauma systems in Europe / hospital categories. Schipper IB. *Eur J Trauma Emerg Surg*. 2025 Mar 19;51(1):143. doi: 10.1007/s00068-025-02828-4. <https://doi.org/10.1007/s00068-025-02828-4>
- Prehospital stroke detection scales: A head-to-head comparison of 7 scales in patients with suspected stroke. Dekker L. *Int J Stroke*. 2025 Mar;20(3):268-277. doi: 10.1177/17474930241275123. Epub 2024 Sep 10. <https://doi.org/10.1177/17474930241275123>
- Faculty of Pre-Hospital Care: consensus statement on the prehospital management of exertional heat illness. Hemingway R. *Emerg Med J*. 2025 May 22;42(6):390-395. doi: 10.1136/emered-2024-214795. <https://doi.org/10.1136/emered-2024-214795>
- Pre-hospital delay intention and its associated factors in the high-risk population of stroke: a latent profile analysis. Chen M. *Eur J Cardiovasc Nurs*. 2025 Mar 3;24(2):220-228. doi: 10.1093/eurjcn/zvae136. <https://doi.org/10.1093/eurjcn/zvae136>
- Blood culture collection and administration of intravenous ceftriaxone by paramedics in patients with suspected sepsis (the pass trial). Cudini D. *Emerg Med Australas*. 2025 Apr;37(2):e70027. doi: 10.1111/1742-6723.70027. <https://doi.org/10.1111/1742-6723.70027>
- Prehospital Large-Vessel Occlusion Stroke Detection Scales: A Pooled Individual Patient Data Analysis of 2 Prospective Cohorts. Dekker L. *Neurology*. 2025 May 13;104(9):e213570. doi: 10.1212/WNL.00000000000213570. Epub 2025 Apr 8. <https://doi.org/10.1212/WNL.00000000000213570>
- Tactical Emergency Medical Services in Copenhagen, Denmark: A mixed methods design study introducing a new concept. Glahn JEE. *Acta Anaesthesiol Scand*. 2025 Mar;69(3):e70003. doi: 10.1111/aas.70003. <https://doi.org/10.1111/aas.70003>
- Prehospital blood pressure lowering in patients with ischemic stroke: A systematic review and meta-analysis of randomized controlled trials. Yuan X. *Int J Stroke*. 2025 Mar;20(3):289-296. doi: 10.1177/17474930241298445. Epub 2024 Nov 20. <https://doi.org/10.1177/17474930241298445>
- Profiling paramedic job tasks, injuries, and physical fitness: A scoping review. Marsh E. *Appl Ergon*. 2025 May;125:104459. doi: 10.1016/j.apergo.2024.104459. Epub 2024 Dec 24. <https://doi.org/10.1016/j.apergo.2024.104459>
- Emergency Medical Service Responders' Perspectives on Transgender, Intersexual, and Non-Binary Patients in Germany. Brod T. *West J Emerg Med*. 2025 May 19;26(3):458-464. doi: 10.5811/westjem.39705. <https://doi.org/10.5811/westjem.39705>
- [Nationwide comparison concerning medical measures by emergency paramedics in Germany]. Dittmar MS. *Anaesthesiologie*. 2025 Mar;74(3):136-147. doi: 10.1007/s00101-025-01509-6. Epub 2025 Feb 24. <https://doi.org/10.1007/s00101-025-01509-6>
- Navigating emotions, communication, and pain during prehospital labour: a mixed-methods survey with emergency ambulance services. Withanarachchie V. *BMC Emerg Med*. 2025 May 28;25(1):83. doi: 10.1186/s12873-025-01236-6. <https://doi.org/10.1186/s12873-025-01236-6>
- Use of Ultrasound in the Prehospital Setting: A Scoping Review. Warren J. *J Am Coll Emerg Physicians Open*. 2025 Mar 1;6(2):100086. doi: 10.1016/j.acepjo.2025.100086. eCollection 2025 Apr. <https://doi.org/10.1016/j.acepjo.2025.100086>
- Association between prehospital medical service complexity and perceived task load of emergency calls among paramedics in Taiwan: a nationwide survey study. He YW. *Sci Rep*. 2025 May 25;15(1):18201. doi: 10.1038/s41598-025-03002-x. <https://doi.org/10.1038/s41598-025-03002-x>
- WSO Action Plan for Stroke Prehospital Care: Top Two Priorities. Liu R. *CNS Neurosci Ther*. 2025 Apr;31(4):e70374. doi: 10.1111/cns.70374. <https://doi.org/10.1111/cns.70374>
- Paramedic-reported infection prevention and control practices in Canadian paramedic services before and during COVID-19. MacDonald C. *Am J Infect Control*. 2025 May 16:S0196-6553(25)00334-7. doi: 10.1016/j.ajic.2025.05.007. Online ahead of print. <https://doi.org/10.1016/j.ajic.2025.05.007>
- Narrative review: updates and strategies for reducing door-to-balloon time in ST-elevation myocardial infarction care. Zeng X. *Front Cardiovasc Med*. 2025 Mar 31;12:1509365. doi: 10.3389/fcvm.2025.1509365. eCollection 2025. <https://doi.org/10.3389/fcvm.2025.1509365>
- Exploring care pathways of patients conveyed by emergency medical services (EMS) through electronic health records. Paulin J. *Scand J Trauma Resusc Emerg Med*. 2025 Apr 9;33(1):60. doi: 10.1186/s13049-025-01378-3. <https://doi.org/10.1186/s13049-025-01378-3>
- Factors influencing the pre-hospital management of civilian burn mass casualty incidents in the 21st century: a scoping review. Lindquist A. *Scand J Trauma Resusc Emerg Med*. 2025 May 1;33(1):74. doi: 10.1186/s13049-025-01380-9. <https://doi.org/10.1186/s13049-025-01380-9>
- Ventricular arrhythmias in acute heart failure. A clinical consensus statement of the Association for Acute Cardiovascular Care (ACVC), the European Heart Rhythm Association (EHRA) and the Heart Failure Association (HFA) of the ESC. Gorennek B. *Eur J Heart Fail*. 2025 Mar 19. doi: 10.1002/ehf.3645. Online ahead of print. <https://doi.org/10.1002/ehf.3645>

- Prehospital and Emergency Department Vital Sign Abnormalities Among Injured Children. Ramgopal S. Prehosp Emerg Care. 2025 Apr 14;1-8. doi: 10.1080/10903127.2025.2488062. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2488062>
- Effectiveness of Hospital Ambulance Utilization in a Community-Based Integrated Care System. Kato H. Cureus. 2025 May 8;17(5):e83754. doi: 10.7759/cureus.83754. eCollection 2025 May. <https://doi.org/10.7759/cureus.83754>
- A systematic review of occupational stress and burnout in emergency medical technician and paramedic populations and associated consequences. Gill SK. Int J Qual Health Care. 2025 May 3;37(2):mzaf033. doi: 10.1093/intqhc/mzaf033. <https://doi.org/10.1093/intqhc/mzaf033>
- Concrete silo collapse: emergency medical services response to a mass casualty incident. Hansen PM. Scand J Trauma Resusc Emerg Med. 2025 Apr 7;33(1):58. doi: 10.1186/s13049-025-01376-5. <https://doi.org/10.1186/s13049-025-01376-5>
- Identify the cognitive, psychomotor and sensory-perceptual abilities required for the role of pre-hospital emergency medical personnel. Shabani M. Work. 2025 Apr;80(4):1607-1616. doi: 10.1177/10519815241295907. Epub 2025 Feb 25. <https://doi.org/10.1177/10519815241295907>
- Assessing Evidence Bias for Prehospital Tourniquet Use: A Scoping Review. Johansson L. World J Surg. 2025 Jun;49(6):1471-1483. doi: 10.1002/wjs.12596. Epub 2025 May 14. <https://doi.org/10.1002/wjs.12596>
- Association of volume and prehospital paediatric care quality in emergency medical services: retrospective analysis of a national sample. Ramgopal S. BMJ Qual Saf. 2025 Mar 3;bmjqs-2024-018224. doi: 10.1136/bmjqs-2024-018224. Online ahead of print. <https://doi.org/10.1136/bmjqs-2024-018224>
- Designing for Better Pre-hospital Communication: Participatory Design of a Telemedicine Application for Emergency Departments. Bai E. AMIA Annu Symp Proc. 2025 May 22;2024:152-161. eCollection 2024.
- Prehospital emergency finger thoracostomy in compensated obstructive shock: Benefits and outcomes. Sutori D. Injury. 2025 May;56(5):112331. doi: 10.1016/j.injury.2025.112331. Epub 2025 Apr 7. <https://doi.org/10.1016/j.injury.2025.112331>
- What factors predict ambulance prealerts to the emergency department? Retrospective observational study from three UK ambulance services. Pilbery R. BMJ Open. 2025 Mar 7;15(3):e097122. doi: 10.1136/bmjopen-2024-097122. <https://doi.org/10.1136/bmjopen-2024-097122>
- Beyond Glasgow Coma Scale: Prehospital prediction of traumatic brain injury. Schucht JE. Surgery. 2025 Mar;179:108893. doi: 10.1016/j.surg.2024.07.090. Epub 2024 Nov 5. <https://doi.org/10.1016/j.surg.2024.07.090>
- Ambulance deserts and inequities in access to emergency medical services care: Are injured patients at risk for delayed care in the prehospital system?. Berry C. J Trauma Acute Care Surg. 2025 May 23. doi: 10.1097/TA.0000000000004579. Online ahead of print. <https://doi.org/10.1097/TA.0000000000004579>
- Physician-Assisted Dying Witnessed by Emergency Medical Services: A Case Report. Potluri S. Clin Pract Cases Emerg Med. 2025 May;9(2):182-187. doi: 10.5811/cpcem.38060. <https://doi.org/10.5811/cpcem.38060>
- Disparities in Emergency Medical Services Termination of Resuscitation Practices for Patients with Out-of-Hospital Cardiac Arrest. Naas CJ. Prehosp Emerg Care. 2025 Apr 21;1-8. doi: 10.1080/10903127.2025.2487135. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2487135>
- Legal Issues in End-of-Life Care for Paramedics: A Scoping Review. Feeney R. J Law Med. 2025 Apr;31(4):721-742.
- Effect of Remote Ischemic Conditioning on the Form and Function of Red Blood Cells in Patients With Acute Ischemic Stroke. Blauenfeldt RA. Stroke. 2025 Mar;56(3):603-612. doi: 10.1161/STROKEAHA.124.048976. Epub 2025 Jan 30. <https://doi.org/10.1161/STROKEAHA.124.048976>
- Prehospital Trauma Compendium: Transfusion of Blood Products in Trauma - A Position Statement and Resource Document of NAEMSP. Brown JB. Prehosp Emerg Care. 2025 Apr 1:1-10. doi: 10.1080/10903127.2025.2476195. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2476195>
- Paramedic-Administered Fibrinolysis in Older Patients with Prehospital ST-Segment Elevation Myocardial Infarction. Doan TN. Prehosp Emerg Care. 2025 Mar 4:1-8. doi: 10.1080/10903127.2025.2467792. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2467792>
- Provision of medical same day emergency care services within the UK: analysis from the Society for Acute Medicine Benchmarking Audit. Atkin C. BMJ Open. 2025 Apr 22;15(4):e094580. doi: 10.1136/bmjopen-2024-094580. <https://doi.org/10.1136/bmjopen-2024-094580>
- A Case of Prehospital Magnesium Sulfate Extravasation. Bilodeau S. Clin Pract Cases Emerg Med. 2025 May;9(2):245-247. doi: 10.5811/cpcem.34874. <https://doi.org/10.5811/cpcem.34874>
- Sex Differences in Acute Coronary Syndromes: A Scoping Review Across the Care Continuum. Marzà-Florensa A. Glob Heart. 2025 Mar 11;20(1):26. doi: 10.5334/gh.1410. eCollection 2025. <https://doi.org/10.5334/gh.1410>
- Prehospital Cricothyrotomy: A Narrative Review of Technical, Educational, and Operational Considerations for Procedure Optimization. Lacy AJ. J Emerg Med. 2025 Mar;70:19-34. doi: 10.1016/j.jemermed.2024.08.018. Epub 2024 Sep 3. <https://doi.org/10.1016/j.jemermed.2024.08.018>
- Ambulance location and relocation under budget constraints: investigating coverage-maximization models and ambulance sharing to improve emergency medical services performance. Frichi Y. Health Care Manag Sci. 2025 Jun;28(2):274-297. doi: 10.1007/s10729-025-09708-8. Epub 2025 May 21. <https://doi.org/10.1007/s10729-025-09708-8>
- Rural rendezvous: How multiple EMS transfers impact trauma outcomes. Rhodes-Lyons HX. Am J Emerg Med. 2025 May 30;95:195-199. doi: 10.1016/j.ajem.2025.05.052. Online ahead of print. <https://doi.org/10.1016/j.ajem.2025.05.052>

- Ambulance Service Utilization by Kidney Transplant Recipients. Masoumi-Ravandi K. Can J Kidney Health Dis. 2025 Apr 4;12:20543581251324587. doi: 10.1177/20543581251324587. eCollection 2025. <https://doi.org/10.1177/20543581251324587>
- Emergency Medical Services (EMS) Clinician Perspectives on the Pediatric Observation Priority Score (POPS). Ward CE. Prehosp Emerg Care. 2025 Mar 20;1-8. doi: 10.1080/10903127.2025.2477213. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2477213>
- Comparison of Outcomes for Emergency Medical Services-Transported Infants With Suspected Brief Resolved Unexplained Events Before and After the Coronavirus Disease 2019 Pandemic. Toy J. Pediatr Emerg Care. 2025 May 1;41(5):329-335. doi: 10.1097/PEC.0000000000003346. Epub 2025 Feb 4. <https://doi.org/10.1097/PEC.0000000000003346>
- Deprivation is associated with hospital conveyance among patients who are terminally ill. French M. Emerg Med J. 2025 Apr 10;emermed-2023-213742. doi: 10.1136/emermed-2023-213742. Online ahead of print. <https://doi.org/10.1136/emermed-2023-213742>
- Comparison of Neighborhood Disadvantage Indices on Emergency Medical Services Interventions and Outcomes for Pediatric Out-of-Hospital Emergencies. Ramgopal S. Acad Pediatr. 2025 Mar;25(2):102592. doi: 10.1016/j.acap.2024.10.004. Epub 2024 Oct 11. <https://doi.org/10.1016/j.acap.2024.10.004>
- Paramedic assessment of suspected or confirmed COVID-19 patients in the out-of-hospital environment: a scoping review protocol. Gleeson-Hammerton T. JBI Evid Synth. 2025 Apr 1;23(4):801-811. doi: 10.11124/JBIES-24-00069. Epub 2025 Jan 7. <https://doi.org/10.11124/JBIES-24-00069>
- Blood product administration in the prehospital setting: a multisociety consensus statement. Carenzo L. J Anesth Analg Crit Care. 2025 May 26;5(1):28. doi: 10.1186/s44158-025-00248-9. <https://doi.org/10.1186/s44158-025-00248-9>
- Prehospital and Resuscitation Factors Associated With Favorable Pediatric Drowning Outcomes. Shenoi RP. Pediatr Emerg Care. 2025 Jul 1;41(7):514-520. doi: 10.1097/PEC.0000000000003382. Epub 2025 Mar 25. <https://doi.org/10.1097/PEC.0000000000003382>
- Predictors of Ever Using Marijuana Among US First Responders. Testoff AC. J Occup Environ Med. 2025 Apr 1;67(4):e207-e211. doi: 10.1097/JOM.0000000000003310. Epub 2025 Jan 10. <https://doi.org/10.1097/JOM.0000000000003310>
- Design and psychometric evaluation of the Emergency Medical Services Safe Care Scale (EMSSCS): a mixed-method study. Mohammadi F. BMC Emerg Med. 2025 Apr 20;25(1):67. doi: 10.1186/s12873-025-01222-y. <https://doi.org/10.1186/s12873-025-01222-y>
- Paramedic i-gel® Placement and Perception of Use in Prehospital Airway Management. Wilhelm K. Prehosp Emerg Care. 2025 Apr 7:1-6. doi: 10.1080/10903127.2025.2479562. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2479562>
- Factors related to the decision to perform synchronized cardioversion for supraventricular tachyarrhythmias by prehospital emergency medical services workers. Durmu C. Heart Lung. 2025 Mar-Apr;70:293-297. doi: 10.1016/j.hrtlng.2024.12.013. Epub 2025 Jan 13. <https://doi.org/10.1016/j.hrtlng.2024.12.013>
- Prehospital measurement and treatment of ionised hypocalcaemia by UK helicopter emergency medical services in trauma patients: a survey of current practice. Hibberd O. Scand J Trauma Resusc Emerg Med. 2025 Apr 16;33(1):63. doi: 10.1186/s13049-025-01379-2. <https://doi.org/10.1186/s13049-025-01379-2>
- Emergency medical services utilization in acute stroke in Qatar - an observational cohort study. Bhutta ZA. Int J Emerg Med. 2025 Mar 31;18(1):64. doi: 10.1186/s12245-025-00877-5. <https://doi.org/10.1186/s12245-025-00877-5>
- Prehospital Use of Medication-Assisted Treatment for Opioid Use Disorder: A Rapid Review of Implementation Approaches and Outcomes. Denton EE. Subst Abuse Rehabil. 2025 Mar 8;16:55-69. doi: 10.2147/SAR.S511618. eCollection 2025. <https://doi.org/10.2147/SAR.S511618>
- Emergency room management of urolithiasis: a sex-based comparison. Shilling M. Can J Urol. 2025 Apr 30;32(2):81-88. doi: 10.32604/cju.2025.063415. <https://doi.org/10.32604/cju.2025.063415>
- Prehospital Diagnosis of Acute ST-Elevation Myocardial Infarction in a Patient with Situs Inversus Totalis. Gordon V. Prehosp Emerg Care. 2025 May 19:1-14. doi: 10.1080/10903127.2025.2506183. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2506183>
- Evaluation of protocol fidelity for prehospital antibiotic administration. O'Connor L. Acad Emerg Med. 2025 Apr 3. doi: 10.1111/acem.70015. Online ahead of print. <https://doi.org/10.1111/acem.70015>
- Assessing the Need and Demand for a Community Emergency Paramedic Strategy in the Ambulance Rescue System of Hamburg, Germany. Rauner MS. Healthcare (Basel). 2025 Apr 23;13(9):979. doi: 10.3390/healthcare13090979. <https://doi.org/10.3390/healthcare13090979>
- Optimising the impact of smartphone-activated volunteer responder programs on out-of-hospital cardiac arrest outcomes by increasing responder density. Morrison A. Med J Aust. 2025 Jun 2;222(10):502-503. doi: 10.5694/mja2.52674. Epub 2025 May 18. <https://doi.org/10.5694/mja2.52674>
- Distribution of prehospital times of major trauma cases attended by emergency medical services in Aotearoa New Zealand. Dicker B. N Z Med J. 2025 Mar 14;138(1611):55-64. doi: 10.26635/6965.6778. <https://doi.org/10.26635/6965.6778>
- Reaching the right facility for emergency patients - destinations of patients transported by emergency medical services in Kigali, Rwanda. Sheferaw ED. Int J Emerg Med. 2025 Apr 10;18(1):75. doi: 10.1186/s12245-025-00853-z. <https://doi.org/10.1186/s12245-025-00853-z>

- Student Paramedic and Practice Educator Experiences of Ambulance Placements. A Rapid Evidence Review. Brown JJH. Health Sci Rep. 2025 Mar 18;8(3):e70552. doi: 10.1002/hsr2.70552. eCollection 2025 Mar. <https://doi.org/10.1002/hsr2.70552>
- Emergency medical services, treatment of cardiac arrest patients and cardiac arrest registries in Europe - Update on systems. Strömsöe A. Resusc Plus. 2025 Apr 16;23:100960. doi: 10.1016/j.resplu.2025.100960. eCollection 2025 May. <https://doi.org/10.1016/j.resplu.2025.100960>
- Structure-based design of therapeutics to control hemostasis. Tucker L. Blood. 2025 Mar 25;blood.2024025323. doi: 10.1182/blood.2024025323. Online ahead of print. <https://doi.org/10.1182/blood.2024025323>
- Pre-Hospital Pulse-Oximetry and Supplemental Oxygen Utilization in Malawi: An Exploratory Cost-Effectiveness Analysis. Newton JB. Pediatr Pulmonol. 2025 May;60(5):e71095. doi: 10.1002/ppul.71095. <https://doi.org/10.1002/ppul.71095>
- Patients discharged to police custody after paramedic evaluation: an observational cohort study. Heinonen K. Emerg Med J. 2025 Apr 25;emermed-2024-214555. doi: 10.1136/emermed-2024-214555. Online ahead of print. <https://doi.org/10.1136/emermed-2024-214555>
- Emergency Treatment of Burns in Adults-Characteristics of Adult Patients and Acute/Pre-Hospital Burn Management. Oprita B. Eur Burn J. 2025 Apr 10;6(2):19. doi: 10.3390/ebj6020019. <https://doi.org/10.3390/ebj6020019>
- eFAST to OR: Determining the Quality of Paramedic Conduction and Interpretation of eFAST Exams in Prehospital Settings. Roberts E. Mil Med. 2025 Apr 23;190(5-6):135-138. doi: 10.1093/milmed/usaf008. <https://doi.org/10.1093/milmed/usaf008>
- Why Do Emergency Medical Service Employees (Not) Seek Organizational Help for Mental Health Support?: A Systematic Review. Johnston S. Int J Environ Res Public Health. 2025 Apr 17;22(4):629. doi: 10.3390/ijerph22040629. <https://doi.org/10.3390/ijerph22040629>
- Trauma Care Provision in Malaysia: Challenges, Strengths, and Strategic Priorities for System Reform. Koshy DI. Cureus. 2025 May 14;17(5):e84107. doi: 10.7759/cureus.84107. eCollection 2025 May. <https://doi.org/10.7759/cureus.84107>
- [Study day for neonatal paramedics (JEPN)]. Buil A. Soins Pédiatr Pueric. 2025 Mar-Apr;46(343):8-9. doi: 10.1016/j.spp.2025.01.003. Epub 2025 Feb 28. <https://doi.org/10.1016/j.spp.2025.01.003>
- Discrepancies in anaphylaxis protocols across emergency medical services in the United States: Opportunities for improvement. Gunderson CA. Ann Allergy Asthma Immunol. 2025 Jul;135(1):91-96. doi: 10.1016/j.anai.2025.03.021. Epub 2025 Mar 29. <https://doi.org/10.1016/j.anai.2025.03.021>
- Creation of a Novel National Dataset Through Linkage of Emergency Medical Services (EMS) Transport Destination and Verified Emergency Department (ED) Capability. Cash RE. Prehosp Emerg Care. 2025 Mar 12:1-6. doi: 10.1080/10903127.2025.2470286. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2470286>
- Pre-hospital ECPR cost analysis and cost effectiveness modelling study. Zmudzki F. Resuscitation. 2025 Mar;208:110488. doi: 10.1016/j.resuscitation.2024.110488. Epub 2025 Jan 3. <https://doi.org/10.1016/j.resuscitation.2024.110488>
- Evaluation of pre- and in-hospital workflows and time intervals with acute ischemic stroke patients. Helander M. PLoS One. 2025 Apr 22;20(4):e0319783. doi: 10.1371/journal.pone.0319783. eCollection 2025. <https://doi.org/10.1371/journal.pone.0319783>
- Diagnostic accuracy of prehospital ultrasound in detecting lung injury in patients with trauma: a systematic review and meta-analysis. Sen JPB. Emerg Med J. 2025 Mar 25;42(4):256-263. doi: 10.1136/emermed-2023-213647. <https://doi.org/10.1136/emermed-2023-213647>
- Further definition of critical incidents in paramedics' work. Nordquist H. Int Emerg Nurs. 2025 Jun;80:101610. doi: 10.1016/j.ienj.2025.101610. Epub 2025 May 9. <https://doi.org/10.1016/j.ienj.2025.101610>
- Emergency medical technician experiences of assignments with women in labour. Hågensen K. Sex Reprod Healthc. 2025 May 31;45:101118. doi: 10.1016/j.srhc.2025.101118. Online ahead of print. <https://doi.org/10.1016/j.srhc.2025.101118>
- Prehospital Blood Administration in Traumatic Hemorrhagic Shock. McNeilly B. J Am Coll Emerg Physicians Open. 2025 Jan 24;6(2):100041. doi: 10.1016/j.acepjo.2024.100041. eCollection 2025 Apr. <https://doi.org/10.1016/j.acepjo.2024.100041>
- Prehospital Care Post-Road-Crash: A Systematic Review of the Literature. Cuthbertson J. Prehosp Disaster Med. 2025 Apr;40(2):94-100. doi: 10.1017/S1049023X25000202. Epub 2025 Apr 8. <https://doi.org/10.1017/S1049023X25000202>
- Racial and Socioeconomic Disparities in California Ambulance Patient Offload Times. Shteyler VM. JAMA Netw Open. 2025 May 1;8(5):e2510325. doi: 10.1001/jamanetworkopen.2025.10325. <https://doi.org/10.1001/jamanetworkopen.2025.10325>
- Clinical Disorders in Cystic Fibrosis That Affect Emergency Procedures-A Case Report and Review. Jarzynka S. J Clin Med. 2025 May 5;14(9):3187. doi: 10.3390/jcm14093187. <https://doi.org/10.3390/jcm14093187>
- The triage performance of emergency medical dispatch prioritisation compared to prehospital on-scene triage in the Western Cape Province of South Africa. Binks F. BMC Emerg Med. 2025 Mar 6;25(1):42. doi: 10.1186/s12873-025-01198-9. <https://doi.org/10.1186/s12873-025-01198-9>
- Use of transoesophageal echocardiography in the pre-hospital setting to determine compression position in out of hospital cardiac arrest. Kruit N. Resuscitation. 2025 Apr;209:110582. doi: 10.1016/j.resuscitation.2025.110582. Epub 2025 Mar 14. <https://doi.org/10.1016/j.resuscitation.2025.110582>

- US special operations in Africa-Challenges to trauma care and training. Marcus C. Surgery. 2025 May;181:109314. doi: 10.1016/j.surg.2025.109314. Epub 2025 Mar 14. <https://doi.org/10.1016/j.surg.2025.109314>
- Prehospital application of remote ischaemic preconditioning in acute ischaemic stroke patients in Catalonia: the REMOTE-CAT clinical trial. Purroy F. EclinicalMedicine. 2025 Apr 25;83:103208. doi: 10.1016/j.eclinm.2025.103208. eCollection 2025 May. <https://doi.org/10.1016/j.eclinm.2025.103208>
- Out-of-hospital care of postpartum hemorrhage: a scoping review. Soh R. JBI Evid Synth. 2025 May 1;23(5):920-948. doi: 10.11124/JBIES-24-00058. Epub 2025 May 6. <https://doi.org/10.11124/JBIES-24-00058>
- Epidemiology of 911 Calls for Opioid Overdose in Nogales, Arizona. Glenn M. West J Emerg Med. 2025 Mar 31;26(3):528-534. doi: 10.5811/westjem.18597. <https://doi.org/10.5811/westjem.18597>
- Pre-hospital LVO detection: One size does not fit all. Favilla CG. J Stroke Cerebrovasc Dis. 2025 Jul;34(7):108323. doi: 10.1016/j.jstrokecerebrovasdis.2025.108323. Epub 2025 Apr 17. <https://doi.org/10.1016/j.jstrokecerebrovasdis.2025.108323>
- Traumatic spinal cord injury: a review of the current state of art and future directions - what do we know and where are we going?. Mensah EO. N Am Spine Soc J. 2025 Mar 5;22:100601. doi: 10.1016/j.xnsj.2025.100601. eCollection 2025 Jun. <https://doi.org/10.1016/j.xnsj.2025.100601>
- Characteristics and outcomes of out-of-hospital cardiac arrest cases responded by emergency medical services across three states in Malaysia. Sarah AK. Med J Malaysia. 2025 Mar;80(2):147-152.
- Maintenance of prehospital anaesthesia in trauma patients: inconsistencies and variability in practice. Sheridan B. BJA Open. 2025 Jan 9;13:100366. doi: 10.1016/j.bjao.2024.100366. eCollection 2025 Mar. <https://doi.org/10.1016/j.bjao.2024.100366>
- Ambulance clinicians' perspectives on interprofessional collaboration in prehospital emergency care for older patients with complex care needs: a mixed-methods study. Hedqvist AT. BMC Geriatr. 2025 May 30;25(1):394. doi: 10.1186/s12877-025-05975-w. <https://doi.org/10.1186/s12877-025-05975-w>
- Field vs. Emergency Department Intubation: A Retrospective Review of Hospital Outcomes of Trauma Patients. Vorce M. West J Emerg Med. 2025 May 19;26(3):751-757. doi: 10.5811/westjem.41184. <https://doi.org/10.5811/westjem.41184>
- A pilot study on feasibility and hypothesis exploration: reducing on-scene length of stay of the emergency teams via ambulance dispatch teleconsultation for prehospital examination. Accorsi TAD. Einstein (Sao Paulo). 2025 May 12;23:eAO1469. doi: 10.31744/einstein_journal/2025AO1469. eCollection 2025. https://doi.org/10.31744/einstein_journal/2025AO1469
- Incidence and temporal trends of out-of-hospital cardiac arrest in Shenzhen, China (2011-2018). Zhu H. Resusc Plus. 2025 Jan 28;22:100882. doi: 10.1016/j.resplu.2025.100882. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100882>
- Coronary Artery Bypass Grafting Is Rarely Done in the Acute Care of ST-elevation Myocardial Infarction Patients Treated by Emergency Medical Services. Toy J. West J Emerg Med. 2025 May 20;26(3):729-736. doi: 10.5811/westjem.35271. <https://doi.org/10.5811/westjem.35271>
- The urgent need for patients' diagnoses and outcome feedback in Germany's emergency medical services - insights from a web-based survey. Kästner A. BMC Emerg Med. 2025 Apr 20;25(1):66. doi: 10.1186/s12873-025-01218-8. <https://doi.org/10.1186/s12873-025-01218-8>
- Miscommunication and Risk in the Military Prehospital Environment: A Case Series and Review. Elzey GD. J Spec Oper Med. 2025 Apr 4;25(1):60-64. doi: 10.55460/ZFKC-1LW6. <https://doi.org/10.55460/ZFKC-1LW6>
- Prehospital paediatric trauma: equipping prehospital providers to deliver high-quality care. Kocierz L. Arch Dis Child. 2025 Mar 31;archdischild-2024-328229. doi: 10.1136/archdischild-2024-328229. Online ahead of print. <https://doi.org/10.1136/archdischild-2024-328229>
- EMS Airway Management: Addressing Challenges in Adverse Conditions. Beecham GBKohn MD. 2025 Apr 6. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Assessing the Effectiveness and Accessibility of Trauma Care in East London: A Comprehensive Evaluation. Ahmed MM. Cureus. 2025 May 15;17(5):e84141. doi: 10.7759/cureus.84141. eCollection 2025 May. <https://doi.org/10.7759/cureus.84141>
- Strengthening the WHO Emergency Care Systems Framework: insights from an integrated, patient-centered approach in the Copenhagen Emergency Medical Services system-a qualitative system analysis. Böbel S. BMC Health Serv Res. 2025 Mar 18;25(1):401. doi: 10.1186/s12913-025-12465-7. <https://doi.org/10.1186/s12913-025-12465-7>
- Research progress on influencing factors and intervention measures of pre-hospital delays in acute ischemic stroke. Shi L. Technol Health Care. 2025 Mar;33(2):1121-1127. doi: 10.1177/09287329241296739. Epub 2024 Dec 3. <https://doi.org/10.1177/09287329241296739>
- Association between prehospital tranexamic acid and cerebral edema in patients with moderate or severe traumatic brain injury. McKinley WL. J Trauma Acute Care Surg. 2025 May 1;98(5):794-797. doi: 10.1097/TA.0000000000004516. Epub 2025 Feb 10. <https://doi.org/10.1097/TA.0000000000004516>
- Hypothermia on admission predicts poor outcomes in adult trauma patients. Jose AM. Injury. 2025 May;56(5):112076. doi: 10.1016/j.injury.2024.112076. Epub 2024 Dec 3. <https://doi.org/10.1016/j.injury.2024.112076>
- Prehospital intubation in patients with severe traumatic brain injury: a review. Lauriks A. Eur J Emerg Med. 2025 Aug 1;32(4):236-247. doi: 10.1097/MEJ.0000000000001240. Epub 2025 Apr 23. <https://doi.org/10.1097/MEJ.0000000000001240>

- Threshold-anxiety in medical students performing a prehospital high-fidelity clinical simulation: Randomized clinical trial. Martín-Sánchez R. *Am J Emerg Med*. 2025 Aug;94:103-109. doi: 10.1016/j.ajem.2025.04.039. Epub 2025 Apr 21. <https://doi.org/10.1016/j.ajem.2025.04.039>
- Epidemiology of Pediatric Transports and First Aid in a German Municipal Emergency Medical Services (EMS) System: A Cohort Study. Garrelfs K. *Emerg Med Int*. 2025 Apr 14;2025:8184007. doi: 10.1155/emmi/8184007. eCollection 2025. <https://doi.org/10.1155/emmi/8184007>
- Bridging the gap: whole blood and plasma in prehospital hemorrhagic shock resuscitation. Levy MJ. *Trauma Surg Acute Care Open*. 2025 May 24;10(2):e001828. doi: 10.1136/tsaco-2025-001828. eCollection 2025. <https://doi.org/10.1136/tsaco-2025-001828>
- Paramedic Management of Non-Traumatic Back Pain in a Large Australian Ambulance Service: A Retrospective Study. Vella SP. *Prehosp Disaster Med*. 2025 Apr;40(2):77-85. doi: 10.1017/S1049023X25000251. Epub 2025 Apr 7. <https://doi.org/10.1017/S1049023X25000251>
- Rural Emergency Medical Services Perspectives on Improving Acute Stroke Care: A Qualitative Study. Johnson EN. *Prehosp Emerg Care*. 2025 Apr 21:1-9. doi: 10.1080/10903127.2025.2490180. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2490180>
- In the red zone: How Atlanta Falcons home games impact emergency department and emergency medical services volumes. Wallace G. *Am J Emerg Med*. 2025 Jun;92:48-51. doi: 10.1016/j.ajem.2025.03.004. Epub 2025 Mar 2. <https://doi.org/10.1016/j.ajem.2025.03.004>
- Association Between Organizational Culture and Emergency Medical Service Clinician Turnover. Kamholz JC. *Int J Environ Res Public Health*. 2025 May 12;22(5):756. doi: 10.3390/ijerph22050756. <https://doi.org/10.3390/ijerph22050756>
- Definitions and Occurrence of Unused Short Peripheral Intravenous Catheters in Different Care Settings: A Scoping Review. Ambrosi E. *Nurs Open*. 2025 Apr;12(4):e70217. doi: 10.1002/nop2.70217. <https://doi.org/10.1002/nop2.70217>
- Optimising prehospital trauma triage for older adults: challenges, limitations, and future directions. Harthi N. *Front Med (Lausanne)*. 2025 Apr 22;12:1569891. doi: 10.3389/fmed.2025.1569891. eCollection 2025. <https://doi.org/10.3389/fmed.2025.1569891>
- Fentanyl or esketamine for traumatic pain (FORE-PAIN) trial: study protocol for a double-blind multi-arm randomized non-inferiority trial. de Grunt MN. *Trials*. 2025 May 26;26(1):172. doi: 10.1186/s13063-025-08869-9. <https://doi.org/10.1186/s13063-025-08869-9>
- Workplace violence in the ambulance service from the offender's perspective: a qualitative study using trial transcripts. Viking M. *BMC Emerg Med*. 2025 May 13;25(1):77. doi: 10.1186/s12873-025-01232-w. <https://doi.org/10.1186/s12873-025-01232-w>
- Is ambulance conveyance associated with distance to hospital and patient outcomes? A register-based cohort study in Region Zealand, Denmark, 2017-2022. Jensen JT. *BMJ Open*. 2025 Apr 27;15(4):e097283. doi: 10.1136/bmjopen-2024-097283. <https://doi.org/10.1136/bmjopen-2024-097283>
- Contribution of point-of-care ultrasound in the prehospital management of patients with non-trauma acute dyspnea: a systematic review and meta-analysis. Taheri O. *Eur J Emerg Med*. 2025 Apr 1;32(2):87-99. doi: 10.1097/MEJ.0000000000001205. Epub 2024 Dec 3. <https://doi.org/10.1097/MEJ.0000000000001205>
- Could Flumazenil Be Used Pre-hospital by Intramuscular Injection for Coma due to Mixed Drug Overdose Not Responding to Naloxone?: A Systematic Review of the Evidence. Farcas I. *Basic Clin Pharmacol Toxicol*. 2025 Mar;136(3):e70007. doi: 10.1111/bcpt.70007. <https://doi.org/10.1111/bcpt.70007>
- National research agenda for postcrash care. Goolsby C. *J Trauma Acute Care Surg*. 2025 Jun 1;98(6):942-950. doi: 10.1097/TA.0000000000004589. Epub 2025 Mar 28. <https://doi.org/10.1097/TA.0000000000004589>
- PEPPER - Prehospital prediction in pulmonary embolism: The association of the national early warning score with mortality, thrombolysis, and clinical outcomes. Lipa AJ. *Eur J Intern Med*. 2025 Jul;137:90-95. doi: 10.1016/j.ejim.2025.04.035. Epub 2025 May 12. <https://doi.org/10.1016/j.ejim.2025.04.035>
- Risk perception of emergency medical technicians in biological disasters: a comparison between COVID-19 and Non-COVID-19 cases. Mahmodi MA. *BMC Emerg Med*. 2025 May 21;25(1):82. doi: 10.1186/s12873-025-01239-3. <https://doi.org/10.1186/s12873-025-01239-3>
- Research on optimal strategy of different fire rescue tasks based on oxygen consumption. Tang J. *Front Physiol*. 2025 Mar 24;16:1548031. doi: 10.3389/fphys.2025.1548031. eCollection 2025. <https://doi.org/10.3389/fphys.2025.1548031>
- Adapting and implementing a pre-hospital trauma program for community health responders: A pilot study from rural Nepal. Kharel R. *Injury*. 2025 May;56(5):112229. doi: 10.1016/j.injury.2025.112229. Epub 2025 Mar 4. <https://doi.org/10.1016/j.injury.2025.112229>
- Prehospital to emergency department handoff: can team-based reporting improve markers of clinical efficiency in an adult emergency department?. Gross CL. *BMJ Open Qual*. 2025 May 7;14(2):e002948. doi: 10.1136/bmjopen-2024-002948. <https://doi.org/10.1136/bmjopen-2024-002948>
- Patient and caregiver knowledge of pediatric testicular torsion: A scoping review. MacNevin W. *J Pediatr Urol*. 2025 May 16:S1477-5131(25)00286-4. doi: 10.1016/j.jpuro.2025.05.015. Online ahead of print. <https://doi.org/10.1016/j.jpuro.2025.05.015>

- Prehospital FAST-ED Score Item Agreement with Corresponding In-Hospital NIHSS Item Scores. Baumgarten MT. *Prehosp Emerg Care*. 2025 May 29;1-6. doi: 10.1080/10903127.2025.2508780. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2508780>
- Prehospital antiplatelet therapy in patients with out-of-hospital cardiac arrest suspected of acute coronary syndrome. Charleux P. *Resuscitation*. 2025 Jun;211:110596. doi: 10.1016/j.resuscitation.2025.110596. Epub 2025 Mar 28. <https://doi.org/10.1016/j.resuscitation.2025.110596>
- Pediatric Drowning and Prehospital Predictors of Critical Illness in the United States. Greenshields M. *Pediatr Emerg Care*. 2025 May 1;41(5):341-347. doi: 10.1097/PEC.0000000000003345. Epub 2025 Feb 17. <https://doi.org/10.1097/PEC.0000000000003345>
- Diagnostic accuracy of pre-hospital invasive arterial blood pressure monitoring for haemodynamic management in traumatic brain injury and spontaneous intracranial haemorrhage. Griggs JE. *Scand J Trauma Resusc Emerg Med*. 2025 May 16;33(1):89. doi: 10.1186/s13049-025-01393-4. <https://doi.org/10.1186/s13049-025-01393-4>
- Factors associated with prehospital and in-hospital delays in acute ischaemic stroke care in Indonesia: a systematic review. Wiyarta E. *BMJ Open*. 2025 Mar 12;15(3):e095845. doi: 10.1136/bmjopen-2024-095845. <https://doi.org/10.1136/bmjopen-2024-095845>
- Using Life-Saving Interventions to Determine Optimal Vital Sign Ranges among Adults Encountered by Emergency Medical Services. Ramgopal S. *Prehosp Disaster Med*. 2025 May 22;1-7. doi: 10.1017/S1049023X25001542. Online ahead of print. <https://doi.org/10.1017/S1049023X25001542>
- Nebulized ketamine for acute pain management in the Emergency Department: A systematic review and meta-analysis. Cetin M. *Am J Emerg Med*. 2025 Aug;94:110-118. doi: 10.1016/j.ajem.2025.04.051. Epub 2025 Apr 22. <https://doi.org/10.1016/j.ajem.2025.04.051>
- Development and Evaluation of a Novel Curriculum for Whole Blood Transfusion by Paramedics in the Prehospital Environment. Garfinkel E. *West J Emerg Med*. 2025 May 13;26(3):535-540. doi: 10.5811/westjem.19438. <https://doi.org/10.5811/westjem.19438>
- Testing Quality Indicators for Physician-Staffed Fixed-Wing Air Medical Services in Iceland. Árnadóttir MK. *Air Med J*. 2025 Mar-Apr;44(2):150-154. doi: 10.1016/j.amj.2024.12.002. Epub 2025 Jan 3. <https://doi.org/10.1016/j.amj.2024.12.002>
- Association between neurological outcomes and prehospital time in patients with out-of-hospital cardiopulmonary arrest. Yoshikawa K. *Acute Med Surg*. 2025 Mar 6;12(1):e70025. doi: 10.1002/ams2.70025. eCollection 2025 Jan-Dec. <https://doi.org/10.1002/ams2.70025>
- Implementation of autonomous decision protocols for emergency medical dispatchers: caller satisfaction survey and evolution of practices. Fischer C. *Int J Emerg Med*. 2025 Apr 17;18(1):81. doi: 10.1186/s12245-025-00880-w. <https://doi.org/10.1186/s12245-025-00880-w>
- Exploring the integration of medical and preventive chronic disease health management in the context of big data. Wang Y. *Front Public Health*. 2025 Apr 15;13:1547392. doi: 10.3389/fpubh.2025.1547392. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1547392>
- Analysis of the implementation of pre-hospital and hospital care for cases of accidents and violence in Brazil. Ribeiro AP. *Cien Saude Colet*. 2025 Mar;30(3):e17592024. doi: 10.1590/1413-81232025303.17592024. Epub 2024 Oct 5. <https://doi.org/10.1590/1413-81232025303.17592024>
- Non-invasive ventilation for preoxygenation during prehospital anaesthesia - a prospective observational study. Ljungqvist H. *Scand J Trauma Resusc Emerg Med*. 2025 Apr 23;33(1):67. doi: 10.1186/s13049-025-01386-3. <https://doi.org/10.1186/s13049-025-01386-3>
- Are we ready? Emergency unit capacity at selected district level hospitals in Lusaka Province, Zambia: Barriers and facilitators for improving trauma care: a mixed methods approach. Machona PK. *PLOS Glob Public Health*. 2025 May 9;5(5):e0004382. doi: 10.1371/journal.pgph.0004382. eCollection 2025. <https://doi.org/10.1371/journal.pgph.0004382>
- Young men's anxiety presentations to Australian ambulance services. Fisher K. *J Affect Disord*. 2025 Sep 1;384:98-106. doi: 10.1016/j.jad.2025.05.003. Epub 2025 May 5. <https://doi.org/10.1016/j.jad.2025.05.003>
- Improving prediction accuracy of hospital arrival vital signs using a multi-output machine learning model: a retrospective study of JSAS-registry data. Kawai Y. *BMC Emerg Med*. 2025 May 13;25(1):78. doi: 10.1186/s12873-025-01233-9. <https://doi.org/10.1186/s12873-025-01233-9>
- [Prehospital cardiac arrest: concept of First Responders]. Moser A. *Rev Med Suisse*. 2025 May 28;21(920):1147-1150. doi: 10.53738/REVMED.2025.21.920.46692. <https://doi.org/10.53738/REVMED.2025.21.920.46692>
- Prehospital treatment-seeking for acute coronary syndrome in culturally and linguistically diverse immigrant populations: a scoping review. Olani AB. *Eur J Cardiovasc Nurs*. 2025 Mar 3;24(2):207-217. doi: 10.1093/eurjcn/zvae122. <https://doi.org/10.1093/eurjcn/zvae122>
- Acute Ischemic Stroke in a Marathon Runner: Last Known Well at Mile 22 Case Report. Tataris KL. *Prehosp Emerg Care*. 2025 May 5:1-3. doi: 10.1080/10903127.2025.2500065. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2500065>
- Association of mortality and physician experience in prehospital anaesthesia: a registry study on new physicians in Finnish helicopter emergency medical services. Saviluoto A. *Scand J Trauma Resusc Emerg Med*. 2025 May 30;33(1):98. doi: 10.1186/s13049-025-01412-4. <https://doi.org/10.1186/s13049-025-01412-4>

- Reorganization of the Danish out-of-hours primary care - a descriptive study. Søvsø MB. *Scand J Prim Health Care*. 2025 Apr 20;1-10. doi: 10.1080/02813432.2025.2490915. Online ahead of print. <https://doi.org/10.1080/02813432.2025.2490915>
- Prehospital ECG Interpretation Methods for ST-Elevation MI Detection and Catheterization Laboratory Activation: A Systematic Review and Meta-Analysis. Alrawashdeh A. *Arch Acad Emerg Med*. 2025 May 22;13(1):e47. doi: 10.22037/aaemj.v13i1.2627. eCollection 2025. <https://doi.org/10.22037/aaemj.v13i1.2627>
- Evaluating reimbursement for prehospital blood transfusions: A nationwide survey. Hurson T. *Transfusion*. 2025 May;65 Suppl 1(Suppl 1):S6-S13. doi: 10.1111/trf.18217. Epub 2025 Mar 27. <https://doi.org/10.1111/trf.18217>
- Understanding cardiac arrest dispatch of physician-paramedic critical care prehospital teams: a survey-based evaluation. Morton S. *Emerg Med J*. 2025 Mar 25;42(4):249-255. doi: 10.1136/emered-2024-214178. <https://doi.org/10.1136/emered-2024-214178>
- Physician-led interprofessional pre-hospital teams: does the science hold up?. Davis RG. *Scand J Trauma Resusc Emerg Med*. 2025 Mar 27;33(1):54. doi: 10.1186/s13049-025-01368-5. <https://doi.org/10.1186/s13049-025-01368-5>
- Association Between No-Flow Time, Prehospital Low-Flow Time, and Conversion to Nonshockable Rhythm in Patients With Out-of-Hospital Cardiac Arrest Presenting With Initial Shockable Rhythm: A Nationwide Prospective Study in Japan. Kandori K. *J Am Heart Assoc*. 2025 Mar 4;14(5):e038725. doi: 10.1161/JAHA.124.038725. Epub 2025 Feb 26. <https://doi.org/10.1161/JAHA.124.038725>
- Creation and validation of a roadside rescue skills scale for training pre-hospital medical teams: the RoadRes-Q scale. Lavabre K. *Scand J Trauma Resusc Emerg Med*. 2025 Apr 3;33(1):56. doi: 10.1186/s13049-025-01370-x. <https://doi.org/10.1186/s13049-025-01370-x>
- Variations in Sleep, Fatigue, and Difficulty with Concentration Among Emergency Medical Services Clinicians During Shifts of Different Durations. Patterson PD. *Int J Environ Res Public Health*. 2025 Apr 6;22(4):573. doi: 10.3390/ijerph22040573. <https://doi.org/10.3390/ijerph22040573>
- Characteristics and Outcomes of Anaphylaxis in Emergency Department Visits Among Older Adults. Nduwimana MJ. *J Allergy Clin Immunol Pract*. 2025 Apr 22:S2213-2198(25)00380-0. doi: 10.1016/j.jaip.2025.04.023. Online ahead of print. <https://doi.org/10.1016/j.jaip.2025.04.023>
- Violence Prevention and Health Promotion Centers: advances and challenges. Souza ER. *Cien Saude Colet*. 2025 Mar;30(3):e21002024. doi: 10.1590/1413-81232025303.21002024. Epub 2024 Dec 4. <https://doi.org/10.1590/1413-81232025303.21002024>
- Effectiveness of chain of survival for out-of-hospital-cardiac-arrest (OHCA) in resource limited countries: A systematic review. Ali Baig MN. *Resusc Plus*. 2025 Jan 22;22:100874. doi: 10.1016/j.resplu.2025.100874. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100874>
- Integrated Hands-Free Electronic Patient Care Report (ePCR) Charting (IHeC): Designing the Architecture. Hedderston DR. *AMIA Annu Symp Proc*. 2025 May 22;2024:533-540. eCollection 2024.
- Assessing the rates of overtriaging with prehospital trauma team activation protocols. Durr K. *CJEM*. 2025 May;27(5):390-394. doi: 10.1007/s43678-025-00885-7. Epub 2025 Mar 8. <https://doi.org/10.1007/s43678-025-00885-7>
- Association of prehospital invasive blood pressure measurement and treatment times of intubated patients with suspected stroke - a retrospective study. Eichseder M. *Scand J Trauma Resusc Emerg Med*. 2025 May 16;33(1):90. doi: 10.1186/s13049-025-01411-5. <https://doi.org/10.1186/s13049-025-01411-5>
- Prehospital Sepsis Recognition and Antibiotic Administration: A Retrospective Analysis. Antevy P. *Prehosp Emerg Care*. 2025 Apr 14;1-6. doi: 10.1080/10903127.2025.2489034. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2489034>
- Medical Direction Needs Analysis: Codifying a Medical Directors Course to Meet the Demands of Modern Combat Care. Lowe J. *Mil Med*. 2025 May 31;usaf245. doi: 10.1093/milmed/usaf245. Online ahead of print. <https://doi.org/10.1093/milmed/usaf245>
- A falls early response service in Aotearoa New Zealand: a scoping review. Reid H. *N Z Med J*. 2025 Mar 14;138(1611):14-23. doi: 10.26635/6965.6696. <https://doi.org/10.26635/6965.6696>
- Factors Associated With Prehospital Delay in Acute Ischemic Stroke: A Comparative Study of First-Time and Recurrent Cases. Xu ZX. *West J Nurs Res*. 2025 May 24;1939459251340778. doi: 10.1177/01939459251340778. Online ahead of print. <https://doi.org/10.1177/01939459251340778>
- Stroke Triage Alpha Rescue Score (STARS): Prehospital phone-based tool to identify cerebral large vessel occlusion. Morin P. *Rev Neurol (Paris)*. 2025 Mar;181(3):225-231. doi: 10.1016/j.neurol.2025.01.004. Epub 2025 Jan 27. <https://doi.org/10.1016/j.neurol.2025.01.004>
- The work system of prehospital medication administration: a qualitative mixed methods study with ambulance professionals. Odberg KR. *BMC Emerg Med*. 2025 Apr 5;25(1):54. doi: 10.1186/s12873-025-01213-z. <https://doi.org/10.1186/s12873-025-01213-z>
- Prehospital Trauma Compendium: Tranexamic Acid in Trauma- a joint position statement and resource document of NAEMSP, ACEP, and ACS-COT. Barrett WJ. *Prehosp Emerg Care*. 2025 May 5:1-12. doi: 10.1080/10903127.2025.2497056. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2497056>
- Comparing Prehospital Time Among Pediatric Poisoning Patients in Rural and Urban Settings. Phillips AT. *West J Emerg Med*. 2025 May 23;26(3):650-656. doi: 10.5811/westjem.33507. <https://doi.org/10.5811/westjem.33507>
- Community-onset pediatric status epilepticus: Barriers to care and outcomes in a real-world setting. Fetta A. *Epilepsia*. 2025 Mar;66(3):725-738. doi: 10.1111/epi.18216. Epub 2024 Dec 20. <https://doi.org/10.1111/epi.18216>

- Systematic Review of Prehospital Prediction Models for Identifying Intracerebral Haemorrhage in Suspected Stroke Patients. Almubayyidh M. Healthcare (Basel). 2025 Apr 11;13(8):876. doi: 10.3390/healthcare13080876. <https://doi.org/10.3390/healthcare13080876>
- Correction: Creation and validation of a roadside rescue skills scale for training pre-hospital medical teams: the RoadRes-Q scale. Lavabre K. Scand J Trauma Resusc Emerg Med. 2025 May 1;33(1):69. doi: 10.1186/s13049-025-01389-0. <https://doi.org/10.1186/s13049-025-01389-0>
- Optimal placement of ambulance stations using data-driven direct and surrogate search methods. Bozorgmanesh H. Int J Med Inform. 2025 Apr;196:105790. doi: 10.1016/j.ijmedinf.2025.105790. Epub 2025 Jan 24. <https://doi.org/10.1016/j.ijmedinf.2025.105790>
- Nationwide trends in prehospital blood product use after injury 2020-2023. Carico C. Transfusion. 2025 May;65 Suppl 1(Suppl 1):S30-S39. doi: 10.1111/trf.18221. Epub 2025 Apr 4. <https://doi.org/10.1111/trf.18221>
- Ambulance route optimization in a mobile ambulance dispatch system using deep neural network (DNN). Selvan C. Sci Rep. 2025 Apr 24;15(1):14232. doi: 10.1038/s41598-025-95048-0. <https://doi.org/10.1038/s41598-025-95048-0>
- The inter-rater reliability of emergency department and paramedic frailty screening in older patients following a fall. Indrawan N. Australas Emerg Care. 2025 Mar;28(1):63-66. doi: 10.1016/j.auec.2024.10.002. Epub 2024 Oct 25. <https://doi.org/10.1016/j.auec.2024.10.002>
- Implementation Strategies to Improve Survival Outcomes after Out-of-Hospital Cardiac Arrest: Global Challenges and Disparities. Murthy VS. J Assoc Physicians India. 2025 Apr;73(4):58-64. doi: 10.59556/japi.73.0888. <https://doi.org/10.59556/japi.73.0888>
- Telecardiology unleashed: probing the depths of effectiveness in remote monitoring and telemedicine applications for acute cardiac conditions. De Wever M. Eur Heart J Acute Cardiovasc Care. 2025 May 16;14(5):295-303. doi: 10.1093/ehjacc/zuaf060. <https://doi.org/10.1093/ehjacc/zuaf060>
- Treatment pathways and rebound-rate of prehospital viral croup attacks-data from a prehospital pediatric physician led emergency service-a prospective observational follow-up study. Hey F. Front Pediatr. 2025 May 12;13:1544480. doi: 10.3389/fped.2025.1544480. eCollection 2025. <https://doi.org/10.3389/fped.2025.1544480>
- Two-week paramedic hospital training augments blood pressure response to isometric handgrip exercise in healthy young men. Hori A. Am J Physiol Regul Integr Comp Physiol. 2025 Mar 1;328(3):R242-R252. doi: 10.1152/ajp-regu.00258.2024. Epub 2025 Jan 20. <https://doi.org/10.1152/ajpregu.00258.2024>
- Is there diurnal variation in neuroprotective and thrombolytic therapy effect upon acute cerebral ischemia outcome?. Pariona-Vargas F. J Stroke Cerebrovasc Dis. 2025 May;34(5):108278. doi: 10.1016/j.jstrokecerebrovasdis.2025.108278. Epub 2025 Mar 5. <https://doi.org/10.1016/j.jstrokecerebrovasdis.2025.108278>
- Optimizing Ca-DTPA/Zn-DTPA therapy for internal decorporation: transitioning from intravenous to oral route with insights on safety and toxicity. Sandal N. J Radiol Prot. 2025 Mar 24;45(1). doi: 10.1088/1361-6498/adc013. <https://doi.org/10.1088/1361-6498/adc013>
- Uterotonic Drugs in Prevention and Management in Postpartum Haemorrhage in Prehospital Deliveries-A Systematic Review. Wiciak H. Healthcare (Basel). 2025 Apr 23;13(9):976. doi: 10.3390/healthcare13090976. <https://doi.org/10.3390/healthcare13090976>
- Patient presentations at large-scale events: a thematic analysis of the literature. Shelswell R. Emerg Nurse. 2025 May 7. doi: 10.7748/en.2025.e2229. Online ahead of print. <https://doi.org/10.7748/en.2025.e2229>
- Review of Powered, Safe Patient-Handling Equipment for Emergency Medical Services via an Insurance Safety Intervention Grant Program. Hayden MA. Prehosp Disaster Med. 2025 Apr;40(2):64-72. doi: 10.1017/S1049023X25000196. Epub 2025 Apr 15. <https://doi.org/10.1017/S1049023X25000196>
- The evolving role of paramedicine educators: A scoping review. Sheahan J. Afr J Emerg Med. 2025 Jun;15(2):595-601. doi: 10.1016/j.afjem.2025.04.001. Epub 2025 Apr 17. <https://doi.org/10.1016/j.afjem.2025.04.001>
- Comparison of outcomes between successful and failed prehospital advanced airway management by paramedic staff in patients with out-of-hospital cardiac arrest. Takayama W. Eur J Emerg Med. 2025 Apr 1. doi: 10.1097/MEJ.0000000000001231. Online ahead of print. <https://doi.org/10.1097/MEJ.0000000000001231>
- Telemedicine for prehospital respiratory emergencies in a retrospective quality analysis. Beierle A. Sci Rep. 2025 May 22;15(1):17740. doi: 10.1038/s41598-025-01850-1. <https://doi.org/10.1038/s41598-025-01850-1>
- Racial and Ethnic Disparities in EMS Use of Restraints and Sedation for Patients With Behavioral Health Emergencies. Bongiorno DM. JAMA Netw Open. 2025 Mar 3;8(3):e251281. doi: 10.1001/jamanetworkopen.2025.1281. <https://doi.org/10.1001/jamanetworkopen.2025.1281>
- Access to Care: The Role of Hospital-Based Violence Intervention Programs. Arientyl V. Am Surg. 2025 May;91(5):707-711. doi: 10.1177/00031348251329464. Epub 2025 Mar 20. <https://doi.org/10.1177/00031348251329464>
- Factors influencing paramedic conveyance decisions when attending children with minor head injury: a qualitative study. Proctor A. Emerg Med J. 2025 May 22;42(6):352-359. doi: 10.1136/emmermed-2024-214467. <https://doi.org/10.1136/emmermed-2024-214467>
- Nationwide estimates of potential lives saved with prehospital blood transfusions. Lammers DT. Transfusion. 2025 May;65 Suppl 1(Suppl 1):S14-S22. doi: 10.1111/trf.18174. Epub 2025 Mar 10. <https://doi.org/10.1111/trf.18174>
- Knowledge about crime scenes and evidence management among emergency medical team professionals. Daibes MA. BMC Emerg Med. 2025 May 2;25(1):75. doi: 10.1186/s12873-025-01230-y. <https://doi.org/10.1186/s12873-025-01230-y>

- SERPENT-Brasil: a technological tool for snakebite management. Sachett JAG. Rev Panam Salud Publica. 2025 May 5;49:e39. doi: 10.26633/RPSP.2025.39. eCollection 2025. <https://doi.org/10.26633/RPSP.2025.39>
- Exploring alternative paramedic roles: a multinational mixed-methods survey. Feerick F. BMC Med Educ. 2025 Apr 23;25(1):600. doi: 10.1186/s12909-025-07113-x. <https://doi.org/10.1186/s12909-025-07113-x>
- Appropriate cardiopulmonary resuscitation duration and predictors of return of spontaneous circulation in traumatic cardiac arrest. Seo D. BMC Emerg Med. 2025 Apr 14;25(1):61. doi: 10.1186/s12873-025-01219-7. <https://doi.org/10.1186/s12873-025-01219-7>
- Prehospital care of suspected spine-injured lacrosse athletes: a systematic search, evidence review, and consensus recommendations. Bowman TG. Br J Sports Med. 2025 Apr 24;59(9):630-639. doi: 10.1136/bjsports-2024-108951. <https://doi.org/10.1136/bjsports-2024-108951>
- The experiences of patients and family members after being discharged at scene following an emergency ambulance attendance. A rapid evidence review. Doran S. Int Emerg Nurs. 2025 Jun;80:101618. doi: 10.1016/j.ienj.2025.101618. Epub 2025 May 14. <https://doi.org/10.1016/j.ienj.2025.101618>
- Ambulance Staff Experiences and Perceptions of Medical Emergencies in Care Homes in the East Midlands, United Kingdom: A Qualitative Interview Study. Lapididou D. Prehosp Emerg Care. 2025 Apr 29:1-13. doi: 10.1080/10903127.2025.2490810. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2490810>
- Out-of-Hospital Neck of Femur Injury: An Eight-Year Observational Analysis. Hartley R. Prehosp Emerg Care. 2025 May 29:1-7. doi: 10.1080/10903127.2025.2500717. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2500717>
- Ambulance Commanders' Reluctance to Enter Road Tunnels in Simulated Incidents and the Effects of a Tunnel-Specific e-Learning Course on Decision-Making: Web-Based Randomized Controlled Trial. Hylander J. JMIR Form Res. 2025 Mar 28;9:e58542. doi: 10.2196/58542. <https://doi.org/10.2196/58542>
- The Role of Paramedics in Diagnosing Sandifer's Syndrome. Wójcik M. Healthcare (Basel). 2025 Apr 11;13(8):883. doi: 10.3390/healthcare13080883. <https://doi.org/10.3390/healthcare13080883>
- Use of portable air cleaners within an ambulance workspace. Pena M. J Occup Environ Hyg. 2025 Apr 17:1-14. doi: 10.1080/15459624.2025.2485074. Online ahead of print. <https://doi.org/10.1080/15459624.2025.2485074>
- Investigating Death Anxiety, Resilience, and Job Burnout Among Prehospital Emergency Personnel: A Multicenter Cross-Sectional Study in Iran. Ghahramanipirsalami A. Health Sci Rep. 2025 Apr 28;8(5):e70751. doi: 10.1002/hsr2.70751. eCollection 2025 May. <https://doi.org/10.1002/hsr2.70751>
- Utilization of non-invasive ventilation before prehospital emergency anesthesia in trauma - a cohort analysis with machine learning. Luckscheiter A. Scand J Trauma Resusc Emerg Med. 2025 Mar 3;33(1):35. doi: 10.1186/s13049-025-01350-1. <https://doi.org/10.1186/s13049-025-01350-1>
- Prehospital Gastric Lavage for the Treatment of Critically Ill Overdose or Poisonings: A Case Report. Studer NM. Prehosp Emerg Care. 2025 Apr 16:1-3. doi: 10.1080/10903127.2025.2491757. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2491757>
- The Association of Exposure to Traumatic Events With Binge Drinking in Paramedics and EMTs. Gabay O. Workplace Health Saf. 2025 May 21:21650799251339584. doi: 10.1177/21650799251339584. Online ahead of print. <https://doi.org/10.1177/21650799251339584>
- Translation and psychometric evaluation of the Witness Perceived Safety Scale of prehospital emergency care. Vagrimogadam F. BMC Emerg Med. 2025 Apr 18;25(1):65. doi: 10.1186/s12873-025-01226-8. <https://doi.org/10.1186/s12873-025-01226-8>
- Research on the relationship between perceived social support and positive coping style of fire rescue personnel with the mediating effects of positive emotions and meaning in life. Zhang Y. Sci Rep. 2025 Mar 5;15(1):7729. doi: 10.1038/s41598-025-91799-y. <https://doi.org/10.1038/s41598-025-91799-y>
- Interventions for Reducing Mental Health-Related Stigma in Emergency Medicine: An Integrative Review. Van de Glind G. J Emerg Nurs. 2025 Apr 10:S0099-1767(25)00080-7. doi: 10.1016/j.jen.2025.02.013. Online ahead of print. <https://doi.org/10.1016/j.jen.2025.02.013>
- Association of emergency intensive care unit occupancy due to brain-dead organ donors with ambulance diversion. Yumoto T. Sci Rep. 2025 Apr 12;15(1):12633. doi: 10.1038/s41598-025-97198-7. <https://doi.org/10.1038/s41598-025-97198-7>
- "The questions made me realize how many times I could have been saved and removed from that situation": The experiences of patients attended to by paramedics for intimate partner violence, and actionable implementations for paramedicine. Marshall RA. BMC Womens Health. 2025 May 26;25(1):254. doi: 10.1186/s12905-025-03753-9. <https://doi.org/10.1186/s12905-025-03753-9>
- To shock or not to shock - The accuracy of cardiac arrest rhythm assessment by paramedics in a simulated environment. Jaskuła J. Adv Med Sci. 2025 Mar;70(1):51-56. doi: 10.1016/j.advms.2024.12.002. Epub 2024 Dec 18. <https://doi.org/10.1016/j.advms.2024.12.002>
- Motor Vehicle Collision Associated TBI: Predictors of Injury severity. Nichols E. Orthop Rev (Pavia). 2025 May 16;17:137678. doi: 10.52965/001c.137678. eCollection 2025. <https://doi.org/10.52965/001c.137678>
- The impact of the COVID-19 pandemic on hypertension management in southeastern Poland: Challenges and adaptations for emergency medical teams. Moskal A. Medicine (Baltimore). 2025 May 9;104(19):e42416. doi: 10.1097/MD.00000000000042416. <https://doi.org/10.1097/MD.00000000000042416>

- Economic modelling of fall prevention interventions delivered by community emergency medical services: a decision-tree analysis. Ordoobadi AJ. *Inj Prev*. 2025 May 11;ip-2025-045643. doi: 10.1136/ip-2025-045643. Online ahead of print. <https://doi.org/10.1136/ip-2025-045643>
- Continuous quality improvement for prehospital STEMI improved triage rates and achievement of gold standard <90-min EMS-to-balloon time. Reddy A. *Int J Emerg Med*. 2025 Mar 12;18(1):53. doi: 10.1186/s12245-025-00863-x. <https://doi.org/10.1186/s12245-025-00863-x>
- Time Variable Models of Severe Hemorrhagic Shock in Rats. Barajas MB. *Life (Basel)*. 2025 Mar 22;15(4):522. doi: 10.3390/life15040522. <https://doi.org/10.3390/life15040522>
- Prehospital point-of-care medication burden as a predictor of poor related outcomes in unselected acute diseases. Jurado-Palomo J. *Intern Emerg Med*. 2025 Apr;20(3):887-897. doi: 10.1007/s11739-024-03729-x. Epub 2024 Aug 2. <https://doi.org/10.1007/s11739-024-03729-x>
- [Ecological sustainability in prehospital emergency medicine : Analysis of the usage of medical consumables]. Grannemann JJ. *Anaesthesiologie*. 2025 Jun;74(6):353-361. doi: 10.1007/s00101-025-01536-3. Epub 2025 May 22. <https://doi.org/10.1007/s00101-025-01536-3>
- Words to live by: Using medic impressions to identify the need for prehospital lifesaving interventions. Weidman AC. *Acad Emerg Med*. 2025 May;32(5):516-525. doi: 10.1111/acem.15067. Epub 2025 Jan 24. <https://doi.org/10.1111/acem.15067>
- A Home-Visiting Clinic Decreased the Emergency Transportation in Rural Japan: A Quasi-Experimental Approach. Ikeda T. *Tohoku J Exp Med*. 2025 Mar 7;265(1):7-12. doi: 10.1620/tjem.2024.J080. Epub 2024 Aug 29. <https://doi.org/10.1620/tjem.2024.J080>
- Bridging the divide: strengthening EMS decision-making for paediatric head injuries. Ahmad FA. *Emerg Med J*. 2025 May 22;42(6):350-351. doi: 10.1136/emered-2025-214906. <https://doi.org/10.1136/emered-2025-214906>
- Prehospital antibiotic administration for suspected open fractures: importance and implementation. Levy MJ. *Trauma Surg Acute Care Open*. 2025 Apr 17;10(2):e001670. doi: 10.1136/tsaco-2024-001670. eCollection 2025. <https://doi.org/10.1136/tsaco-2024-001670>
- Performance measures of the medical priority dispatch system in an urban basic life support system. Nicoletta V. *Scand J Trauma Resusc Emerg Med*. 2025 May 21;33(1):94. doi: 10.1186/s13049-025-01410-6. <https://doi.org/10.1186/s13049-025-01410-6>
- Exploring the concept of a 'long lie' after a fall to inform clinical pathways in pre-hospital services: a systematic literature review. Holland J. *Nurs Older People*. 2025 May 29. doi: 10.7748/nop.2025.e1505. Online ahead of print. <https://doi.org/10.7748/nop.2025.e1505>
- Measuring intra-arrest transport in out-of-hospital cardiac arrest: A methodological study of registry-compatible definitions. Kreinbrook JA. *Resuscitation*. 2025 Mar;208:110529. doi: 10.1016/j.resuscitation.2025.110529. Epub 2025 Feb 4. <https://doi.org/10.1016/j.resuscitation.2025.110529>
- Optimizing Prehospital Acute Transfer of Patients With Presumed Stroke Given Economic Constraints. Ennab Vogel N. *Eur J Neurol*. 2025 Mar;32(3):e70112. doi: 10.1111/ene.70112. <https://doi.org/10.1111/ene.70112>
- Prehospital Ketamine Administration in Benzodiazepine Refractory Status Epilepticus: A Case Series Review. Finney JD. *Prehosp Emerg Care*. 2025 Apr 16:1-9. doi: 10.1080/10903127.2025.2486302. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2486302>
- Upconversion nanoparticle-based optical biosensor for early diagnosis of stroke. Kakkar P. *Biosens Bioelectron*. 2025 May 1;275:117227. doi: 10.1016/j.bios.2025.117227. Epub 2025 Feb 3. <https://doi.org/10.1016/j.bios.2025.117227>
- Use of a large language model (LLM) for ambulance dispatch and triage. Shekhar AC. *Am J Emerg Med*. 2025 Mar;89:27-29. doi: 10.1016/j.ajem.2024.12.032. Epub 2024 Dec 11. <https://doi.org/10.1016/j.ajem.2024.12.032>
- Optimizing Preoxygenation for Prehospital Emergency Anesthesia and Air Medical Transport: A Comparative Study of Bag Refill Valve and Reservoir Bag. Lindsay HL. *Air Med J*. 2025 Jul-Aug;44(4):286-290. doi: 10.1016/j.amj.2025.03.009. Epub 2025 May 1. <https://doi.org/10.1016/j.amj.2025.03.009>
- Palliative paramedicine: An interrupted time series analysis of pre-hospital guideline efficacy. Gooley M. *Palliat Med*. 2025 Jun;39(6):689-699. doi: 10.1177/02692163251331167. Epub 2025 Apr 22. <https://doi.org/10.1177/02692163251331167>
- Influences on ambulance staff's understandings and safeguarding of ethical values. Björklund S. *Nurs Ethics*. 2025 May 26;9697330251344170. doi: 10.1177/09697330251344170. Online ahead of print. <https://doi.org/10.1177/09697330251344170>
- BOOTStrap-SCI: Beyond One option of treatment for spinal trauma and spinal cord injury: Consensus-based stratified protocols for pre-hospital care and emergency room (part I). Marchesini N. *Brain Spine*. 2025 Apr 4;5:104251. doi: 10.1016/j.bas.2025.104251. eCollection 2025. <https://doi.org/10.1016/j.bas.2025.104251>
- TeLePhone Respiratory (TeLePoR) score to assess the risk of immediate respiratory support through phone call for acute dyspnoea: a prospective cohort study. Balen F. *Scand J Trauma Resusc Emerg Med*. 2025 May 16;33(1):88. doi: 10.1186/s13049-025-01405-3. <https://doi.org/10.1186/s13049-025-01405-3>
- Effect of pre-hospital hypertonic saline on neutrophil to lymphocyte ratio in traumatic brain injury: A retrospective analysis. Watson AJ. *J Intensive Care Soc*. 2025 Feb 21;26(2):273-275. doi: 10.1177/17511437251320553. eCollection 2025 May. <https://doi.org/10.1177/17511437251320553>

- Exploring the potential of geospatial mapping of emergency call data to improve ambulance services for older adults: a feasibility study in the south central region of England. Fogg C. *BMJ Open Qual.* 2025 Apr 24;14(2):e002977. doi: 10.1136/bmjoq-2024-002977. <https://doi.org/10.1136/bmjoq-2024-002977>
- Paramedic or GP consultations in primary care: prospective study comparing costs and outcomes. Hollingworth W. *Br J Gen Pract.* 2025 Feb 27;75(752):e166-e172. doi: 10.3399/BJGP.2024.0469. Print 2025 Mar. <https://doi.org/10.3399/BJGP.2024.0469>
- [Prehospital Stroke Rescue and Acute Stroke Care:Focusing on Acute Large Vessel Occlusion]. Ohta T. No Shinkei Geka. 2025 Mar;53(2):403-413. doi: 10.11477/mf.030126030530020403. <https://doi.org/10.11477/mf.030126030530020403>
- Cutaneous chemical burns: Water irrigation first aid improves short term outcomes. Chai H. *J Burn Care Res.* 2025 May 10;iraf079. doi: 10.1093/jbcr/iraf079. Online ahead of print. <https://doi.org/10.1093/jbcr/iraf079>
- Ambulance services for road traffic injury (RTI) victims in Bangladesh: a cross-sectional study on the ground realities and the way forward. Tasnim Z. *Inj Prev.* 2025 Mar 23;ip-2024-045302. doi: 10.1136/ip-2024-045302. Online ahead of print. <https://doi.org/10.1136/ip-2024-045302>
- Comparison of emergency physician opinions with MSOFA and PREMEWS scores in determining the necessity of non-traumatic internal medicine patient transfers to the emergency department: a longitudinal study. Ebrahimi-an A. *BMC Emerg Med.* 2025 Apr 12;25(1):58. doi: 10.1186/s12873-025-01215-x. <https://doi.org/10.1186/s12873-025-01215-x>
- ESTES recommendations for the treatment of polytrauma-a European consensus based on the German S3 guidelines for the treatment of patients with severe/multiple injuries. Valcarcel CR. *Eur J Trauma Emerg Surg.* 2025 Apr 11;51(1):171. doi: 10.1007/s00068-025-02852-4. <https://doi.org/10.1007/s00068-025-02852-4>
- Paramedic analgesia comparing ketamine and morphine in trauma (PACKMaN): a randomised, double-blind, phase 3 trial. Smyth MA. *Lancet Reg Health Eur.* 2025 Apr 5;53:101265. doi: 10.1016/j.lanepe.2025.101265. eCollection 2025 Jun. <https://doi.org/10.1016/j.lanepe.2025.101265>
- Research on accurate fire source localization and seconds-level autonomous fire extinguishing technology. Ren X. *Sci Rep.* 2025 May 17;15(1):17135. doi: 10.1038/s41598-025-01830-5. <https://doi.org/10.1038/s41598-025-01830-5>
- Impact of pre-hospital delays on the prognosis of older patients with diabetic foot ulcers: a 10-year retrospective study. Zhu H. *J Wound Care.* 2025 Apr 1;34(Sup4):S4-S9. doi: 10.12968/jowc.2023.0284. <https://doi.org/10.12968/jowc.2023.0284>
- HUMAN, a Real-Time Evolutive Patient Model for Major Incident Simulation: Development and Validation Study. Laurent M. *JMIR Form Res.* 2025 Mar 7;9:e66201. doi: 10.2196/66201. <https://doi.org/10.2196/66201>
- Evaluating a train-the-trainer approach for implementing obstetric life support in diverse healthcare contexts throughout Arizona: a mixed methods protocol. Cunningham SD. *BMC Health Serv Res.* 2025 May 15;25(1):707. doi: 10.1186/s12913-025-12739-0. <https://doi.org/10.1186/s12913-025-12739-0>
- Exploring the feasibility of EEG for pre-hospital detection of medium and large vessel occlusion strokes: a proof-of-concept study. Peterson W. *Front Neurol.* 2025 Mar 27;16:1509443. doi: 10.3389/fneur.2025.1509443. eCollection 2025. <https://doi.org/10.3389/fneur.2025.1509443>
- Prevalence and severity of frailty amongst middle-aged and older adults conveyed to hospital by ambulance between 2010 and 2017 in Wales. Fogg C. *Age Ageing.* 2025 May 3;54(5):afaf124. doi: 10.1093/ageing/afaf124. <https://doi.org/10.1093/ageing/afaf124>
- Database and geospatial mapping study of those eligible for extracorporeal cardiopulmonary resuscitation in the Thames Valley Region, England. Millerchip O. *Resusc Plus.* 2025 Jan 27;22:100879. doi: 10.1016/j.resplu.2025.100879. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100879>
- Prehospital Blood Lactate Measurements in Ambulances and Associations with Outcomes: A Cohort Study. Walther LH. *Prehosp Emerg Care.* 2025 Mar 20:1-9. doi: 10.1080/10903127.2025.2473034. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2473034>
- Nationwide study of emergency care quality for patients with substance use disorders and dual diagnoses across three distinct patient populations. Mackenhauer J. *BMC Psychiatry.* 2025 Mar 31;25(1):311. doi: 10.1186/s12888-025-06712-8. <https://doi.org/10.1186/s12888-025-06712-8>
- The California Resuscitation Outcomes Consortium (CAL-ROC): A novel collaboration to facilitate the implementation of randomized clinical trials in the prehospital setting. Tolles J. *Resusc Plus.* 2025 May 28;24:100992. doi: 10.1016/j.resplu.2025.100992. eCollection 2025 Jul. <https://doi.org/10.1016/j.resplu.2025.100992>
- Prehospital patients with acute isolated vertigo and imbalance referred for cerebral thrombolysis. De Schryver SRH. *Front Neurol.* 2025 May 21;16:1561202. doi: 10.3389/fneur.2025.1561202. eCollection 2025. <https://doi.org/10.3389/fneur.2025.1561202>
- Diagnostic delays in infective discitis - an unresolved problem. Grandidge L. *Spinal Cord Ser Cases.* 2025 Apr 18;11(1):10. doi: 10.1038/s41394-025-00706-0. <https://doi.org/10.1038/s41394-025-00706-0>
- Pre-hospital delay and mortality in different age groups with acute coronary syndrome: do we have enough evidence?. Bauer D. *Expert Rev Cardiovasc Ther.* 2025 May 16:1-7. doi: 10.1080/14779072.2025.2505434. Online ahead of print. <https://doi.org/10.1080/14779072.2025.2505434>

- Field-Ready Suction Solutions for Emergencies: The Battlefield Ready Innovative Suction Kit (BRISK). Peri SR. *Ann Biomed Eng.* 2025 Jun;53(6):1409-1422. doi: 10.1007/s10439-025-03700-7. Epub 2025 Mar 28. <https://doi.org/10.1007/s10439-025-03700-7>
- Author Response: Prehospital Lactate Levels Obtained in the Ambulance and Prediction of 2-Day In-Hospital Mortality in Patients With Traumatic Brain Injury. Martin-Rodriguez F. *Neurology.* 2025 Jun;104(11):e210012. doi: 10.1212/WNL.00000000000210012. Epub 2025 May 12. <https://doi.org/10.1212/WNL.00000000000210012>
- Reader Response: Prehospital Lactate Levels Obtained in the Ambulance and Prediction of 2-Day In-Hospital Mortality in Patients With Traumatic Brain Injury. Chen G. *Neurology.* 2025 Jun;104(11):e209996. doi: 10.1212/WNL.00000000000209996. Epub 2025 May 12. <https://doi.org/10.1212/WNL.00000000000209996>
- Social Vulnerability and Pediatric EMS Behavioral Health Activations: Trends in Utilization and Sedation Practices. Stancliff H. *Prehosp Emerg Care.* 2025 May 29;1-8. doi: 10.1080/10903127.2025.2506525. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2506525>
- Physician as Good Samaritan: A Clinical Review of Responding to Motor Vehicle Collisions in the Community. Schneider R. *Pediatr Emerg Care.* 2025 Apr 1;41(4):318-327. doi: 10.1097/PEC.0000000000003285. Epub 2025 Apr 2. <https://doi.org/10.1097/PEC.0000000000003285>
- AmReS: an observational retrospective time-to-event analysis of staff voluntary turnover in an English ambulance trust. Cook RM. *BMJ Open.* 2025 Apr 15;15(4):e098174. doi: 10.1136/bmjopen-2024-098174. <https://doi.org/10.1136/bmjopen-2024-098174>
- Enhancing needle puncture detection using high-pass filtering and diffuse reflectance. L'Orsa R. *Front Robot AI.* 2025 May 6;12:1429327. doi: 10.3389/frobt.2025.1429327. eCollection 2025. <https://doi.org/10.3389/frobt.2025.1429327>
- No Surprises Act Independent Dispute Resolution Outcomes for Air Ambulances. Duffy EL. *JAMA Netw Open.* 2025 Mar 3;8(3):e2462404. doi: 10.1001/jamanetworkopen.2024.62404. <https://doi.org/10.1001/jamanetworkopen.2024.62404>
- Accuracy of early shock recognition by paramedics: a multicenter prospective observational study in Japan. Tanohata R. *J Rural Med.* 2025 Apr;20(2):125-131. doi: 10.2185/jrm.2024-053. Epub 2025 Apr 1. <https://doi.org/10.2185/jrm.2024-053>
- In response to comment on: Prehospital interventions and outcomes in traumatic cardiac arrest: a population-based cohort study using Danish helicopter emergency medical services data. Wolthers SA. *Eur J Emerg Med.* 2025 Apr 1;32(2):150. doi: 10.1097/MEJ.0000000000001203. Epub 2025 Feb 25. <https://doi.org/10.1097/MEJ.0000000000001203>
- Comment on: Prehospital interventions and outcomes in traumatic cardiac arrest: a population-based cohort study using Danish helicopter emergency medical services data. Kreuzer P. *Eur J Emerg Med.* 2025 Apr 1;32(2):149. doi: 10.1097/MEJ.0000000000001191. Epub 2025 Feb 25. <https://doi.org/10.1097/MEJ.0000000000001191>
- A scoping review of the utilization of mobile stroke units in low and lower middle-income countries: current evidence, implications and future direction. Opere-Addo PA. *BMC Health Serv Res.* 2025 May 22;25(1):742. doi: 10.1186/s12913-025-12920-5. <https://doi.org/10.1186/s12913-025-12920-5>
- How likely is the patient to be in cardiac arrest? Caller breathing descriptors in ambulance calls that were dispatched as cardiac arrest. Perera N. *Resusc Plus.* 2025 May 23;24:100990. doi: 10.1016/j.resplu.2025.100990. eCollection 2025 Jul. <https://doi.org/10.1016/j.resplu.2025.100990>
- Predictive model for optimizing prehospital transfusions in an urban EMS system. Zeng B. *Transfusion.* 2025 May;65 Suppl 1(Suppl 1):S23-S29. doi: 10.1111/trf.18209. Epub 2025 Mar 16. <https://doi.org/10.1111/trf.18209>
- Use video comprehension technology to diagnose ultrasound pneumothorax like a doctor would. Qiang X. *Front Physiol.* 2025 May 27;16:1530808. doi: 10.3389/fphys.2025.1530808. eCollection 2025. <https://doi.org/10.3389/fphys.2025.1530808>
- Gender (in)equality in nordic ambulance services: do ambulances have glass ceilings?. Ericsson C. *Scand J Trauma Resusc Emerg Med.* 2025 Mar 17;33(1):45. doi: 10.1186/s13049-025-01358-7. <https://doi.org/10.1186/s13049-025-01358-7>
- Trends in the complexity of self-harm hospitalisations over 11 years at a major regional hospital in Victoria, Australia: a retrospective study. Mnatzaganian G. *Front Psychiatry.* 2025 Apr 30;16:1573824. doi: 10.3389/fpsy.2025.1573824. eCollection 2025. <https://doi.org/10.3389/fpsy.2025.1573824>
- Point-of-Care NSE Biosensor for Objective Assessment of Stroke Risk. Hsu Chen C. *Biosensors (Basel).* 2025 Apr 20;15(4):264. doi: 10.3390/bios15040264. <https://doi.org/10.3390/bios15040264>
- Paramedic Judgment as a Basis for Trauma Triage: Is it an Effective Strategy?. Schaefer MP. *Am Surg.* 2025 May;91(5):795-806. doi: 10.1177/00031348241312123. Epub 2025 Jan 15. <https://doi.org/10.1177/00031348241312123>
- Identifying Key Competencies for Ambulance Nurses in Italy: Findings from a Modified Delphi Study. Notarnicola I. *J Emerg Nurs.* 2025 Mar;51(2):305-329. doi: 10.1016/j.jen.2024.10.006. Epub 2024 Nov 17. <https://doi.org/10.1016/j.jen.2024.10.006>
- Health System Impact of Emergency Department-Based Vascular Access Program in Patients with Difficult Intravenous Access. Roll NP. *POCUS J.* 2025 Apr 15;10(1):78-82. doi: 10.24908/pocusj.v10i01.18274. eCollection 2025 Apr. <https://doi.org/10.24908/pocusj.v10i01.18274>
- [Diagnostic tools for stroke detection-from prehospital to diagnosis]. Claudi C. *Med Klin Intensivmed Notfmed.* 2025 Mar;120(2):110-119. doi: 10.1007/s00063-024-01220-1. Epub 2025 Jan 7. <https://doi.org/10.1007/s00063-024-01220-1>

- Analysis of secondary trauma transfers within a Canadian regional trauma network: room for improvement?. McAleer R. CJEM. 2025 Apr 16. doi: 10.1007/s43678-025-00900-x. Online ahead of print. <https://doi.org/10.1007/s43678-025-00900-x>
- A Case Report of an Unstable C-spine Fracture in the Emergency Department. Jung J. J Educ Teach Emerg Med. 2025 Apr 30;10(2):V1-V5. doi: 10.21980/J8SK90. eCollection 2025 Apr. <https://doi.org/10.21980/J8SK90>
- The Effect of Prehospital Protocol Modification during COVID-19 on First-Pass Intubation Success Rates. Bierowski AE. Prehosp Disaster Med. 2025 Apr;40(2):73-76. doi: 10.1017/S1049023X25000238. Epub 2025 Apr 2. <https://doi.org/10.1017/S1049023X25000238>
- Patterns of intimate partner violence in Victoria, Australia: analysis using the National Ambulance Surveillance System. Choo SY. Health Place. 2025 May;93:103461. doi: 10.1016/j.healthplace.2025.103461. Epub 2025 Apr 8. <https://doi.org/10.1016/j.healthplace.2025.103461>
- Effect of AI-based pre-hospital health education via QR code on APAIS scores in patients with breast nodules: A retrospective study. Ma G. Breast. 2025 Apr 24;82:104481. doi: 10.1016/j.breast.2025.104481. Online ahead of print. <https://doi.org/10.1016/j.breast.2025.104481>
- A Deployable Viscoelastic Coagulation Monitor Enables Point-of-Care Assessment of Coagulopathy in Swine With Polytrauma. Roberts TR. Mil Med. 2025 Apr 23;190(5-6):e994-e1003. doi: 10.1093/milmed/usae430. <https://doi.org/10.1093/milmed/usae430>
- Prognostic Factors of Hospital Mortality After Near Hanging: A Retrospective two-Center French Study. Gueddoun Y. J Intensive Care Med. 2025 May;40(5):503-508. doi: 10.1177/08850666241303881. Epub 2024 Dec 4. <https://doi.org/10.1177/08850666241303881>
- Increased prehospital mortality in patients with combined burns and trauma in Canada: Analysis of a provincial trauma registry database. Nunn J. Burns. 2025 Mar;51(2):107363. doi: 10.1016/j.burns.2024.107363. Epub 2024 Dec 26. <https://doi.org/10.1016/j.burns.2024.107363>
- The impact of shift work on paramedics and their practice: Protocol for a simulated paramedic shift work study. Hirello LM. PLoS One. 2025 Mar 26;20(3):e0319569. doi: 10.1371/journal.pone.0319569. eCollection 2025. <https://doi.org/10.1371/journal.pone.0319569>
- Income receipt, economic activities, and health: Evidence from ambulance transport patterns. Ibuka Y. J Health Econ. 2025 Mar;100:102970. doi: 10.1016/j.jhealeco.2025.102970. Epub 2025 Feb 6. <https://doi.org/10.1016/j.jhealeco.2025.102970>
- An analysis of characteristics and associated factors for re-contacts after EMS non-conveyance: a retrospective cohort study in the Netherlands. Speijers RF. Scand J Trauma Resusc Emerg Med. 2025 Apr 17;33(1):64. doi: 10.1186/s13049-025-01365-8. <https://doi.org/10.1186/s13049-025-01365-8>
- Racial and Ethnic Differences in ED Analgesia Among Injured Children Transported Via EMS. Kerolle S. Pediatr Emerg Care. 2025 May 22. doi: 10.1097/PEC.0000000000003389. Online ahead of print. <https://doi.org/10.1097/PEC.0000000000003389>
- The use of paramedics to establish an in-hospital ultrasound-guided peripheral intravenous access program. Wasiak D. J Vasc Access. 2025 May 2;11297298251333494. doi: 10.1177/11297298251333494. Online ahead of print. <https://doi.org/10.1177/11297298251333494>
- From shortages to solutions: Liquid plasma as a practical alternative to whole blood for prehospital trauma resuscitation. Rajesh A. Transfusion. 2025 May;65 Suppl 1:S288-S296. doi: 10.1111/trf.18183. Epub 2025 Apr 3. <https://doi.org/10.1111/trf.18183>
- Prevalence of anxiety, depression, and post-traumatic stress disorder among paramedic students: a systematic review and meta-analysis. Alzahrani A. Soc Psychiatry Psychiatr Epidemiol. 2025 Mar;60(3):563-578. doi: 10.1007/s00127-024-02755-6. Epub 2024 Sep 12. <https://doi.org/10.1007/s00127-024-02755-6>
- Implementation of advanced vascular access, physiological monitoring and goal-directed resuscitation during OHCA in a helicopter emergency medical service. Aziz S. J Vasc Access. 2025 May;26(3):982-988. doi: 10.1177/11297298241242157. Epub 2024 Apr 12. <https://doi.org/10.1177/11297298241242157>
- A Dutch nationwide pediatric cardiac arrest registry with long-term follow-up - towards an international prognostication guideline. Albrecht M. Resusc Plus. 2025 May 9;24:100976. doi: 10.1016/j.resplu.2025.100976. eCollection 2025 Jul. <https://doi.org/10.1016/j.resplu.2025.100976>
- Paramedics' Behavior Patterns When Transferring Non-Mobile Patients from the Ground to a Stretcher. Tanguay M. Healthcare (Basel). 2025 Mar 12;13(6):611. doi: 10.3390/healthcare13060611. <https://doi.org/10.3390/healthcare13060611>
- Cooling in context: consensus statement on the prehospital management of exertional heat illness for the UK Faculty of Pre-Hospital Care. Hemingway R. Emerg Med J. 2025 May 22;42(6):389. doi: 10.1136/emermed-2025-214905. <https://doi.org/10.1136/emermed-2025-214905>
- Negative Perceptions of Speech Recognition Technology in Canadian Paramedicine. Hedderson D. Stud Health Technol Inform. 2025 May 12;326:101-105. doi: 10.3233/SHTI250247. <https://doi.org/10.3233/SHTI250247>
- Unapproved medicine use by paramedics in New Zealand: a comparative analysis with Australian and United Kingdom frameworks. Mordaunt DA. N Z Med J. 2025 Mar 28;138(1612):47-59. doi: 10.26635/6965.6825. <https://doi.org/10.26635/6965.6825>

- Acute kidney injury in hospitalized patients with real-life analysis of incidence and clinical impact in Italian hospitals (the SIN-AKI study). Esposito P. *Sci Rep*. 2025 Apr 24;15(1):14261. doi: 10.1038/s41598-025-96236-8. <https://doi.org/10.1038/s41598-025-96236-8>
- Epidemiology of Neonatal Prehospital Care at the San Diego (US) - Tijuana (Mexico) International Border. Yarlagger S. *Prehosp Emerg Care*. 2025 Apr 7;1-6. doi: 10.1080/10903127.2025.2476196. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2476196>
- Comparison of the diagnostic concordance of tele-EMS and EMS physicians in the emergency medical service-a subanalysis of the TEMS-trial. Hess PP. *Front Digit Health*. 2025 Apr 30;7:1519619. doi: 10.3389/fdgth.2025.1519619. eCollection 2025. <https://doi.org/10.3389/fdgth.2025.1519619>
- Determinants of the time period from stroke onset to arrival at the emergency department: a GIS integrated hospital-based cross-sectional study. Srinivasa SK. *Sci Rep*. 2025 Apr 13;15(1):12726. doi: 10.1038/s41598-025-95371-6. <https://doi.org/10.1038/s41598-025-95371-6>
- Emergency Nursing and Staff Experiences With Visitation Restrictions During the Coronavirus Disease 2019 Pandemic: A Qualitative Descriptive Study. Urban RW. *J Emerg Nurs*. 2025 Apr 20;S0099-1767(25)00096-0. doi: 10.1016/j.jen.2025.03.010. Online ahead of print. <https://doi.org/10.1016/j.jen.2025.03.010>
- Towards optimization in the use of hemostatic agents and blood products in the early treatment of patients with traumatic brain injury (TBI). Maegele M. *Curr Opin Anaesthesiol*. 2025 Apr 1;38(2):129-135. doi: 10.1097/ACO.0000000000001465. Epub 2025 Feb 14. <https://doi.org/10.1097/ACO.0000000000001465>
- Effects of prehospital advanced airway management on cardiac arrest patients who underwent extracorporeal cardiopulmonary resuscitation. Kawahara N. *Sci Rep*. 2025 Mar 28;15(1):10670. doi: 10.1038/s41598-025-95176-7. <https://doi.org/10.1038/s41598-025-95176-7>
- Firearm Injury Risk Prediction Among Children Transported by 9-1-1 Emergency Medical Services: A Machine Learning Analysis. Newgard CD. *Pediatr Emerg Care*. 2025 Mar 1;41(3):195-202. doi: 10.1097/PEC.0000000000003314. Epub 2024 Dec 12. <https://doi.org/10.1097/PEC.0000000000003314>
- A Practical Example of How to Apply Constructivist Grounded Theory Methodology: Exploring Patient Experiences During Paramedic Led Healthcare. King R. *Res Nurs Health*. 2025 Aug;48(4):508-521. doi: 10.1002/nur.22468. Epub 2025 Apr 16. <https://doi.org/10.1002/nur.22468>
- Impact of heart rate on the outcome of hypothermic patients. Ota S. *J Rural Med*. 2025 Apr;20(2):88-91. doi: 10.2185/jrm.2024-016. Epub 2025 Apr 1. <https://doi.org/10.2185/jrm.2024-016>
- Adrenaline for traumatic cardiac arrest: A post hoc analysis of the PARAMEDIC2 trial. Ji C. *Resusc Plus*. 2025 Feb 4;22:100890. doi: 10.1016/j.resplu.2025.100890. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100890>
- Paramedics Performed Sonographic Identification of the Conic Ligament-A Prospective Controlled Trial. Weimer J. *Diagnostics (Basel)*. 2025 May 21;15(10):1296. doi: 10.3390/diagnostics15101296. <https://doi.org/10.3390/diagnostics15101296>
- Enhancing Tactical Paramedicine Response Efficiency and Effectiveness: Lessons from the Bataclan Concert Hall Incident. Robertson S. *J Spec Oper Med*. 2025 Apr 4;25(1):55-59. doi: 10.55460/JZ84-1NYJ. <https://doi.org/10.55460/JZ84-1NYJ>
- Management of traumatic spinal cord injury in the Nordic countries: a multidisciplinary survey. Feyling AC. *Scand J Trauma Resusc Emerg Med*. 2025 Mar 24;33(1):51. doi: 10.1186/s13049-025-01349-8. <https://doi.org/10.1186/s13049-025-01349-8>
- Patterns of Acute Gamma-Hydroxybutyrate Harms Requiring Ambulance Attendance: Should Greater Focus Be on Regional Areas?. Beard N. *Drug Alcohol Rev*. 2025 May 28. doi: 10.1111/dar.14086. Online ahead of print. <https://doi.org/10.1111/dar.14086>
- Using Point-of-Care Ultrasound for the Medical Management of Marathoners and Spectators: A Case Series. Pope JD. *HCA Healthc J Med*. 2025 Apr 1;6(2):183-187. doi: 10.36518/2689-0216.1863. eCollection 2025. <https://doi.org/10.36518/2689-0216.1863>
- "You treat your stress by doing what you're supposed to do": a qualitative inquiry into emotion regulation of paramedics and paramedic students in critical incidents. Uhreck B. *BMC Emerg Med*. 2025 Apr 27;25(1):73. doi: 10.1186/s12873-025-01228-6. <https://doi.org/10.1186/s12873-025-01228-6>
- Total Prehospital Time and Tractor Injuries: A Nebraska State Trauma Registry Analysis. Rich C. *Am Surg*. 2025 Apr;91(4):621-625. doi: 10.1177/00031348241312126. Epub 2025 Jan 5. <https://doi.org/10.1177/00031348241312126>
- Reducing time delays and enhancing reperfusion eligibility related to stroke suspicion by the Emergency Medical Dispatch Centre: a registry-based observational study. Leto N. *Emerg Med J*. 2025 Mar 6;emermed-2024-214294. doi: 10.1136/emermed-2024-214294. Online ahead of print. <https://doi.org/10.1136/emermed-2024-214294>
- [Prehospital care at the Rotterdam Marathon: This reduces the pressure on the acute care chain]. Dollee N. *Ned Tijdschr Geneesk*. 2025 Mar 25;169:D8435.
- Accuracy of tactile bougie use in infrequent intubators: a cadaveric airway study. Parks A. *Can J Anaesth*. 2025 Apr;72(4):627-632. doi: 10.1007/s12630-025-02908-4. Epub 2025 Feb 4. <https://doi.org/10.1007/s12630-025-02908-4>
- Helicopter vs. ground-based transfer for emergency interhospital transportation: A time and cost-efficiency analysis across varying transfer distances. Lichtenberger PM. *Injury*. 2025 Jul;56(7):112359. doi: 10.1016/j.injury.2025.112359. Epub 2025 Apr 29. <https://doi.org/10.1016/j.injury.2025.112359>

- Psychometric validation and cultural adaptation of the Italian version of the ambulance nurse competence scale. Ippolito N. *Int Emerg Nurs*. 2025 Jun;80:101589. doi: 10.1016/j.ienj.2025.101589. Epub 2025 Mar 3. <https://doi.org/10.1016/j.ienj.2025.101589>
- Application of the Analytical Hierarchy Process in the management of private ambulance care systems in three selected European countries: a strategic decision-making framework. Rezaei J. *Front Public Health*. 2025 May 6;13:1526586. doi: 10.3389/fpubh.2025.1526586. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1526586>
- Effectiveness of prehospital chest decompression in resolving clinical signs of tension pneumothorax. Talmy T. *Transfusion*. 2025 May;65 Suppl 1(Suppl 1):S103-S112. doi: 10.1111/trf.18199. Epub 2025 Mar 11. <https://doi.org/10.1111/trf.18199>
- Perceptions of consent for a paediatric telehealth trial during emergency transport in Pakistan. Palasz J. *Arch Dis Child*. 2025 Apr 4:archdischild-2024-328070. doi: 10.1136/archdischild-2024-328070. Online ahead of print. <https://doi.org/10.1136/archdischild-2024-328070>
- Multicolor Rare-Earth Film with Ultra-Long Afterglow for Diverse Energy-Saving Applications. Lin X. *Adv Mater*. 2025 May;37(19):e2417420. doi: 10.1002/adma.202417420. Epub 2025 Mar 20. <https://doi.org/10.1002/adma.202417420>
- Optimal Provider Position for Video-Assisted Laryngoscopy of a Supine Patient on the Floor. Lubin JS. *Cureus*. 2025 Apr 18;17(4):e82505. doi: 10.7759/cureus.82505. eCollection 2025 Apr. <https://doi.org/10.7759/cureus.82505>
- Predictors and Correlates of Prehospital Delay Among Acute Stroke Patients in Thiruvananthapuram District, Kerala: A Cross-Sectional Survey. Krishnan A. *Cureus*. 2025 Mar 1;17(3):e79900. doi: 10.7759/cureus.79900. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.79900>
- Effort-reward-imbalance, burnout, and physical pain mediate the relationship between overcommitment and depression in German Emergency Medical Technicians. Manns L. *J Occup Med Toxicol*. 2025 May 21;20(1):15. doi: 10.1186/s12995-025-00461-w. <https://doi.org/10.1186/s12995-025-00461-w>
- Prehospital triage of trauma patients: predicting major surgery using artificial intelligence as decision support. Mil-larch AS. *Br J Surg*. 2025 Mar 28;112(4):znaf058. doi: 10.1093/bjs/znaf058. <https://doi.org/10.1093/bjs/znaf058>
- Exertional heat illness: international military-oriented lessons learned and best practices for prevention and management. Epstein Y. *Front Physiol*. 2025 Mar 5;16:1456984. doi: 10.3389/fphys.2025.1456984. eCollection 2025. <https://doi.org/10.3389/fphys.2025.1456984>
- State of the Evidence for Prehospital Plasma Infusion for Patients With Suspected Traumatic Hemorrhage: A Rapid Review by the Prehospital Evidence-Based Practice Program. Ateek J. *Air Med J*. 2025 Jul-Aug;44(4):242-255. doi: 10.1016/j.amj.2025.02.006. Epub 2025 Apr 11. <https://doi.org/10.1016/j.amj.2025.02.006>
- Paramedic Roles, Purpose, and Practices When Responding to Older Adults in Abusive Contexts: A Systematic Review. De Silva M. *J Appl Gerontol*. 2025 Apr 2:7334648251330347. doi: 10.1177/07334648251330347. Online ahead of print. <https://doi.org/10.1177/07334648251330347>
- A Multi-Modality Conversation Analysis of Post Expansions Among Physicians in Ambulance: A Qualitative Descriptive Study. Tian Y. *J Multidiscip Healthc*. 2025 Apr 16;18:2155-2172. doi: 10.2147/JMDH.S508652. eCollection 2025. <https://doi.org/10.2147/JMDH.S508652>
- Children and Restraints Study in Emergency Ambulance Transport-Cardiopulmonary Resuscitation (CARSEAT-CPR): An Observational Cohort Study of a Simulated Pediatric Cardiac Arrest. Cochran-Caggiano N. *Pediatr Emerg Care*. 2025 Apr 1;41(4):256-259. doi: 10.1097/PEC.0000000000003316. Epub 2024 Dec 9. <https://doi.org/10.1097/PEC.0000000000003316>
- Prospective evaluation of modified Cincinnati Prehospital Stroke Severity Scale for identifying large vessel occlusion. Zhang L. *J Clin Neurosci*. 2025 Apr;134:111077. doi: 10.1016/j.jocn.2025.111077. Epub 2025 Jan 30. <https://doi.org/10.1016/j.jocn.2025.111077>
- Finger thoracostomy: Significant risks and unproven benefits in prehospital settings. Mozer-Glassberg Y. *Transfusion*. 2025 May;65 Suppl 1(Suppl 1):S98-S102. doi: 10.1111/trf.18198. Epub 2025 Mar 25. <https://doi.org/10.1111/trf.18198>
- Comparative analysis of cold-stored platelets using Golden Hour transport boxes: Function and quality. Nash J. *Transfusion*. 2025 May;65 Suppl 1(Suppl 1):S265-S275. doi: 10.1111/trf.18197. Epub 2025 Mar 23. <https://doi.org/10.1111/trf.18197>
- Updated Protocol for Stroke Code Management in Prehospital Settings: The Iranian Comprehensive Stroke Code Management Program (ICSCM Phase II). Alijanpour S. *Arch Acad Emerg Med*. 2025 Apr 5;13(1):e43. doi: 10.22037/aaemj.v13i1.2633. eCollection 2025. <https://doi.org/10.22037/aaemj.v13i1.2633>
- What is the optimal prehospital blood pressure level after cardiac arrest? A retrospective cohort study on the association of blood pressure and mortality among patients treated with vasoactive medication. Niiranen A. *Resuscitation*. 2025 Jun;211:110589. doi: 10.1016/j.resuscitation.2025.110589. Epub 2025 Mar 18. <https://doi.org/10.1016/j.resuscitation.2025.110589>
- Workplace Programs to Reduce Post-traumatic Stress Injuries Work Disability: First Responder Experiences. Van Eerd D. *J Occup Rehabil*. 2025 May 17. doi: 10.1007/s10926-025-10299-y. Online ahead of print. <https://doi.org/10.1007/s10926-025-10299-y>
- A field test of the EMS LiftKit: Validating its usability, usefulness, and desirability. Lavender SA. *Appl Ergon*. 2025 Sep;127:104519. doi: 10.1016/j.apergo.2025.104519. Epub 2025 Apr 8. <https://doi.org/10.1016/j.apergo.2025.104519>

- Disparities of Aspirin Administration for Prehospital Chest Pain and ST Elevation Myocardial Infarctions. Johnson AM. *Prehosp Emerg Care*. 2025 Mar 20;1-7. doi: 10.1080/10903127.2025.2473684. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2473684>
- Prehospital Trauma Compendium: Management of Suspected Femoral Shaft Fractures - A Position Statement and Resource Document of NAEMSP. Lyng JW. *Prehosp Emerg Care*. 2025 May 29;1-16. doi: 10.1080/10903127.2025.2493846. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2493846>
- Exploring Emergency Healthcare for Women Experiencing Intimate Partner Violence With Comorbid Psychological Distress. Dhollande S. *Int J Ment Health Nurs*. 2025 Apr;34(2):e70050. doi: 10.1111/inm.70050. <https://doi.org/10.1111/inm.70050>
- A modified Delphi consensus on the use of intramuscular midazolam for early status epilepticus treatment (ESET) in Malaysia. Yow HY. *Seizure*. 2025 Apr;127:16-24. doi: 10.1016/j.seizure.2025.02.009. Epub 2025 Feb 18. <https://doi.org/10.1016/j.seizure.2025.02.009>
- "SafetyNet": Evaluation of a Recovery Coach and Paramedic Intervention Following Naloxone Resuscitation From an Opioid Overdose. Joseph D. *Subst Use Addctn J*. 2025 Apr;46(2):302-312. doi: 10.1177/29767342241266412. Epub 2024 Aug 22. <https://doi.org/10.1177/29767342241266412>
- Prevalence of low back pain and its determinant factors among prehospital healthcare providers working in ambulance service centres in Addis Ababa, Ethiopia, 2024: a cross-sectional study design. Abel A. *BMJ Open*. 2025 Mar 3;15(3):e096986. doi: 10.1136/bmjopen-2024-096986. <https://doi.org/10.1136/bmjopen-2024-096986>
- Necklace-Structured PVA Sponges for Fast Bleeding Control in the Punctured Femoral Artery Hemorrhage. Wu W. *Adv Healthc Mater*. 2025 Apr;14(10):e2404463. doi: 10.1002/adhm.202404463. Epub 2025 Feb 10. <https://doi.org/10.1002/adhm.202404463>
- Patterns and determinants of potentially harmful first aid practices in children with acute poisoning. Dayasiri K. *BMC Res Notes*. 2025 Apr 4;18(1):141. doi: 10.1186/s13104-025-07234-y. <https://doi.org/10.1186/s13104-025-07234-y>
- Clinical factors influencing intravenous thrombolysis in patients with cerebral infarction: a retrospective cohort study comparing private car and ambulance transport in Jiaxing, China. Meng D. *BMJ Open*. 2025 Mar 5;15(3):e087326. doi: 10.1136/bmjopen-2024-087326. <https://doi.org/10.1136/bmjopen-2024-087326>
- Application of cervical spinal motion restriction to injured children in the prehospital setting. Ramgopal S. *Am J Emerg Med*. 2025 Apr;90:214-218. doi: 10.1016/j.ajem.2025.02.006. Epub 2025 Feb 4. <https://doi.org/10.1016/j.ajem.2025.02.006>
- Does confidence mirror competence? Outcomes following Stop the Bleed® training among lay community members. Jones AR. *Appl Nurs Res*. 2025 Apr;82:151928. doi: 10.1016/j.apnr.2025.151928. Epub 2025 Feb 27. <https://doi.org/10.1016/j.apnr.2025.151928>
- Tourniquet in Place as Full Trauma Team Activation Criterion Maintains an Acceptable Overtriage Rate. Brown C. *J Surg Res*. 2025 Jul;311:64-69. doi: 10.1016/j.jss.2025.04.015. Epub 2025 May 20. <https://doi.org/10.1016/j.jss.2025.04.015>
- Exploring the role of virtual reality in preparing emergency responders for mass casualty incidents. Lochmannová A. *Isr J Health Policy Res*. 2025 Apr 9;14(1):22. doi: 10.1186/s13584-025-00681-9. <https://doi.org/10.1186/s13584-025-00681-9>
- How do we implement a prehospital whole blood administration program for shock trauma patients on a statewide basis?. Rosenbaum RA. *Transfusion*. 2025 Apr;65(4):654-663. doi: 10.1111/trf.18160. Epub 2025 Feb 13. <https://doi.org/10.1111/trf.18160>
- A High Temperature Resistant and Sewable Aromatic Multiscale Fiber for Rapid Identification in Fire Rescue. Guo J. *Nano Lett*. 2025 Apr 16;25(15):6076-6084. doi: 10.1021/acs.nanolett.4c06469. Epub 2025 Apr 4. <https://doi.org/10.1021/acs.nanolett.4c06469>
- Point-of-care troponin tests to rule out acute myocardial infarction in the prehospital environment: a protocol for a systematic review and meta-analysis. Albaqami B. *BMJ Open*. 2025 May 2;15(5):e094390. doi: 10.1136/bmjopen-2024-094390. <https://doi.org/10.1136/bmjopen-2024-094390>
- The impact of paramedics working in primary care teams on other professionals and patient experiences: a qualitative study. Eaton G. *BJGP Open*. 2025 Mar 12;BJGPO.2024.0152. doi: 10.3399/BJGPO.2024.0152. Online ahead of print. <https://doi.org/10.3399/BJGPO.2024.0152>
- A study on the classification and prediction of firefighter's operational fatigue level. Xu M. *PLoS One*. 2025 May 15;20(5):e0323911. doi: 10.1371/journal.pone.0323911. eCollection 2025. <https://doi.org/10.1371/journal.pone.0323911>
- Simulation as a foundation for experiential learning among ambulance nursing students: A qualitative observation study. Andersson U. *Nurse Educ Today*. 2025 Sep;152:106759. doi: 10.1016/j.nedt.2025.106759. Epub 2025 Apr 26. <https://doi.org/10.1016/j.nedt.2025.106759>
- A qualitative RE-AIM evaluation of an embedded community paramedicine program in an Ontario Family Health Team. Philip S. *BMC Prim Care*. 2025 Mar 22;26(1):82. doi: 10.1186/s12875-025-02777-2. <https://doi.org/10.1186/s12875-025-02777-2>
- Automated external defibrillator: Rhythm analysis and defibrillation on paediatric out-of-hospital cardiac arrest. Menant E. *Resusc Plus*. 2025 Jan 16;22:100873. doi: 10.1016/j.resplu.2025.100873. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100873>

- Flexible Solar-Blind Ultraviolet Photodetector Based on $\square$ -Ga(2)O(3) Nanowire Channel Bridge Structure: Combining High Responsivity and Strain Stability. Liu J. *Sensors* (Basel). 2025 Mar 4;25(5):1563. doi: 10.3390/s25051563. <https://doi.org/10.3390/s25051563>
- Exploring rural Scottish GPs' migration decisions: a secondary qualitative analysis considering burnout. Latham HA. *Br J Gen Pract*. 2025 Feb 27;75(752):e187-e194. doi: 10.3399/BJGP.2024.0494. Print 2025 Mar. <https://doi.org/10.3399/BJGP.2024.0494>
- Bystander availability, CPR uptake, and AED use during out-of-hospital cardiac arrest. Sidebottom DB. *Resusc Plus*. 2025 Apr 30;24:100969. doi: 10.1016/j.resplu.2025.100969. eCollection 2025 Jul. <https://doi.org/10.1016/j.resplu.2025.100969>
- Cost-effectiveness of drone-delivered automated external defibrillators for cardiac arrest. Maaz M. *Resuscitation*. 2025 Apr;209:110552. doi: 10.1016/j.resuscitation.2025.110552. Epub 2025 Feb 17. <https://doi.org/10.1016/j.resuscitation.2025.110552>
- Prediction of Imminent Sudden Cardiac Arrest Using a Combination of Warning Symptoms and Clinical Features. Reinier K. *medRxiv* [Preprint]. 2025 Mar 6:2025.03.05.25323376. doi: 10.1101/2025.03.05.25323376. <https://doi.org/10.1101/2025.03.05.25323376>
- Work-related collisions involving paramedics in Quebec, Canada: an analysis of contributing factors. Delavary M. *Int J Occup Saf Ergon*. 2025 Mar;31(1):294-307. doi: 10.1080/10803548.2024.2438559. Epub 2025 Jan 2. <https://doi.org/10.1080/10803548.2024.2438559>
- A retrospective 'target trial emulation' comparing amiodarone and lidocaine for adult out-of-hospital cardiac arrest resuscitation. Smida T. *Resuscitation*. 2025 Mar;208:110515. doi: 10.1016/j.resuscitation.2025.110515. Epub 2025 Jan 23. <https://doi.org/10.1016/j.resuscitation.2025.110515>
- Self-supported $\square$ -Ga(2)O(3) nanowires and for stretchable solar-blind UV photodetectors. Zhang W. *Sci Rep*. 2025 May 20;15(1):17416. doi: 10.1038/s41598-025-02563-1. <https://doi.org/10.1038/s41598-025-02563-1>
- Lessons learned: The thematic analysis of eight countries with mature trauma systems. Levi A. *Injury*. 2025 Apr;56(4):112260. doi: 10.1016/j.injury.2025.112260. Epub 2025 Mar 10. <https://doi.org/10.1016/j.injury.2025.112260>
- External validation of three scores for predicting prehospital return of spontaneous circulation in out-of-hospital cardiac arrest. Fan CY. *Am J Emerg Med*. 2025 Jul;93:57-63. doi: 10.1016/j.ajem.2025.03.048. Epub 2025 Mar 24. <https://doi.org/10.1016/j.ajem.2025.03.048>
- Stroke-related knowledge and warning signs and its association with seeking emergency medical service among urban and rural residents in Huanggang, China. Wu X. *J Educ Health Promot*. 2025 May 30;14:222. doi: 10.4103/jehp.jehp_1637_24. eCollection 2025. https://doi.org/10.4103/jehp.jehp_1637_24
- Assessment of ambulance interventions; proposal of a performance measurement framework for healthcare improvement in EMS response to patient collapse. Idris K. *BMC Emerg Med*. 2025 Apr 12;25(1):56. doi: 10.1186/s12873-025-01206-y. <https://doi.org/10.1186/s12873-025-01206-y>
- Characteristics, diagnostic accuracy, and safety in patients receiving selective prehospital thrombolysis in out-of-hospital cardiac arrest: A retrospective cohort study. Forbes A. *Resusc Plus*. 2025 Feb 17;22:100909. doi: 10.1016/j.resplu.2025.100909. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100909>
- The cost of saving lives: Complications arising from prehospital tourniquet application. Rittblat M. *Acad Emerg Med*. 2025 May;32(5):532-541. doi: 10.1111/acem.15070. Epub 2024 Dec 16. <https://doi.org/10.1111/acem.15070>
- Assessing the Quality of Stroke Services in Brazil Using the World Stroke Organization Roadmap. Pires AP. *Cerebrovasc Dis*. 2025 May 26;1-11. doi: 10.1159/000546276. Online ahead of print. <https://doi.org/10.1159/000546276>
- Understanding Anti-Trans Sanctuary Harm in Domestic Violence Services: The Role of Polyvictimization and Biographical Factors. Craig BM. *J Interpers Violence*. 2025 Apr 21:8862605251333431. doi: 10.1177/08862605251333431. Online ahead of print. <https://doi.org/10.1177/08862605251333431>
- Basic is Better? An Assessment of National Outcomes in Prehospital Airway Management in Critical Acuity Pediatric Trauma. Goodman LF. *J Emerg Med*. 2025 Mar;70:68-79. doi: 10.1016/j.jemermed.2024.08.016. Epub 2024 Sep 3. <https://doi.org/10.1016/j.jemermed.2024.08.016>
- Outcomes of blunt trauma patients in police versus ground ambulance transport across US trauma centers. Rahhal R. *Acute Med Surg*. 2025 May 8;12(1):e70061. doi: 10.1002/ams2.70061. eCollection 2025 Jan-Dec. <https://doi.org/10.1002/ams2.70061>
- Climate disaster effects on acute health care: a case study and model of the 2021 heatwave in British Columbia, Canada. Clark DG. *Lancet Planet Health*. 2025 May;9(5):e356-e363. doi: 10.1016/S2542-5196(25)00075-0. [https://doi.org/10.1016/S2542-5196\(25\)00075-0](https://doi.org/10.1016/S2542-5196(25)00075-0)
- Assessing the need for blood transfusion in patients with haemorrhage transported by air ambulance in Northern Ontario. Meadows J. *Can J Rural Med*. 2025 Apr 1;30(2):63-70. doi: 10.4103/cjrm.cjrm_24_24. Epub 2025 May 20. https://doi.org/10.4103/cjrm.cjrm_24_24
- A Novel Streamlined Triphasic Approach to Training Pediatric Emergency Staff for Ultrasound-Guided Peripheral Intravenous Access. Nti BK. *J Emerg Nurs*. 2025 Jul;51(4):666-674. doi: 10.1016/j.jen.2025.02.009. Epub 2025 Mar 26. <https://doi.org/10.1016/j.jen.2025.02.009>
- Prehospital computed tomography in a rural district for rapid diagnosis and treatment of stroke. Ibsen J. *Eur Stroke J*. 2025 Mar;10(1):84-91. doi: 10.1177/23969873241267084. Epub 2024 Sep 28. <https://doi.org/10.1177/23969873241267084>

- Pediatric Early Warning Score in interhospital ambulance care: a pilot study exploring feasibility and impact. Lui-jmes M. Scand J Trauma Resusc Emerg Med. 2025 Apr 18;33(1):65. doi: 10.1186/s13049-025-01383-6. <https://doi.org/10.1186/s13049-025-01383-6>
- Estimated caseload for a rotary wing prehospital extra-corporeal cardio-pulmonary resuscitation service in North West England: A retrospective eligibility study. Weeks J. Resusc Plus. 2025 Mar 26;23:100948. doi: 10.1016/j.resplu.2025.100948. eCollection 2025 May. <https://doi.org/10.1016/j.resplu.2025.100948>
- The effect of auto-generated corrective exercise programming on movement literacy among firefighters: a pilot study. Kolber MJ. Physiother Theory Pract. 2025 Mar;41(3):490-496. doi: 10.1080/09593985.2024.2341259. Epub 2024 Apr 12. <https://doi.org/10.1080/09593985.2024.2341259>
- Trends in analgesia in prehospital trauma care: an analysis of 105,908 patients from the multicenter database TraumaRegister DGU®. Uzun DD. BMC Emerg Med. 2025 Mar 5;25(1):36. doi: 10.1186/s12873-025-01186-z. <https://doi.org/10.1186/s12873-025-01186-z>
- Fentanyl versus nebulized ketamine for prehospital analgesia: A retrospective data review. McArthur R. Am J Emerg Med. 2025 Mar;89:124-128. doi: 10.1016/j.ajem.2024.12.033. Epub 2024 Dec 19. <https://doi.org/10.1016/j.ajem.2024.12.033>
- Effectiveness of Finnish SISU training in enhancing prehospital personnels' work performance: A randomised controlled pilot study. Vihonen H. BMC Emerg Med. 2025 May 16;25(1):80. doi: 10.1186/s12873-025-01235-7. <https://doi.org/10.1186/s12873-025-01235-7>
- Development and validation of a measure of concrete and abstract thinking. Lorenz H. PLoS One. 2025 Apr 17;20(4):e0320009. doi: 10.1371/journal.pone.0320009. eCollection 2025. <https://doi.org/10.1371/journal.pone.0320009>
- Semi-autonomous drone delivering automated external defibrillators for real out-of-hospital cardiac arrest: A Danish feasibility study. Jakobsen LK. Resuscitation. 2025 Mar;208:110544. doi: 10.1016/j.resuscitation.2025.110544. Epub 2025 Feb 15. <https://doi.org/10.1016/j.resuscitation.2025.110544>
- Regional disparities in the management and outcomes of ST-elevation myocardial infarction: an Italian analysis focusing on time-dependent reperfusion networks and in-hospital logistics. Colaiori I. Panminerva Med. 2025 Mar;67(1):1-9. doi: 10.23736/S0031-0808.24.05277-7. Epub 2024 Dec 20. <https://doi.org/10.23736/S0031-0808.24.05277-7>
- Smartphone-activated volunteer responders and survival to discharge after out-of-hospital cardiac arrests in Victoria, 2018-23: an observational cohort study. Delardes B. Med J Aust. 2025 Jun 2;222(10):504-509. doi: 10.5694/mja2.52673. Epub 2025 May 19. <https://doi.org/10.5694/mja2.52673>
- The Use of Different Types of Supraglottic Airway Devices by Medics on a Manikin with Night Vision Goggles: A Pilot Study. Janig C. J Spec Oper Med. 2025 Apr 4;25(1):11-16. doi: 10.55460/SKUJ-KOPM. <https://doi.org/10.55460/SKUJ-KOPM>
- Current challenges and future opportunities in on-scene prehospital triage of traumatic brain injury patients: A qualitative study in the UK. Alqurashi N. Injury. 2025 May;56(5):112203. doi: 10.1016/j.injury.2025.112203. Epub 2025 Jan 31. <https://doi.org/10.1016/j.injury.2025.112203>
- An Update on Best Practices for the Prehospital Management of Exertional Heat Illness. Norton C. J Spec Oper Med. 2025 Apr 4;25(1):36-43. doi: 10.55460/RWUS-AE68. <https://doi.org/10.55460/RWUS-AE68>
- Intramuscular vasopressin: A feasible intervention for prehospital hemodynamic stabilization in porcine hemorrhagic shock and whole blood transfusion. Renberg M. Transfusion. 2025 May;65 Suppl 1(Suppl 1):S68-S79. doi: 10.1111/trf.18218. Epub 2025 Mar 23. <https://doi.org/10.1111/trf.18218>
- Comparison between point-of-care international normalised ratio, COAST, TICCS and truncated FibAT scores to rule in clinically significant hypofibrinogenaemia in the prehospital setting. Bodnar D. Emerg Med J. 2025 Mar 25;42(4):222-228. doi: 10.1136/emmermed-2023-213844. <https://doi.org/10.1136/emmermed-2023-213844>
- The impact of concurrency conflicts on optimal location of air ambulance bases in Norway. Røislien J. Scand J Trauma Resusc Emerg Med. 2025 Apr 4;33(1):57. doi: 10.1186/s13049-025-01324-3. <https://doi.org/10.1186/s13049-025-01324-3>
- Teaching pointing and calling (Shisa Kanko) to reduce error and improve performance. Violato E. Med Teach. 2025 May 23;1-3. doi: 10.1080/0142159X.2025.2508281. Online ahead of print. <https://doi.org/10.1080/0142159X.2025.2508281>
- Temporal trends of presumed cardiac origin out-of-hospital cardiac arrest incidence in Guangzhou, southern China: A 10-year consecutive analysis. Yang T. Resusc Plus. 2025 Feb 1;22:100883. doi: 10.1016/j.resplu.2025.100883. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100883>
- The incidence and outcomes of hyperacute cardiovascular dysfunction following isolated traumatic brain injury: an observational cohort study. Bird F. Int J Surg. 2025 Mar 1;111(3):2516-2524. doi: 10.1097/JS9.0000000000002266. <https://doi.org/10.1097/JS9.0000000000002266>
- Ultrasound guided arterial access for combat medics: A blinded proof-of-concept study using echogenic needles. van de Voort JC. J Vasc Access. 2025 May;26(3):1016-1023. doi: 10.1177/11297298241256171. Epub 2024 Jun 2. <https://doi.org/10.1177/11297298241256171>

- Perceptions of frailty and falls in older adults using an English regional ambulance service: A descriptive phenomenological study. Charlton K. *PEC Innov.* 2025 May 24;6:100406. doi: 10.1016/j.pecinn.2025.100406. eCollection 2025 Jun. <https://doi.org/10.1016/j.pecinn.2025.100406>
- Benefits of targeted deployment of physician-led interprofessional pre-hospital teams on the care of critically ill and injured patients: the 'science' explained. Christian MD. *Scand J Trauma Resusc Emerg Med.* 2025 May 1;33(1):77. doi: 10.1186/s13049-025-01398-z. <https://doi.org/10.1186/s13049-025-01398-z>
- Optimizing Pediatric Chest Compressions: A Randomized Crossover Simulation Trial of Over-the-Head vs. Lateral Techniques. Kietlinska M. *Pediatr Rep.* 2025 Apr 8;17(2):44. doi: 10.3390/pediatric17020044. <https://doi.org/10.3390/pediatric17020044>
- Prehospital Reverse Shock Index Times Glasgow Coma Scale as a Predictor for Trauma Intervention in Paediatric Trauma Patients. Dante NJ. *J Pediatr Surg.* 2025 Mar;60(3):162018. doi: 10.1016/j.jpedsurg.2024.162018. Epub 2024 Oct 21. <https://doi.org/10.1016/j.jpedsurg.2024.162018>
- Benefits of targeted deployment of physician- led interprofessional pre-hospital teams on the care of critically ill and injured patients: a systematic review and meta-analysis - matters arising response. Lavery MD. *Scand J Trauma Resusc Emerg Med.* 2025 Mar 17;33(1):46. doi: 10.1186/s13049-025-01355-w. <https://doi.org/10.1186/s13049-025-01355-w>
- Quality of Care and Opportunities for Improvement in Prehospital Care of Critically Ill Pediatric Patients: An Observational, Simulation-Based Study. Cicero MX. *Prehosp Emerg Care.* 2025 May 20:1-10. doi: 10.1080/10903127.2025.2500715. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2500715>
- Empowering women in emergency care: The roles of work-life balance and equal opportunity in navigating success in the paramedic profession. Al Jumaan M. *Work.* 2025 Apr;80(4):1675-1683. doi: 10.1177/10519815241298111. Epub 2024 Nov 29. <https://doi.org/10.1177/10519815241298111>
- A Monte Carlo method for the quantitative analysis of triage algorithms in mass casualty events. Schwerdtfeger T. *Phys Med Biol.* 2025 May 6;70(10). doi: 10.1088/1361-6560/adcbfc. <https://doi.org/10.1088/1361-6560/adcbfc>
- Evaluating the Impact That a Lung Ultrasound Training Program to Detect Acute Heart Failure Has on Paramedic Behavior. Russell FM. *Air Med J.* 2025 Jul-Aug;44(4):314-317. doi: 10.1016/j.amj.2025.04.008. Epub 2025 May 20. <https://doi.org/10.1016/j.amj.2025.04.008>
- Implementation and Validation of Field Assessment Stroke Triage for Emergency Destination (FAST-ED) in a Rural EMS Region. Wohlford L. *Prehosp Emerg Care.* 2025 May 7:1-8. doi: 10.1080/10903127.2025.2498012. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2498012>
- A full response chain surge capacity test of a small rural hospital, prehospital resources and collaborating organizations. Ugelvik KS. *Scand J Trauma Resusc Emerg Med.* 2025 Mar 28;33(1):55. doi: 10.1186/s13049-025-01372-9. <https://doi.org/10.1186/s13049-025-01372-9>
- Application of digital engagement tools for exception from informed consent community consultation and public disclosure in the pediatric prehospital airway resuscitation trial. Wang HE. *Resusc Plus.* 2025 Feb 28;22:100919. doi: 10.1016/j.resplu.2025.100919. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100919>
- A comparison of SIEVE, SORT, and START triage training effectiveness between immersive interactive 3D learning materials using virtual reality (VR-SSST) and traditional methods in mass casualty incidents. Chumvanichaya K. *Int J Emerg Med.* 2025 Mar 13;18(1):55. doi: 10.1186/s12245-025-00850-2. <https://doi.org/10.1186/s12245-025-00850-2>
- Effect of prehospital topical application of water and other agents on outcome in burn injured patients: A prospective study. Olawoye OA. *Burns.* 2025 Mar;51(2):107357. doi: 10.1016/j.burns.2024.107357. Epub 2024 Dec 16. <https://doi.org/10.1016/j.burns.2024.107357>
- Accidental protonitazene intoxication: clinical management and detection of a novel opioid. Meltzer J. *BMJ Case Rep.* 2025 Mar 19;18(3):e261722. doi: 10.1136/bcr-2024-261722. <https://doi.org/10.1136/bcr-2024-261722>
- Should Anything Else be done Besides Prehospital Cardiopulmonary Resuscitation (CPR)? The Role of CPR and Prehospital Interventions After Traumatic Cardiac Arrest. McWilliam SE. *J Emerg Med.* 2025 Mar 24:S0736-4679(25)00096-4. doi: 10.1016/j.jemermed.2025.03.002. Online ahead of print. <https://doi.org/10.1016/j.jemermed.2025.03.002>
- The power of partnership: Strategies for pan-Canadian spread and scale of paramedics providing palliative care. Carter A. *Healthc Manage Forum.* 2025 Mar;38(2):96-101. doi: 10.1177/08404704241293299. Epub 2024 Oct 28. <https://doi.org/10.1177/08404704241293299>
- Resilience as a Personality Trait and Stress Coping Styles: A Cross-Sectional Analysis of a Paramedic Student Cohort. Hebel K. *J Clin Med.* 2025 Mar 11;14(6):1878. doi: 10.3390/jcm14061878. <https://doi.org/10.3390/jcm14061878>
- Bridging Data Gaps in Emergency Care: The NIGHTINGALE Project and the Future of AI in Mass Casualty Management. NIGHTINGALE Consortium. *J Med Internet Res.* 2025 Apr 10;27:e67318. doi: 10.2196/67318. <https://doi.org/10.2196/67318>
- Effect of intermediate airway management on ventilation parameters in simulated paediatric out-of-hospital cardiac arrest: a multicentre randomised crossover trial. Stuby L. *Swiss Med Wkly.* 2025 May 16;155:4079. doi: 10.57187/s.4079. <https://doi.org/10.57187/s.4079>
- Hourly level analysis of the effects of temperature extremes on emergency ambulance calls. Zheng H. *J Glob Health.* 2025 May 9;15:04137. doi: 10.7189/jogh.15.04137. <https://doi.org/10.7189/jogh.15.04137>

- Optimal Prehospital Practices for Airway Emergencies of Military Working Dog Combat Casualties. Palmer LE. J Spec Oper Med. 2025 Apr 4;25(1):78-84. doi: 10.55460/FEE1-GMH5. <https://doi.org/10.55460/FEE1-GMH5>
- The Association Between Clinician Dispatch and Tasking Efficacy in Prehospital Critical Care: A Retrospective Cohort Study. McHenry RD. Air Med J. 2025 May-Jun;44(3):225-227. doi: 10.1016/j.amj.2025.02.009. Epub 2025 Mar 18. <https://doi.org/10.1016/j.amj.2025.02.009>
- Chain of survival for a severe exertional heat stroke casualty. DeGroot DW. J Appl Physiol (1985). 2025 Mar 1;138(3):699-705. doi: 10.1152/japplphysiol.01006.2024. Epub 2025 Feb 11. <https://doi.org/10.1152/japplphysiol.01006.2024>
- Clinical Epidemiology of Trauma Patients: A Retrospective Analysis of 3705 Consecutive Patients Treated at a Level I Trauma Center. Singh AK. Cureus. 2025 Mar 16;17(3):e80657. doi: 10.7759/cureus.80657. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.80657>
- The changing impact of the active job openings-to-applicants ratio (AJOAR) on ambulance dispatches during deflation: A longitudinal ecological study. Kamikawa Y. PLoS One. 2025 May 28;20(5):e0320914. doi: 10.1371/journal.pone.0320914. eCollection 2025. <https://doi.org/10.1371/journal.pone.0320914>
- A flexible film sensor based on sodium alginate/silk nanofiber for real-time monitoring of the ambient temperature and personnel respiration in flame environment. Lu T. Carbohydr Polym. 2025 Aug 1;361:123664. doi: 10.1016/j.carbpol.2025.123664. Epub 2025 Apr 26. <https://doi.org/10.1016/j.carbpol.2025.123664>
- Short-term effect of temperature on cause-specific, sex-specific, and age-specific ambulance dispatches in Czechia: a nationwide time-series analysis. Janoš T. Int J Epidemiol. 2025 Apr 12;54(3):dyaf051. doi: 10.1093/ije/dyaf051. <https://doi.org/10.1093/ije/dyaf051>
- Successful Management of Battlefield Traumatic Cardiac Arrest Using the Abdominal Aortic and Junctional Tourniquet (AAJT): A Case Series. Androshchuk D. J Spec Oper Med. 2025 Apr 4;25(1):65-69. doi: 10.55460/7FEV-3ZRK. <https://doi.org/10.55460/7FEV-3ZRK>
- Paramedics' understandings and perceptions of cultural safety and the provision of culturally safe care. Livingston G. BMC Health Serv Res. 2025 May 6;25(1):647. doi: 10.1186/s12913-025-12813-7. <https://doi.org/10.1186/s12913-025-12813-7>
- Mechanical assessment of proprietary and improvised pelvic binders for use in the prehospital environment. Howe TJ. BMJ Mil Health. 2025 Mar 21;171(2):116-119. doi: 10.1136/military-2023-002398. <https://doi.org/10.1136/military-2023-002398>
- Self-assessment of learning outcomes in prehospital disaster response skills: instrument development and validation for mass casualty incident training. Schulz F. BMJ Open. 2025 Mar 27;15(3):e098284. doi: 10.1136/bmjopen-2024-098284. <https://doi.org/10.1136/bmjopen-2024-098284>
- Who Wants to Fly? A Descriptive Analysis of Clinician Interest in a Career in Prehospital and Retrieval Medicine. Richardson BR. Air Med J. 2025 Mar-Apr;44(2):146-149. doi: 10.1016/j.amj.2024.12.001. Epub 2025 Feb 1. <https://doi.org/10.1016/j.amj.2024.12.001>
- Extended storage of leukoreduced whole blood for transfusion stored in CPD from 21 to 35 days to improve prehospital blood supply logistics in rural areas. Braathen H. Transfusion. 2025 May;65 Suppl 1:S204-S211. doi: 10.1111/trf.18170. Epub 2025 Feb 24. <https://doi.org/10.1111/trf.18170>
- A prehospital protocol for transfusion of low-titer O-positive whole blood in patients with hemorrhagic shock in Los Angeles County: Modeling the risk of hemolytic disease of the fetus and newborn. Wilhelm K. Transfusion. 2025 May;65 Suppl 1(Suppl 1):S313-S319. doi: 10.1111/trf.18184. Epub 2025 Mar 1. <https://doi.org/10.1111/trf.18184>
- Early clinical evaluation of a machine-learning system for risk prediction of trauma-induced coagulopathy in the prehospital setting. Marsden MER. Emerg Med J. 2025 Apr 15;emermed-2024-214396. doi: 10.1136/emermed-2024-214396. Online ahead of print. <https://doi.org/10.1136/emermed-2024-214396>
- Prototype Development of a FHIR-Based Electronic Patient Care Report App to Support Paramedics in Rwanda. Buchgraber-Schnalzer B. Stud Health Technol Inform. 2025 Apr 24;324:158-163. doi: 10.3233/SHTI250179. <https://doi.org/10.3233/SHTI250179>
- Using the properties of the odds ratio to improve precision in meta-analysis: an update on the benefits of targeted deployment of physician-led interprofessional pre-hospital teams on the care of critically ill and injured patients. McHenry RD. Scand J Trauma Resusc Emerg Med. 2025 Mar 3;33(1):36. doi: 10.1186/s13049-025-01345-y. <https://doi.org/10.1186/s13049-025-01345-y>
- A KNN-based model for non-invasive prediction of hemorrhagic shock severity in prehospital settings: integrating MAP, P(BU)CO(2), P(TC)O(2), and PPV. Zhao P. Biomed Eng Online. 2025 May 20;24(1):62. doi: 10.1186/s12938-025-01394-5. <https://doi.org/10.1186/s12938-025-01394-5>
- Assessment of professional training on the topic of accidents and violence in the Unified Health System. Souza ER. Cien Saude Colet. 2025 Mar;30(3):e18082024. doi: 10.1590/1413-81232025303.18082024. Epub 2024 Oct 16. <https://doi.org/10.1590/1413-81232025303.18082024>
- Predictive Value of Prehospital Point-of-Care Glucose Measurement and Shock Indices in Traumatically Injured Patients: A Retrospective Study. Hill J. Air Med J. 2025 Jul-Aug;44(4):302-305. doi: 10.1016/j.amj.2025.04.004. Epub 2025 May 17. <https://doi.org/10.1016/j.amj.2025.04.004>
- Road coverage as demand metric for ambulance allocation. van Buuren M. Health Care Manag Sci. 2025 Mar;28(1):50-63. doi: 10.1007/s10729-024-09695-2. Epub 2025 Jan 20. <https://doi.org/10.1007/s10729-024-09695-2>

- Oral Anticoagulant Use by Emergency Medical Services Patients in the United States. Wang HE. Clin Exp Emerg Med. 2025 Apr 30. doi: 10.15441/ceem.24.369. Online ahead of print. <https://doi.org/10.15441/ceem.24.369>
- The impacts of New York's balance billing regulation on ground ambulance pricing. Xu WY. Health Serv Res. 2025 Apr;60(2):e14387. doi: 10.1111/1475-6773.14387. Epub 2024 Oct 16. <https://doi.org/10.1111/1475-6773.14387>
- Supporting the well-being of nurses, paramedics, and firefighters during external crises by managing workload: an umbrella review. Karhula K. Ind Health. 2025 Mar 14. doi: 10.2486/indhealth.2024-0211. Online ahead of print. <https://doi.org/10.2486/indhealth.2024-0211>
- Emergency Medical Services Clinicians and COVID-19 Booster Behavior-A Cross-Sectional National Evaluation. Muller G. Vaccines (Basel). 2025 Apr 25;13(5):457. doi: 10.3390/vaccines13050457. <https://doi.org/10.3390/vaccines13050457>
- Intentional transit practice through a nearby hospital for remote area emergencies provides earlier primary care than helicopter emergency medical services alone in rural emergencies: a single-center, observational study. Saito K. J Rural Med. 2025 Apr;20(2):92-101. doi: 10.2185/jrm.2024-038. Epub 2025 Apr 1. <https://doi.org/10.2185/jrm.2024-038>
- Increasing Access to Casualty Care Data in Low-Resource Conflict Settings: A Practical Toolkit. Wild HB. World J Surg. 2025 Jun;49(6):1490-1496. doi: 10.1002/wjs.12598. Epub 2025 Apr 24. <https://doi.org/10.1002/wjs.12598>
- Knowledge and Perspectives of Healthcare Professionals on Point-of-Care Ultrasound in Prehospital Emergency Care in Portugal. Pereira R. Cureus. 2025 Apr 5;17(4):e81743. doi: 10.7759/cureus.81743. eCollection 2025 Apr. <https://doi.org/10.7759/cureus.81743>
- Herpes simplex-myelitt hos immunkompetent voksen pasient. Jonsson R. Tidsskr Nor Laegeforen. 2025 Apr 29;145(6). doi: 10.4045/tidsskr.24.0427. Print 2025 May 13. <https://doi.org/10.4045/tidsskr.24.0427>
- Prevalence and Indications for Applying Prehospital Spinal Motion Restriction in Children at Risk for Cervical Spine Injury. Ward CE. Prehosp Emerg Care. 2025 Mar 12;1-10. doi: 10.1080/10903127.2025.2472269. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2472269>
- Introducing an on-site Helicopter Emergency Medical Service (HEMS) physician at the Emergency Medical Communication Centre - implications for dispatch precision at a Norwegian HEMS base. Ulvin OE. Scand J Trauma Resusc Emerg Med. 2025 May 7;33(1):80. doi: 10.1186/s13049-025-01396-1. <https://doi.org/10.1186/s13049-025-01396-1>
- Ultrasound as a Tool in Prehospital Settings: Scoping review. Piñeros-Alvarez JL. Clin Exp Emerg Med. 2025 Apr 30. doi: 10.15441/ceem.24.374. Online ahead of print. <https://doi.org/10.15441/ceem.24.374>
- Predicting the Need for Tertiary Trauma Care Using a Multivariable Model: A 4-Year Retrospective Cohort Study. Vichiensanth P. Arch Acad Emerg Med. 2025 Mar 10;13(1):e37. doi: 10.22037/aaemj.v13i1.2581. eCollection 2025. <https://doi.org/10.22037/aaemj.v13i1.2581>
- Using a simulation-based approach to evaluate a contextually appropriate, non-internet dependent mobile navigation tool for emergency medical dispatch (EMD) of lay first responders (LFRs) in Sierra Leone: A multi-cohort feasibility trial. Delaney PG. Injury. 2025 May;56(5):112222. doi: 10.1016/j.injury.2025.112222. Epub 2025 Feb 21. <https://doi.org/10.1016/j.injury.2025.112222>
- Mental Health Profile Relating to Suicide Crises Among Women in and Around Pregnancy and Surgical Termination of Pregnancy: A Data Linkage Study. Meurk C. Birth. 2025 Mar 28. doi: 10.1111/birt.12917. Online ahead of print. <https://doi.org/10.1111/birt.12917>
- The apnea interval: Ventilation interruption during tracheal intubation and its association with cardiac arrest resuscitation care and outcome. Murphy DL. Resuscitation. 2025 Mar 17;110588. doi: 10.1016/j.resuscitation.2025.110588. Online ahead of print. <https://doi.org/10.1016/j.resuscitation.2025.110588>
- The sepsis journey and where digital alerts can help: a qualitative, interview study with survivors and family members in England. Lazzarino R. Front Public Health. 2025 Mar 26;13:1521761. doi: 10.3389/fpubh.2025.1521761. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1521761>
- Geriatric "lift-assist" EMS calls with transport refusal: Characteristics of short-term repeat calls and hospitalizations. Moore EA. Am J Emerg Med. 2025 May 22;95:77-82. doi: 10.1016/j.ajem.2025.05.041. Online ahead of print. <https://doi.org/10.1016/j.ajem.2025.05.041>
- Prehospital whole blood use in civilian trauma care: A review of current evidence and practices. Ghaedi A. J Trauma Acute Care Surg. 2025 Apr 14. doi: 10.1097/TA.0000000000004562. Online ahead of print. <https://doi.org/10.1097/TA.0000000000004562>
- Exploring patient and system factors impacting undertriage of injured patients meeting national field triage guideline criteria. Beiriger J. J Trauma Acute Care Surg. 2025 Apr 1;98(4):605-613. doi: 10.1097/TA.0000000000004407. Epub 2024 Aug 2. <https://doi.org/10.1097/TA.0000000000004407>
- Prehospital tranexamic acid decreases early mortality in trauma patients: a systematic review and meta-analysis. Li Y. Front Med (Lausanne). 2025 Mar 14;12:1552271. doi: 10.3389/fmed.2025.1552271. eCollection 2025. <https://doi.org/10.3389/fmed.2025.1552271>
- 'A Fence or an Ambulance' for disabled children. Tuffrey C. Dev Med Child Neurol. 2025 May;67(5):556. doi: 10.1111/dmcn.16243. Epub 2025 Jan 23. <https://doi.org/10.1111/dmcn.16243>
- Key Data Missing From Helicopter Air Ambulance Analysis. Hunter J. Air Med J. 2025 Jul-Aug;44(4):233. doi: 10.1016/j.amj.2025.03.003. Epub 2025 Apr 7. <https://doi.org/10.1016/j.amj.2025.03.003>

- Incidence and outcomes of out-of-hospital cardiac arrest from initial asystole: a systematic review and meta-analysis.** Dwivedi DB. *Resuscitation*. 2025 Jul;212:110629. doi: 10.1016/j.resuscitation.2025.110629. Epub 2025 May 3. <https://doi.org/10.1016/j.resuscitation.2025.110629>
- Increase in self-presenting patients with ST-elevation myocardial infarction to the emergency department.** Manorekang R. *J R Coll Physicians Edinb*. 2025 Jun;55(2):94-97. doi: 10.1177/14782715251342287. Epub 2025 May 18. <https://doi.org/10.1177/14782715251342287>
- Impact of prehospital extracorporeal cardiopulmonary resuscitation for out-of-hospital cardiac arrest on survival with good neurological function: a systematic review and meta-analysis.** Leroux L. *Resusc Plus*. 2025 May 8;24:100974. doi: 10.1016/j.resplu.2025.100974. eCollection 2025 Jul. <https://doi.org/10.1016/j.resplu.2025.100974>
- A service evaluation of the clinical and cost effectiveness of a home-deployed mobile x-ray imaging service in a regional setting.** Eade C. *Radiography (Lond)*. 2025 Mar;31(2):102885. doi: 10.1016/j.radi.2025.01.020. Epub 2025 Feb 18. <https://doi.org/10.1016/j.radi.2025.01.020>
- Evaluating Nanopore Sequencing as a Respiratory Virus Diagnostic Tool for the Prehospital Setting.** Reed GM. *Mil Med*. 2025 Apr 23;190(5-6):e1078-e1083. doi: 10.1093/milmed/usaf046. <https://doi.org/10.1093/milmed/usaf046>
- Adherence to prehospital thoracostomy practice guidelines for traumatic cardiac arrest: A retrospective study.** Beysard N. *Resusc Plus*. 2025 Jan 16;22:100870. doi: 10.1016/j.resplu.2025.100870. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100870>
- Factors Associated with Long-Term Hospitalization in Older Patients with Heart Failure in Japan.** Kawada K. *Int Heart J*. 2025 May 31;66(3):396-403. doi: 10.1536/ihj.24-731. Epub 2025 May 15. <https://doi.org/10.1536/ihj.24-731>
- Rapidly Progressive Disseminated Intravascular Coagulation (DIC) in Severe Fatal Heatstroke: A Diagnostic Challenge Despite Normal Initial Coagulation Tests.** Tsuchida T. *Cureus*. 2025 Mar 25;17(3):e81154. doi: 10.7759/cureus.81154. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.81154>
- Do Physicians Intuitively Select Slow Progressors for Thrombectomy in the Extended Time Window?.** Bosshart SL. *Can J Neurol Sci*. 2025 Mar 12;1-7. doi: 10.1017/cjn.2025.44. Online ahead of print. <https://doi.org/10.1017/cjn.2025.44>
- Racial and Ethnic Disparities in Use of Helicopter Transport After Severe Trauma in the US.** Mpody C. *JAMA Surg*. 2025 Mar 1;160(3):313-321. doi: 10.1001/jamasurg.2024.6402. <https://doi.org/10.1001/jamasurg.2024.6402>
- What Do 32 COVID-19 Deployments of Emergency Medical Teams Tell Us about Challenges and Lessons Learned?.** Vadi R. *Disaster Med Public Health Prep*. 2025 Mar 28;19:e74. doi: 10.1017/dmp.2025.70. <https://doi.org/10.1017/dmp.2025.70>
- Medical Care or Deportation: Examining Interior Border Checkpoints and Access to Higher-Level Medical Care for Undocumented Immigrants in South Texas.** Blackburn CC. *Am J Public Health*. 2025 Mar;115(3):292-295. doi: 10.2105/AJPH.2024.307927. Epub 2025 Jan 23. <https://doi.org/10.2105/AJPH.2024.307927>
- Small-area association of hourly ambient temperature and acute morbidity.** Zheng J. *Environ Pollut*. 2025 Apr 1;370:125870. doi: 10.1016/j.envpol.2025.125870. Epub 2025 Feb 15. <https://doi.org/10.1016/j.envpol.2025.125870>
- [Visual estimation of blood losses : Known high error rate-How can it be improved?].** Biller-Friedmann K. *Anaesthesiologie*. 2025 Jun;74(6):384-394. doi: 10.1007/s00101-025-01517-6. Epub 2025 Mar 12. <https://doi.org/10.1007/s00101-025-01517-6>
- How changes in GPs' ways of working have affected community nurses: a qualitative study.** Polak L. *Br J Gen Pract*. 2025 May 29;75(755):e406-e411. doi: 10.3399/BJGP.2024.0534. Print 2025 Jun. <https://doi.org/10.3399/BJGP.2024.0534>
- Assess, improve, detect, guide: a narrative review and proposal for a standardized protocol for prehospital trans-esophageal echocardiography during out-of-hospital cardiac arrest.** Katzenschlager S. *Ultrasound J*. 2025 Mar 5;17(1):18. doi: 10.1186/s13089-025-00418-4. <https://doi.org/10.1186/s13089-025-00418-4>
- "Psychometric validation and cultural adaptation of the Italian version of the ambulance nurse competence scale [Letter]".** Luthfiyah S. *Int Emerg Nurs*. 2025 Jun;80:101615. doi: 10.1016/j.ienj.2025.101615. Epub 2025 May 3. <https://doi.org/10.1016/j.ienj.2025.101615>
- Video laryngoscopy may improve the intubation outcomes in critically ill patients: a systematic review and meta-analysis of randomised controlled trials.** Zhang K. *Emerg Med J*. 2025 Apr 22;42(5):334-342. doi: 10.1136/emmermed-2023-213860. <https://doi.org/10.1136/emmermed-2023-213860>
- Team Cohesion and Mental Disorder Symptoms in Canadian Helicopter Emergency Medical Service Personnel.** Harenberg S. *Air Med J*. 2025 Mar-Apr;44(2):161-163. doi: 10.1016/j.amj.2025.01.004. Epub 2025 Jan 21. <https://doi.org/10.1016/j.amj.2025.01.004>
- Evaluating the accuracy of surrogate markers for identifying opioid-associated out-of-hospital cardiac arrests.** Jasti J. *Resuscitation*. 2025 Apr;209:110569. doi: 10.1016/j.resuscitation.2025.110569. Epub 2025 Mar 5. <https://doi.org/10.1016/j.resuscitation.2025.110569>
- Costs and Benefits of the Melbourne Mobile Stroke Unit Compared With Standard Ambulance: Causal Analysis Using Observational Linked Data.** Cadilhac DA. *Stroke*. 2025 Apr;56(4):948-956. doi: 10.1161/STROKEA-HA.124.048403. Epub 2025 Mar 24. <https://doi.org/10.1161/STROKEA-HA.124.048403>
- EMCC dispatch priority for trauma patients in Norway: a retrospective cohort study.** Nilsbakken IMW. *Scand J Trauma Resusc Emerg Med*. 2025 May 12;33(1):83. doi: 10.1186/s13049-025-01387-2. <https://doi.org/10.1186/s13049-025-01387-2>

- The effect of prehospital blood products on unexpected survival: A multi-institution study. Clements TW. *J Trauma Acute Care Surg*. 2025 May 2. doi: 10.1097/TA.0000000000004641. Online ahead of print. <https://doi.org/10.1097/TA.0000000000004641>
- "All sorts of colours of emotions": Ambulance call-handlers' perceptions of the barriers to CPR in out-of-hospital cardiac arrest. Farquharson B. *Resusc Plus*. 2025 Feb 15;22:100904. doi: 10.1016/j.resplu.2025.100904. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100904>
- Insights into orthopedic and trauma emergency care and current challenges in Germany. Roos J. *Eur J Trauma Emerg Surg*. 2025 Apr 22;51(1):180. doi: 10.1007/s00068-025-02829-3. <https://doi.org/10.1007/s00068-025-02829-3>
- Prevalence of insomnia, fatigue and symptoms of mental health problems among emergency medical service nurses: a cross-sectional study. Oosterhuis-Nienhaus MME. *BMC Nurs*. 2025 May 28;24(1):607. doi: 10.1186/s12912-025-03270-y. <https://doi.org/10.1186/s12912-025-03270-y>
- Effect of Remote Ischemic Conditioning and Red Blood Cells Biomarkers on Outcomes in Patients With Acute Stroke. Blauenfeldt RA. *J Am Heart Assoc*. 2025 May 20;14(10):e040787. doi: 10.1161/JAHA.124.040787. Epub 2025 May 13. <https://doi.org/10.1161/JAHA.124.040787>
- Acceptance of Digital Health Services in Emergency Medical Services in North Greece. Andrikou D. *Stud Health Technol Inform*. 2025 May 15;327:434-435. doi: 10.3233/SHTI250373. <https://doi.org/10.3233/SHTI250373>
- Prediction model for sleep disorders in patients transferred out of ICU: Development and validation. Huang W. *Nurs Crit Care*. 2025 Mar;30(2):e13292. doi: 10.1111/nicc.13292. <https://doi.org/10.1111/nicc.13292>
- Potential interactions of community-based acute care teams on the frequency of acute contacts with health-care systems: an interrupted time series analysis. Udesen SEJ. *Lancet Healthy Longev*. 2025 Apr;6(4):100694. doi: 10.1016/j.lanhl.2025.100694. Epub 2025 Apr 7. <https://doi.org/10.1016/j.lanhl.2025.100694>
- Prevalence, Risk Factors, and Intervention of Long-Term Sleep Disturbance After Intensive Care Unit Discharge: A Scoping Review. Fukamachi Y. *Cureus*. 2025 Apr 25;17(4):e83011. doi: 10.7759/cureus.83011. eCollection 2025 Apr. <https://doi.org/10.7759/cureus.83011>
- Analysis of clinical characteristics and risk factors for Staphylococcus aureus disseminated infection secondary to acute osteoarticular infections in children. Cui Y. *Ital J Pediatr*. 2025 May 28;51(1):160. doi: 10.1186/s13052-025-02007-6. <https://doi.org/10.1186/s13052-025-02007-6>
- Effect of Air Exposure Time Under Room-Temperature Conditions on the Performance of Chemical Heat Blankets Intended for Use in Prehospital Accidental Hypothermia. Helgø M. *Wilderness Environ Med*. 2025 Mar 28;10806032251325562. doi: 10.1177/10806032251325562. Online ahead of print. <https://doi.org/10.1177/10806032251325562>
- Research themes and key data points for child and adolescent emergency department mental health presentations: A national Delphi study. John-White MR. *Acad Emerg Med*. 2025 May;32(5):542-552. doi: 10.1111/acem.15056. Epub 2024 Dec 2. <https://doi.org/10.1111/acem.15056>
- Prehospital antiplatelet therapy in OHCA-Why before PCI?. Noc M. *Resuscitation*. 2025 Jun;211:110613. doi: 10.1016/j.resuscitation.2025.110613. Epub 2025 Apr 21. <https://doi.org/10.1016/j.resuscitation.2025.110613>
- Expiratory ventilation assistance versus pressure-controlled ventilation with ambient oxygen in a hemorrhagic trauma model: a prehospital rescue option?. Karlsson T. *Intensive Care Med Exp*. 2025 Mar 7;13(1):31. doi: 10.1186/s40635-025-00742-y. <https://doi.org/10.1186/s40635-025-00742-y>
- Woman With Lethargy and Bradycardia. Kishore E. *J Am Coll Emerg Physicians Open*. 2025 Mar 5;6(2):100082. doi: 10.1016/j.acepjo.2025.100082. eCollection 2025 Apr. <https://doi.org/10.1016/j.acepjo.2025.100082>
- Echoes of precision: feedback, governance and ultrasound in prehospital care. Tartaglione M. *Scand J Trauma Resusc Emerg Med*. 2025 Mar 21;33(1):50. doi: 10.1186/s13049-025-01362-x. <https://doi.org/10.1186/s13049-025-01362-x>
- In Response to Implementing Tourniquet Conversion Guidelines for Civilian EMS and Prehospital Organizations by Standifird et al. Jerome D. *Wilderness Environ Med*. 2025 Mar;36(1):139-146. doi: 10.1177/10806032241281241. Epub 2024 Sep 17. <https://doi.org/10.1177/10806032241281241>
- Health service utilisation cost associated with residential fire incidents in New South Wales, Australia. Rahman FS. *BMC Health Serv Res*. 2025 Mar 11;25(1):363. doi: 10.1186/s12913-025-12527-w. <https://doi.org/10.1186/s12913-025-12527-w>
- Expanding the perception of medical students on prehospital care through supervised observation. Ahjem E. *Med Educ*. 2025 Mar 10. doi: 10.1111/medu.15650. Online ahead of print. <https://doi.org/10.1111/medu.15650>
- Prehospital vital sign abnormalities and in-hospital outcomes in children. Ramgopal S. *Emerg Med J*. 2025 Mar 25;42(4):239-240. doi: 10.1136/emered-2024-214402. <https://doi.org/10.1136/emered-2024-214402>
- [Prehospital cardiac arrhythmia-Is blood analysis the new gold standard?]. Bremer P. *Anaesthesiologie*. 2025 Jun;74(6):380-383. doi: 10.1007/s00101-025-01537-2. Epub 2025 Apr 30. <https://doi.org/10.1007/s00101-025-01537-2>
- Awareness strategies and the physiological impact of pain in prehospital analgesia management. Ergun Suzer N. *Scand J Trauma Resusc Emerg Med*. 2025 Mar 5;33(1):38. doi: 10.1186/s13049-025-01343-0. <https://doi.org/10.1186/s13049-025-01343-0>
- Pain Management Among People with Limited English Proficiency Treated by Emergency Medical Services. Ding ML. *J Gen Intern Med*. 2025 May 27. doi: 10.1007/s11606-025-09621-4. Online ahead of print. <https://doi.org/10.1007/s11606-025-09621-4>

- Prehospital Trauma Compendium: Management of Injured Pregnant Patients- A Position Statement and Resource Document of NAEMSP. Maloney LM. Prehosp Emerg Care. 2025 Mar 12;1-14. doi: 10.1080/10903127.2025.2473679. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2473679>
- Prediction of urban medical emergencies using machine learning models based on spatial and temporal variables. Rivera FGT. Traffic Inj Prev. 2025 Apr 22;1-11. doi: 10.1080/15389588.2025.2478506. Online ahead of print. <https://doi.org/10.1080/15389588.2025.2478506>
- Neighborhood-level variation in prehospital care of patients with suspected stroke in Rhode Island. Karb R. Acad Emerg Med. 2025 May 2. doi: 10.1111/acem.70046. Online ahead of print. <https://doi.org/10.1111/acem.70046>
- Unmasking Racial and Ethnic Disparities in Prehospital Sedation and Restraint Practices-Beyond the Straps. Khatri UG. JAMA Netw Open. 2025 Mar 3;8(3):e251289. doi: 10.1001/jamanetworkopen.2025.1289. <https://doi.org/10.1001/jamanetworkopen.2025.1289>
- Global emergency medicine: A scoping review of the literature from 2023. Hexom BJ. Acad Emerg Med. 2025 May;32(5):553-569. doi: 10.1111/acem.70012. Epub 2025 Mar 7. <https://doi.org/10.1111/acem.70012>
- Is There an Association Between Emergency Department Overcrowding and Emergency Medical Services Redirection?. Mathews K. J Emerg Med. 2025 Mar;70:80-86. doi: 10.1016/j.jemermed.2024.09.011. Epub 2024 Oct 18. <https://doi.org/10.1016/j.jemermed.2024.09.011>
- The Prognostic Yield of Admission Shock Index in Patients with ST-Segment Elevation Myocardial Infarction: SEMI-CI Study. Ferdowsain S. Int J Prev Med. 2025 Mar 21;16:15. doi: 10.4103/ijpvm.ijpvm_43_24. eCollection 2025. https://doi.org/10.4103/ijpvm.ijpvm_43_24
- A Preliminary Evaluation of State Emergency Medical Services Protocols for Behavioral Health Emergencies in the United States. Peters GA. Ann Emerg Med. 2025 Jul;86(1):114-116. doi: 10.1016/j.annemergmed.2025.03.001. Epub 2025 Apr 5. <https://doi.org/10.1016/j.annemergmed.2025.03.001>
- A pain in the hip: the under-used potential of fascia iliaca compartment block in the prehospital setting. Maessen SE. N Z Med J. 2025 Apr 11;138(1613):104-109. doi: 10.26635/6965.6896. <https://doi.org/10.26635/6965.6896>
- Impact of the COVID-19 pandemic on poisoning induced out of hospital cardiac arrest in South Korea retrospective observational study. Oh YT. Sci Rep. 2025 Apr 8;15(1):11959. doi: 10.1038/s41598-025-87346-4. <https://doi.org/10.1038/s41598-025-87346-4>
- Association of ketamine administration with intubation and cardiac arrest for prehospital patients with behavioral and substance-related complaints in the US. Huebinger R. Am J Emerg Med. 2025 Apr;90:250-251. doi: 10.1016/j.ajem.2025.01.047. Epub 2025 Jan 20. <https://doi.org/10.1016/j.ajem.2025.01.047>
- Letters to the Editor Response for "Cooling Modality Effectiveness and Mortality Associated with Prehospital Care of Exertional Heat Stroke Casualties". DeGroot DW. J Emerg Med. 2025 May;72:139-141. doi: 10.1016/j.jemermed.2024.11.018. <https://doi.org/10.1016/j.jemermed.2024.11.018>
- Editors' Note: Prehospital Lactate Testing and Short-Term Mortality in Patients With Traumatic Brain Injury. Ganesh A. Neurology. 2025 Jun;104(11):e213697. doi: 10.1212/WNL.00000000000213697. Epub 2025 May 12. <https://doi.org/10.1212/WNL.00000000000213697>
- Prehospital pulse-dose glucocorticoid on index of microvascular resistance in patients with ST-segment elevation myocardial infarction: a sub-study of the PULSE-MI trial. Marquard JM. J Inflamm (Lond). 2025 Mar 18;22(1):12. doi: 10.1186/s12950-025-00440-2. <https://doi.org/10.1186/s12950-025-00440-2>
- Factors affecting mortality in patients undergoing surgical procedures after the 2023 Türkiye earthquake. Kaya Özdo an H. Ulus Travma Acil Cerrahi Derg. 2025 Apr;31(4):381-388. doi: 10.14744/tjtes.2025.68317. <https://doi.org/10.14744/tjtes.2025.68317>
- Articles That May Change Your Practice: Utilization of Non-Invasive Positive Pressure Ventilation in the Prehospital Setting. Stuart K. Air Med J. 2025 Jul-Aug;44(4):259-261. doi: 10.1016/j.amj.2025.04.007. Epub 2025 May 22. <https://doi.org/10.1016/j.amj.2025.04.007>
- Reflective Learning as a Pathway to Professional Self-Actualization in Simulation-Based Learning: A Qualitative Case Study. Marchi AJ. Simul Healthc. 2025 Apr 9. doi: 10.1097/SIH.0000000000000852. Online ahead of print. <https://doi.org/10.1097/SIH.0000000000000852>
- Factors Influencing Patient Presentation and Transfer to Hospital Rates During Mass-Gathering Stadium Events: A Scoping Review. Sultana N. Prehosp Disaster Med. 2025 Apr;40(2):101-113. doi: 10.1017/S1049023X25000287. Epub 2025 Apr 10. <https://doi.org/10.1017/S1049023X25000287>
- Difficult-to-transport cases and neurological outcomes of out-of-hospital cardiac arrest: A population-based nationwide study in Japan. Taguchi A. Acute Med Surg. 2025 Mar 3;12(1):e70050. doi: 10.1002/ams2.70050. eCollection 2025 Jan-Dec. <https://doi.org/10.1002/ams2.70050>
- Improving cultural competency of healthcare providers to reduce prehospital delays in care seeking among culturally and linguistically diverse populations. Li PW. Eur J Cardiovasc Nurs. 2025 Mar 3;24(2):218-219. doi: 10.1093/eur-jcn/zvae142. <https://doi.org/10.1093/eur-jcn/zvae142>
- Can screening and decontamination procedures performed on an outpatient basis reduce colonization with Staphylococcus aureus and mitigate associated complications in patients undergoing elective hospital procedures? A controlled intervention study (STAUFrei). Bauer A. J Hosp Infect. 2025 Mar;157:19-28. doi: 10.1016/j.jhin.2024.12.001. Epub 2024 Dec 9. <https://doi.org/10.1016/j.jhin.2024.12.001>

- Predictors of pre-hospital delay among stroke patients in Yekatit-12 hospital Addis Ababa, Ethiopia: unmatched case-control study. Mamo BT. *Int J Emerg Med*. 2025 Apr 15;18(1):78. doi: 10.1186/s12245-025-00839-x. <https://doi.org/10.1186/s12245-025-00839-x>
- Datasets for quantifying association between short-term exposure to maximum temperature and heatstroke-related ambulance dispatches in Japan: A time-stratified case-crossover design. Wagatsuma K. *Data Brief*. 2025 Jan 14;59:111307. doi: 10.1016/j.dib.2025.111307. eCollection 2025 Apr. <https://doi.org/10.1016/j.dib.2025.111307>
- Critical access hospitals: Lessons from the Frontier Community Health Integration Project. Romaine MA. *J Rural Health*. 2025 Mar;41(2):e70024. doi: 10.1111/jrh.70024. <https://doi.org/10.1111/jrh.70024>
- The First Fatal Helicopter Emergency Medical Services Crash in Turkey: Weather, Human Factors, and Lessons Learned. Golcuk Y. *Air Med J*. 2025 May-Jun;44(3):223-224. doi: 10.1016/j.amj.2025.02.002. Epub 2025 Mar 4. <https://doi.org/10.1016/j.amj.2025.02.002>
- Short and long-term complications of prehospital arterial catheterisation performed by a Helicopter Emergency Medical Service in the United Kingdom. Sin ELPW. *Crit Care*. 2025 Mar 13;29(1):111. doi: 10.1186/s13054-025-05348-0. <https://doi.org/10.1186/s13054-025-05348-0>
- Letter to the Editor Regarding 'Excessive Use of Benzodiazepines Is a Risk Factor for Endotracheal Intubation in Children Who Present to Emergency With Prehospital Status Epilepticus'. Ulusoy E. *Pediatr Emerg Care*. 2025 Mar 1;41(3):e18. doi: 10.1097/PEC.0000000000003301. Epub 2024 Nov 6. <https://doi.org/10.1097/PEC.0000000000003301>
- Temporal Trends in Acute Mental Health Problems during the Emergency Medical Team Response to Cyclone Idai 2019 in Mozambique: Findings from the WHO Emergency Medical Team Minimum Data Set. Fukunaga A. *Disaster Med Public Health Prep*. 2025 Mar 4;19:e48. doi: 10.1017/dmp.2025.29. <https://doi.org/10.1017/dmp.2025.29>
- Prehospital Trauma Compendium: Prehospital Management of Adults with Traumatic Out-of-Hospital Circulatory Arrest - A Joint Position Statement and Resource Document of NAEMSP, ACS-COT, and ACEP. Breyer AM. *Prehosp Emerg Care*. 2025 Mar 11:1-15. doi: 10.1080/10903127.2024.2428668. Online ahead of print. <https://doi.org/10.1080/10903127.2024.2428668>
- How Performing Chest Compressions Influences Mental Arithmetic Capabilities: A Randomized Cross-Over Trial. Holoabek C. *J Clin Med*. 2025 May 12;14(10):3366. doi: 10.3390/jcm14103366. <https://doi.org/10.3390/jcm14103366>
- A Qualitative Study on the Design and Implementation of a First Responder Operational Stress Injury Clinic. MacLean SE. *Health Serv Insights*. 2025 May 7;18:11786329251333019. doi: 10.1177/11786329251333019. eCollection 2025. <https://doi.org/10.1177/11786329251333019>
- Population aging exacerbates heat stroke-related ambulance transportations in Japan. Guo Q. *Environ Int*. 2025 May;199:109506. doi: 10.1016/j.envint.2025.109506. Epub 2025 Apr 30. <https://doi.org/10.1016/j.envint.2025.109506>
- Lived experience of student responders with leadership in a mass casualty simulation. Anderson M. *J Prof Nurs*. 2025 May-Jun;58:83-92. doi: 10.1016/j.profnurs.2025.03.005. Epub 2025 Mar 18. <https://doi.org/10.1016/j.profnurs.2025.03.005>
- Evaluating Workplace Incivility and Its Relationship With Patient Safety Culture Among EMS Staff: A Cross-Sectional Analytical Study in Iran. Homaei A. *J Nurs Manag*. 2025 Mar 25;2025:8846297. doi: 10.1155/jonm/8846297. eCollection 2025. <https://doi.org/10.1155/jonm/8846297>
- Optimizing prehospital ST-segment elevation myocardial infarction pathways, medical dispatch types and acute management times: A French regional registry study. Lesaine E. *Arch Cardiovasc Dis*. 2025 May 20:S1875-2136(25)00310-9. doi: 10.1016/j.acvd.2025.04.052. Online ahead of print. <https://doi.org/10.1016/j.acvd.2025.04.052>
- Vehicle extrication in road traffic crashes: a descriptive analysis of an advanced medical rescue service in South Africa. Abdullah N. *Afr J Emerg Med*. 2025 Jun;15(2):621-627. doi: 10.1016/j.afjem.2025.04.003. Epub 2025 May 7. <https://doi.org/10.1016/j.afjem.2025.04.003>
- A 'Direct to operating room' approach improves critically injured patient outcomes. Bohan PMK. *Curr Opin Crit Care*. 2025 May 2. doi: 10.1097/MCC.0000000000001278. Online ahead of print. <https://doi.org/10.1097/MCC.0000000000001278>
- Investigating Helicopter Emergency Medical Services Challenges in Transporting Pregnant Mothers: A Case Report. Esmaeilzadeh MH. *Air Med J*. 2025 Jul-Aug;44(4):318-322. doi: 10.1016/j.amj.2025.03.007. Epub 2025 May 1. <https://doi.org/10.1016/j.amj.2025.03.007>
- Trends in EMS encounters and outcomes among children and adolescents with firearm injuries from 2018 to 2022. Treichel A. *Am J Emerg Med*. 2025 Apr;90:55-60. doi: 10.1016/j.ajem.2024.12.069. Epub 2025 Jan 3. <https://doi.org/10.1016/j.ajem.2024.12.069>
- Portable cerebral blood flow monitor to detect large vessel occlusion in patients with suspected stroke. Favilla CG. *J Neurointerv Surg*. 2025 Mar 17;17(4):388-393. doi: 10.1136/jnis-2024-021536. <https://doi.org/10.1136/jnis-2024-021536>
- Adverse Effects of Coronavirus Disease 2019 (COVID-19) on First Medical Contact to Reperfusion Time in Urban ST-Segment Elevation Myocardial Infarction Patients and Advantage of Prehospital Electrocardiography. Yufu K. *Circ Rep*. 2025 Feb 22;7(4):239-246. doi: 10.1253/circrep.CR-24-0174. eCollection 2025 Apr 10. <https://doi.org/10.1253/circrep.CR-24-0174>

- Associations between air pollutants and emergency ambulance dispatches for all-cause and nervous system disease in China Qingdao: a time-stratified case-crossover study. Yu Y. *Environ Monit Assess*. 2025 Apr 9;197(5):528. doi: 10.1007/s10661-025-13955-1. <https://doi.org/10.1007/s10661-025-13955-1>
- Clinical characteristics and outcomes of acute myocardial infarction during the COVID-19 pandemic: a multicenter retrospective cohort study in Northern China. Li K. *BMC Cardiovasc Disord*. 2025 Mar 27;25(1):226. doi: 10.1186/s12872-025-04686-9. <https://doi.org/10.1186/s12872-025-04686-9>
- Influence of pulseless electrical activity and asystole on the prognosis of patients with traumatic cardiac arrest: A retrospective cohort study. Cheng H. *Injury*. 2025 May;56(5):112262. doi: 10.1016/j.injury.2025.112262. Epub 2025 Mar 13. <https://doi.org/10.1016/j.injury.2025.112262>
- Freeze-dried plasma: Hemostasis and biophysical analyses for damage control resuscitation. Shoara AA. *Transfusion*. 2025 May;65 Suppl 1(Suppl 1):S250-S264. doi: 10.1111/trf.18124. Epub 2025 Jan 13. <https://doi.org/10.1111/trf.18124>
- Early coagulation changes as predictors of adverse outcomes in patients with severe burn and inhalation injuries. Huang S. *Burns*. 2025 Mar;51(2):107373. doi: 10.1016/j.burns.2025.107373. Epub 2025 Jan 3. <https://doi.org/10.1016/j.burns.2025.107373>
- European Stroke Organisation (ESO) guideline on visual impairment in stroke. Rowe FJ. *Eur Stroke J*. 2025 May 22:23969873251314693. doi: 10.1177/23969873251314693. Online ahead of print. <https://doi.org/10.1177/23969873251314693>
- Indirect Effects of Operating a Mobile Stroke Treatment Unit. Davis NW. *Stroke*. 2025 Jun;56(6):1646-1649. doi: 10.1161/STROKEAHA.125.051445. Epub 2025 May 23. <https://doi.org/10.1161/STROKEAHA.125.051445>
- County characteristics associated with behavioral health emergency medical services calls. Burns A. *Health Aff Sch*. 2025 Mar 14;3(4):qxaf054. doi: 10.1093/haschl/qxaf054. eCollection 2025 Apr. <https://doi.org/10.1093/haschl/qxaf054>
- Preservation of Traumatic Completely Amputated or Avulsed Body Parts in the First Aid Setting: A Scoping Review. Singletary E. *Cureus*. 2025 Apr 10;17(4):e81998. doi: 10.7759/cureus.81998. eCollection 2025 Apr. <https://doi.org/10.7759/cureus.81998>
- Communication practices with patients using a language other than French: a cross-sectional survey in a university hospital in France. Cailhol J. *Int J Equity Health*. 2025 Mar 24;24(1):82. doi: 10.1186/s12939-025-02422-5. <https://doi.org/10.1186/s12939-025-02422-5>
- Battlefield mechanical ventilation and extracorporeal membrane oxygenation: A scoping review. Houle MC. *Artif Organs*. 2025 Mar;49(3):353-361. doi: 10.1111/aor.14911. Epub 2024 Nov 23. <https://doi.org/10.1111/aor.14911>
- Knowledge and self-confidence of healthcare workers to perform transurethral catheterization: a matter deserving attention!. Calik G. *World J Urol*. 2025 May 16;43(1):311. doi: 10.1007/s00345-025-05677-3. <https://doi.org/10.1007/s00345-025-05677-3>
- Intra-Arrest Transport and Neurological Outcomes in Out-of-Hospital Cardiac Arrest with Initial Shockable Rhythm Who Failed the First Defibrillation: A Nationwide Study in Limited Prehospital Advanced Cardiac Life Support (ACLS) Settings. Lee J. *Prehosp Emerg Care*. 2025 Apr 29:1-9. doi: 10.1080/10903127.2025.2489036. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2489036>
- Case Report: 2-PAM or not 2-PAM. Huttner M. *Clin Pract Cases Emerg Med*. 2025 May;9(2):203-206. doi: 10.5811/cpcem.39703. <https://doi.org/10.5811/cpcem.39703>
- Measuring spatiotemporal accessibility and equity of emergency medical services in Shanghai, China. Zhu H. *PLoS One*. 2025 May 8;20(5):e0322656. doi: 10.1371/journal.pone.0322656. eCollection 2025. <https://doi.org/10.1371/journal.pone.0322656>
- Comparing Integrated Heat Stress Indicators With Raw Meteorological Variables in Predicting Heat Stroke-Related Ambulance Transportations in Japan. Guo Q. *Geohealth*. 2025 Apr 1;9(4):e2024GH001257. doi: 10.1029/2024GH001257. eCollection 2025 Apr. <https://doi.org/10.1029/2024GH001257>
- Clinical state transitions in shock-refractory ventricular fibrillation: an observational study. Alhenaki A. *Resuscitation*. 2025 Jun;211:110618. doi: 10.1016/j.resuscitation.2025.110618. Epub 2025 Apr 22. <https://doi.org/10.1016/j.resuscitation.2025.110618>
- Fundamentals of Acute Care for Patients with Traumatic Spinal Cord Injury. MacLean MA. *Neurosurg Clin N Am*. 2025 Jul;36(3):321-332. doi: 10.1016/j.nec.2025.03.002. Epub 2025 Apr 28. <https://doi.org/10.1016/j.nec.2025.03.002>
- A Biomimetic Adhesive/Kaolin Material with Strong Adhesion, Sealing, and Active Coagulation Function for Arterial Hemostasis. Zhang W. *Int J Mol Sci*. 2025 May 14;26(10):4688. doi: 10.3390/ijms26104688. <https://doi.org/10.3390/ijms26104688>
- Geospatial Clustering of 9-1-1 Responses for Pediatric Firearm Injuries Over Time. Newgard CD. *Pediatrics*. 2025 Apr 1;155(4):e2024068179. doi: 10.1542/peds.2024-068179. <https://doi.org/10.1542/peds.2024-068179>
- AI-Based Predictive Models for Cardiogenic Shock in STEMI: Real-World Data for Early Risk Assessment and Prognostic Insights. Stamate E. *J Clin Med*. 2025 May 25;14(11):3698. doi: 10.3390/jcm14113698. <https://doi.org/10.3390/jcm14113698>
- Special Forces Medics Ability to Identify Wooden Foreign Bodies by Point-of-Care Ultrasound. Osborne K. *J Spec Oper Med*. 2025 Apr 30;24(4):93-96. doi: 10.55460/WQLG-2AM0. <https://doi.org/10.55460/WQLG-2AM0>
- Prevalence of frailty and its effect on requirement of organ support and clinical outcomes in critically ill patients: a prospective observational single center study. Singh DK. *BMC Anesthesiol*. 2025 Apr 26;25(1):215. doi: 10.1186/s12871-025-03096-w. <https://doi.org/10.1186/s12871-025-03096-w>

- A nested case-control analysis of factors influencing preoperative hospitalization fear in pediatric patients and the alleviating effects of child-friendly visual interventions. Bian L. BMC Pediatr. 2025 Apr 14;25(1):292. doi: 10.1186/s12887-025-05571-2. <https://doi.org/10.1186/s12887-025-05571-2>
- A Moroccan Experience in the Management of Acute Coronary Syndrome Without ST-Segment Elevation: Clinical Profiles and Therapeutic Approaches. Touiti S. Cureus. 2025 Mar 6;17(3):e80155. doi: 10.7759/cureus.80155. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.80155>
- Incidence and mortality related risk factors in patients with severe traumatic brain injury: A meta-analysis. Liu MW. Exp Ther Med. 2025 Feb 24;29(4):84. doi: 10.3892/etm.2025.12834. eCollection 2025 Apr. <https://doi.org/10.3892/etm.2025.12834>
- Using Social Media Platforms to Raise Health Awareness and Increase Health Education in Pakistan: Structural Equation Modeling Analysis and Questionnaire Study. Munir MM. JMIR Hum Factors. 2025 Apr 7;12:e65745. doi: 10.2196/65745. <https://doi.org/10.2196/65745>
- Patient cohorts of interest in resuscitation science - Aligning cardiac arrest registry outputs with stakeholder needs. Tjelmeland IBM. Resuscitation. 2025 May;210:110509. doi: 10.1016/j.resuscitation.2025.110509. Epub 2025 Jan 21. <https://doi.org/10.1016/j.resuscitation.2025.110509>
- Friday the 13th is not associated with increases in emergency medical services (EMS) patient volume. Shekhar AC. Am J Emerg Med. 2025 Jun;92:245-247. doi: 10.1016/j.ajem.2025.03.001. Epub 2025 Mar 3. <https://doi.org/10.1016/j.ajem.2025.03.001>
- Occupational differences in COVID-19 hospital admission and mortality risks between women and men in Scotland: a population-based study using linked administrative data. Pattaro S. Occup Environ Med. 2025 May 18;82(3):128-137. doi: 10.1136/oemed-2024-109562. <https://doi.org/10.1136/oemed-2024-109562>
- [How can you help a victim of intimate partner violence? Recognition, discussion and action to prevent fatal outcomes]. van Hoof MJ. Ned Tijdschr Geneesk. 2025 Mar 12;169:D8045.
- Understanding EMS response times: a machine learning-based analysis. Hill P. BMC Med Inform Decis Mak. 2025 Mar 24;25(1):143. doi: 10.1186/s12911-025-02975-z. <https://doi.org/10.1186/s12911-025-02975-z>
- Effectiveness of a new basic course incorporating medical trainer simulator for HEMS education in Japan: a pre-post intervention study. Omori K. BMC Med Educ. 2025 Apr 2;25(1):477. doi: 10.1186/s12909-025-07047-4. <https://doi.org/10.1186/s12909-025-07047-4>
- Transfusion of Whole Blood Is Not Associated With Increased Rate of Hemolytic Transfusion Reaction. Murphy S. Mil Med. 2025 Mar 19:usaf080. doi: 10.1093/milmed/usaf080. Online ahead of print. <https://doi.org/10.1093/milmed/usaf080>
- Exertional Heat Stroke: Are We Cool Enough? Retrospective Observational Study of Patients of Running Events. Dollée N. J Emerg Med. 2025 Apr;71:44-53. doi: 10.1016/j.jemermed.2024.11.002. Epub 2024 Nov 16. <https://doi.org/10.1016/j.jemermed.2024.11.002>
- Prevalence of Anxiety, Depression, and Insomnia Among Medical Workers in Emergency Medical Services in Eastern Kazakhstan. Kussainova DK. Int J Environ Res Public Health. 2025 Mar 10;22(3):407. doi: 10.3390/ijerph22030407. <https://doi.org/10.3390/ijerph22030407>
- The radiologic spectrum of neuroendocrine tumors in emergent care. Sahu A. Rev Endocr Metab Disord. 2025 Apr;26(2):175-186. doi: 10.1007/s11154-024-09940-7. Epub 2025 Jan 2. <https://doi.org/10.1007/s11154-024-09940-7>
- Transforming Early Stroke Care Through Mobile Stroke Treatment Unit Rendezvous With Rural Emergency Medical Services. Davis NW. Stroke. 2025 Mar;56(3):741-744. doi: 10.1161/STROKEAHA.124.048633. Epub 2025 Jan 30. <https://doi.org/10.1161/STROKEAHA.124.048633>
- Access to emergency medical services in Beijing: integrating web mapping application programming interfaces and empirical Bayesian Kriging interpolation analysis. Zhu H. World J Emerg Med. 2025 May 1;16(3):266-268. doi: 10.5847/wjem.j.1920-8642.2025.044. <https://doi.org/10.5847/wjem.j.1920-8642.2025.044>
- The road injury chain of survival: A framework for improving trauma outcomes. Nutbeam T. Injury. 2025 Mar 24;112285. doi: 10.1016/j.injury.2025.112285. Online ahead of print. <https://doi.org/10.1016/j.injury.2025.112285>
- The Process of Inefficient Self-Management in Patients With Myocardial Infarction in Prehospital: A Grounded Theory. Maghaminejad F. Health Sci Rep. 2025 Apr 28;8(5):e70720. doi: 10.1002/hsr2.70720. eCollection 2025 May. <https://doi.org/10.1002/hsr2.70720>
- Optimizing mobile stroke unit deployment: A strategic case study in the greater Oslo area. Markhorst B. Eur Stroke J. 2025 Mar 27;23969873251329862. doi: 10.1177/23969873251329862. Online ahead of print. <https://doi.org/10.1177/23969873251329862>
- Enhancing stroke response in school children: Efficacy of the HOBIT program - a cluster randomized trial. Volevach E. Prev Med Rep. 2025 Apr 1;53:103049. doi: 10.1016/j.pmedr.2025.103049. eCollection 2025 May. <https://doi.org/10.1016/j.pmedr.2025.103049>
- Protocol for an economic evaluation alongside a natural experiment to evaluate the impact of later trading hours for bars and clubs in the night-time economy in Scotland: The ELEPHANT study. Sheikh N. BMJ Open. 2025 May 14;15(5):e095241. doi: 10.1136/bmjopen-2024-095241. <https://doi.org/10.1136/bmjopen-2024-095241>
- Pediatric Readiness and Trauma Center Access for Children. Melhado C. JAMA Pediatr. 2025 Apr 1;179(4):455-462. doi: 10.1001/jamapediatrics.2024.6058. <https://doi.org/10.1001/jamapediatrics.2024.6058>
- Border Region Emergency Medical Services in Migrant Emergency Care. Blackburn CC. JAMA Netw Open. 2025 Apr 1;8(4):e253111. doi: 10.1001/jamanetworkopen.2025.3111. <https://doi.org/10.1001/jamanetworkopen.2025.3111>

- Factors Associated with Pediatric Drowning-Associated Lung Injury. Shenoi RP. *J Pediatr*. 2025 Apr;279:114459. doi: 10.1016/j.jpeds.2024.114459. Epub 2024 Dec 28. <https://doi.org/10.1016/j.jpeds.2024.114459>
- 2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Rao SV. *Circulation*. 2025 Apr;151(13):e771-e862. doi: 10.1161/CIR.0000000000001309. Epub 2025 Feb 27. <https://doi.org/10.1161/CIR.0000000000001309>
- Mental health disorder symptom changes among public safety personnel after emotional resilience skills training. Carleton RN. *Compr Psychiatry*. 2025 Apr;138:152580. doi: 10.1016/j.comppsy.2025.152580. Epub 2025 Feb 5. <https://doi.org/10.1016/j.comppsy.2025.152580>
- Emergency Care for Persons Living with Dementia. Dresden SM. *Emerg Med Clin North Am*. 2025 May;43(2):235-248. doi: 10.1016/j.emc.2024.09.002. Epub 2025 Feb 17. <https://doi.org/10.1016/j.emc.2024.09.002>
- Telestroke consultant use in acute stroke care: Evidence for best practices from the IMPROVE stroke care program. Kolls BJ. *J Telemed Telecare*. 2025 Apr 21:1357633X251332365. doi: 10.1177/1357633X251332365. Online ahead of print. <https://doi.org/10.1177/1357633X251332365>
- A robust optimization model for allocation-routing problems under uncertain conditions. Zhang T. *PLoS One*. 2025 May 16;20(5):e0322483. doi: 10.1371/journal.pone.0322483. eCollection 2025. <https://doi.org/10.1371/journal.pone.0322483>
- Who is Leaving the Emergency Medical Services Workforce?. Woodward KF. *J Public Health Manag Pract*. 2025 May 15. doi: 10.1097/PHH.0000000000002175. Online ahead of print. <https://doi.org/10.1097/PHH.0000000000002175>
- Stroke 1-2-0-3-6: rapid identification and timely action for stroke in China. Chen C. *Front Neurol*. 2025 Apr 2;16:1537895. doi: 10.3389/fneur.2025.1537895. eCollection 2025. <https://doi.org/10.3389/fneur.2025.1537895>
- EMS Pediatric Trauma Transport: Do Disparities Exist?. Giron A. *J Pediatr Surg*. 2025 Mar;60(3):162098. doi: 10.1016/j.jpedsurg.2024.162098. Epub 2024 Dec 16. <https://doi.org/10.1016/j.jpedsurg.2024.162098>
- Outcomes from out-of-hospital cardiac arrest in nursing and care homes: a cohort study. Battin E. *Emerg Med J*. 2025 Mar 25;42(4):243-248. doi: 10.1136/emered-2024-214362. <https://doi.org/10.1136/emered-2024-214362>
- Assessing Spatial and Temporal Variation in Opioid-Related Incidents and Risk Factors in Lowell, Massachusetts, from 2011 to 2022: A Bayesian Spatial-Temporal Approach. Zhang K. *Subst Use Addict J*. 2025 Jul;46(3):675-685. doi: 10.1177/29767342251323065. Epub 2025 Apr 2. <https://doi.org/10.1177/29767342251323065>
- Risk screening by the emergency medical services identifies older patients at risk of emergency department readmission: a retrospective observational study. Saario E. *Aging Clin Exp Res*. 2025 Mar 1;37(1):59. doi: 10.1007/s40520-025-02942-8. <https://doi.org/10.1007/s40520-025-02942-8>
- Massive transfusion on the combat field using autonomous drones: A case report. Türko lu B. *Transfusion*. 2025 May 10. doi: 10.1111/trf.18279. Online ahead of print. <https://doi.org/10.1111/trf.18279>
- The role of community connection in the practice of trauma-informed emergency management. Corlew LK. *J Emerg Manag*. 2025 Mar-Apr;23(2):229-234. doi: 10.5055/jem.0884. <https://doi.org/10.5055/jem.0884>
- Spinal Motion Restriction for Possible Traumatic Cervical Spine Injury: A Scoping Review. Laermans J. *Cureus*. 2025 May 19;17(5):e84393. doi: 10.7759/cureus.84393. eCollection 2025 May. <https://doi.org/10.7759/cureus.84393>
- Incidence, management and outcomes of patients with acute chest pain presenting to the emergency departments in China: findings from a prospective multicentre registry. Cheng K. *BMJ Open*. 2025 Mar 27;15(3):e091085. doi: 10.1136/bmjopen-2024-091085. <https://doi.org/10.1136/bmjopen-2024-091085>
- Evaluating the predictive performance of different data sources to forecast overdose deaths at the neighborhood level with machine learning in Rhode Island. Halifax JC. *Prev Med*. 2025 May;194:108276. doi: 10.1016/j.ypmed.2025.108276. Epub 2025 Mar 29. <https://doi.org/10.1016/j.ypmed.2025.108276>
- EMS Zones of Care. Goldstein SMartin Lee LMRoarty J. 2025 May 3. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Holding breath. Tiraboschi S. *Intern Emerg Med*. 2025 Jun;20(4):1269-1270. doi: 10.1007/s11739-025-03912-8. Epub 2025 Mar 8. <https://doi.org/10.1007/s11739-025-03912-8>
- Ethanol production in the gut: An autopsy case. Kusano M. *J Anal Toxicol*. 2025 May 5;bkaf039. doi: 10.1093/jat/bkaf039. Online ahead of print. <https://doi.org/10.1093/jat/bkaf039>
- Traumatic cardiac arrest, what clinicians and researchers must know. Abrard S. *Anaesth Crit Care Pain Med*. 2025 May;44(3):101507. doi: 10.1016/j.accpm.2025.101507. Epub 2025 Mar 15. <https://doi.org/10.1016/j.accpm.2025.101507>
- Needs assessment and Acceptability of a Community First Aid Responder programme to increase Out-of-hospital capacity in Kinshasa, Democratic Republic of Congo: A qualitative study. Diango K. *Afr J Emerg Med*. 2025 Mar;15(1):526-534. doi: 10.1016/j.afjem.2024.12.003. Epub 2025 Jan 8. <https://doi.org/10.1016/j.afjem.2024.12.003>
- An Analysis of Junctional Tourniquet Use Within the Department of Defense Trauma Registry. Reneau HB. *J Spec Oper Med*. 2025 Apr 30;24(4):40-44. doi: 10.55460/NDC5-J2LU. <https://doi.org/10.55460/NDC5-J2LU>
- Trauma systems: a global comparison. Miclau T. *OTA Int*. 2025 May 2;8(3 Suppl):e376. doi: 10.1097/OI9.0000000000000376. eCollection 2025 May. <https://doi.org/10.1097/OI9.0000000000000376>
- Airway Management in Austere Settings: Intubation Is Not Always the Best Option. Weinberg NE. *Wilderness Environ Med*. 2025 Mar;36(1):119-125. doi: 10.1177/10806032241301047. Epub 2024 Dec 20. <https://doi.org/10.1177/10806032241301047>

- Agitation management strategies for older adults in the emergency department or with emergency medical services: A scoping review. Shah FI. *Am J Emerg Med*. 2025 Aug;94:81-95. doi: 10.1016/j.ajem.2025.04.019. Epub 2025 Apr 16. <https://doi.org/10.1016/j.ajem.2025.04.019>
- Development of a validated, updated North American pediatric food allergy anaphylaxis management plan. Anagnostou A. *Ann Allergy Asthma Immunol*. 2025 Jul;135(1):71-78.e4. doi: 10.1016/j.anai.2025.03.027. Epub 2025 Apr 14. <https://doi.org/10.1016/j.anai.2025.03.027>
- Delayed Presentation of Pericardial Tamponade Resulting From Permanent Pacemaker Lead Perforation. Prendergast M. *Cureus*. 2025 May 29;17(5):e85036. doi: 10.7759/cureus.85036. eCollection 2025 May. <https://doi.org/10.7759/cureus.85036>
- Evaluation of correctness and reliability of GPT, Bard, and Bing chatbots' responses in basic life support scenarios. Aqavil-Jahromi S. *Sci Rep*. 2025 Apr 3;15(1):11429. doi: 10.1038/s41598-024-82948-w. <https://doi.org/10.1038/s41598-024-82948-w>
- Assessment and Integration of Large Language Models for Automated Electronic Health Record Documentation in Emergency Medical Services. Bai E. *J Med Syst*. 2025 May 17;49(1):65. doi: 10.1007/s10916-025-02197-w. <https://doi.org/10.1007/s10916-025-02197-w>
- "I don't let anybody die on my watch": perspectives on the intersection of community overdose response and emergency medical services among people who use drugs in Seattle, WA. Wettemann C. *Harm Reduct J*. 2025 Mar 28;22(1):43. doi: 10.1186/s12954-025-01193-0. <https://doi.org/10.1186/s12954-025-01193-0>
- Development of a national Distress Brief Intervention: a multi-agency service to provide connected, compassionate support for people in distress. Melson AJ. *BMC Health Serv Res*. 2025 Apr 4;25(1):478. doi: 10.1186/s12913-025-12469-3. <https://doi.org/10.1186/s12913-025-12469-3>
- A culturally-specific education strategy to improve stroke health literacy in Vietnamese communities in South Western Sydney. Ly J. *Dialogues Health*. 2025 Mar 25;6:100211. doi: 10.1016/j.dialog.2025.100211. eCollection 2025 Jun. <https://doi.org/10.1016/j.dialog.2025.100211>
- Strategic Care of Ballistic Injuries: A Retrospective Observational Study at a Moroccan Military Hospital. Khalkane S. *Cureus*. 2025 May 31;17(5):e85162. doi: 10.7759/cureus.85162. eCollection 2025 May. <https://doi.org/10.7759/cureus.85162>
- Out-of-hospital assessment and triage of paracetamol (acetaminophen) exposure in the United States and Canada: a consensus guideline. Fox EJ. *Clin Toxicol (Phila)*. 2025 May;63(5):348-352. doi: 10.1080/15563650.2025.2471915. Epub 2025 Mar 6. <https://doi.org/10.1080/15563650.2025.2471915>
- Variations in Out-of-Hospital Cardiac Arrest Resuscitation Performance and Outcomes in Ohio. Nassal MMJ. *West J Emerg Med*. 2025 Mar 15;26(3):541-548. doi: 10.5811/westjem.19422. <https://doi.org/10.5811/westjem.19422>
- Nitazenes: review of comparative pharmacology and antagonist action. Stangeland M. *Clin Toxicol (Phila)*. 2025 Jun;63(6):393-406. doi: 10.1080/15563650.2025.2504133. Epub 2025 May 27. <https://doi.org/10.1080/15563650.2025.2504133>
- Telemedicine via data glasses in CBRN protection suit-Evaluation of medical qualification and technical feasibility. Bovenkerk S. *PLoS One*. 2025 May 28;20(5):e0324558. doi: 10.1371/journal.pone.0324558. eCollection 2025. <https://doi.org/10.1371/journal.pone.0324558>
- Automated cardiac arrest detection and emergency service alerting using device-independent smartwatch technology: proof-of-principle. van den Beuken WMF. *Resuscitation*. 2025 Aug;213:110657. doi: 10.1016/j.resuscitation.2025.110657. Epub 2025 May 22. <https://doi.org/10.1016/j.resuscitation.2025.110657>
- Midazolam and Ketamine for Convulsive Status Epilepticus in the Out-of-Hospital Setting. Zitek T. *Ann Emerg Med*. 2025 Apr;85(4):305-312. doi: 10.1016/j.annemergmed.2024.11.002. Epub 2024 Dec 13. <https://doi.org/10.1016/j.annemergmed.2024.11.002>
- Current Applications, Challenges, and Future Directions of Artificial Intelligence in Emergency Medicine: A Narrative Review. Farrokhi M. *Arch Acad Emerg Med*. 2025 Apr 15;13(1):e45. doi: 10.22037/aaemj.v13i1.2712. eCollection 2025. <https://doi.org/10.22037/aaemj.v13i1.2712>
- Optimizing Flow-Controlled Ventilation: Impact of I:E Ratios and Oxygen Concentration in a Porcine Model of Total Airway Obstruction. Karlsson T. *Anesth Analg*. 2025 May 16. doi: 10.1213/ANE.0000000000007583. Online ahead of print. <https://doi.org/10.1213/ANE.0000000000007583>
- Cricothyroidotomy. McMahon KTariq AMorley EJ. 2025 Apr 18. In: *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Assessing the Trauma System in Ukraine Through the Perspectives of International Healthcare Volunteers and Ukrainian Healthcare Workers: Application of an Observational Tool. Koehlmoos TP. *Mil Med*. 2025 Apr 22;usaf132. doi: 10.1093/milmed/usaf132. Online ahead of print. <https://doi.org/10.1093/milmed/usaf132>
- Effectiveness of Prehospital Critical Care Scene Response for Major Trauma: A Systematic Review. Penn J. *Prehosp Emerg Care*. 2025 Apr 1:1-14. doi: 10.1080/10903127.2025.2483978. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2483978>
- Sports-Related Sudden Cardiac Arrest in Canada: Incidence and Survival. Visanji M. *Can J Cardiol*. 2025 Mar;41(3):522-530. doi: 10.1016/j.cjca.2024.11.017. Epub 2025 Feb 6. <https://doi.org/10.1016/j.cjca.2024.11.017>
- Drive-the-doctor paradigm in acute ischaemic stroke for improving regional stroke care networks: a cost-effectiveness analysis. Nguyen CP. *BMJ Open*. 2025 Mar 29;15(3):e091413. doi: 10.1136/bmjopen-2024-091413. <https://doi.org/10.1136/bmjopen-2024-091413>

- Emergency Legal Preparedness and Response: United States Supreme Court Impacts. Hodge JG Jr. Health Secur. 2025 May-Jun;23(3):207-214. doi: 10.1089/hs.2024.0084. Epub 2025 Apr 25. <https://doi.org/10.1089/hs.2024.0084>
- Factors associated with symptom-to-surgery time in patients undergoing surgical repair for acute type A aortic dissection: an exploratory analysis from a prospective cohort study. Fandino W. BMJ Surg Interv Health Technol. 2025 May 28;7(1):e000304. doi: 10.1136/bmjst-2024-000304. eCollection 2025. <https://doi.org/10.1136/bmjst-2024-000304>
- Evaluating the satisfaction of patients utilising the virtual emergency department service in southeast region of Melbourne. Sri-Ganeshan M. Emerg Med Australas. 2025 Apr;37(2):e70034. doi: 10.1111/1742-6723.70034. <https://doi.org/10.1111/1742-6723.70034>
- Does heart rate variability predict and improve performance in pediatric CPR?-a simulation study. Kula Y. BMC Emerg Med. 2025 Apr 5;25(1):52. doi: 10.1186/s12873-025-01209-9. <https://doi.org/10.1186/s12873-025-01209-9>
- Perceived psychosocial safety climate (PSC) level and its association with occupational outcomes among clinical unit healthcare workers in a Malaysian hospital: a three-wave longitudinal study. Abu Bakar N. BMC Public Health. 2025 Apr 15;25(1):1418. doi: 10.1186/s12889-025-22562-1. <https://doi.org/10.1186/s12889-025-22562-1>
- Variation in emergency medical service use for acute coronary syndromes by ethnicity: an Aotearoa New Zealand observational study. Dicker B. N Z Med J. 2025 Mar 14;138(1611):33-54. doi: 10.26635/6965.6739. <https://doi.org/10.26635/6965.6739>
- Attitudes towards protecting Emergency Medical Services (EMS) staff from violence and aggression: a survey of adults in Wales. Rees N. BMJ Open. 2025 Apr 25;15(4):e092949. doi: 10.1136/bmjopen-2024-092949. <https://doi.org/10.1136/bmjopen-2024-092949>
- Experience of The National Emergency Tele-Critical Care Network. Pamplin JC. Telemed J E Health. 2025 May;31(5):643-650. doi: 10.1089/tmj.2024.0585. Epub 2025 Jan 13. <https://doi.org/10.1089/tmj.2024.0585>
- Enhancing clinical decision support with physiological waveforms - A multimodal benchmark in emergency care. Alcaraz JML. Comput Biol Med. 2025 Jun;192(Pt A):110196. doi: 10.1016/j.compbiomed.2025.110196. Epub 2025 Apr 30. <https://doi.org/10.1016/j.compbiomed.2025.110196>
- Emergency Care for High-Altitude Trekking and Climbing. van Veelen MJ. High Alt Med Biol. 2025 Mar;26(1):70-86. doi: 10.1089/ham.2024.0065. Epub 2024 Jul 29. <https://doi.org/10.1089/ham.2024.0065>
- Latent class analysis for identification of sub-phenotypes predicting prognosis in hospitalized out-of-hospital cardiac arrest. Kishihara Y. J Crit Care Med (Targu Mures). 2025 Apr 30;11(2):183-191. doi: 10.2478/jccm-2025-0016. eCollection 2025 Apr. <https://doi.org/10.2478/jccm-2025-0016>
- Characteristics and predictors of severe outcomes of COVID-19 cases presenting to the emergency department of a major Australian referral hospital: A record linkage study. Boldt K. Emerg Med Australas. 2025 Apr;37(2):e70040. doi: 10.1111/1742-6723.70040. <https://doi.org/10.1111/1742-6723.70040>
- Treatment of accidental hypothermia: Impact of insulation placement above or below an active external rewarming device on temperature and burn risk. Mydske S. J Therm Biol. 2025 Apr;129:104126. doi: 10.1016/j.jtherbio.2025.104126. Epub 2025 May 5. <https://doi.org/10.1016/j.jtherbio.2025.104126>
- Impact of Massive Transfusion Activation on Time to Delivery of the First Cooler and Patient Survival: A Study of 4,313 Consecutive Activations. Van Gent JM. J Am Coll Surg. 2025 Apr 1;240(4):578-585. doi: 10.1097/XCS.0000000000001282. Epub 2025 Mar 17. <https://doi.org/10.1097/XCS.0000000000001282>
- Cardiac arrest secondary to environmental hypothermia: Incidence and outcomes in an urban emergency department in the Upper Midwestern United States. Rischall ML. Am J Emerg Med. 2025 Mar;89:103-108. doi: 10.1016/j.ajem.2024.12.022. Epub 2024 Dec 10. <https://doi.org/10.1016/j.ajem.2024.12.022>
- Risk of falls associated with non-GABAergic hypnotics and benzodiazepines in hospitalized patients. Shishida K. Gen Hosp Psychiatry. 2025 May-Jun;94:10-15. doi: 10.1016/j.genhosppsy.2025.02.004. Epub 2025 Feb 13. <https://doi.org/10.1016/j.genhosppsy.2025.02.004>
- Current state and challenges of multidisciplinary collaboration by fire defense headquarters in Japan: A nationwide cross-sectional survey. Ueno K. Acute Med Surg. 2025 May 28;12(1):e70067. doi: 10.1002/ams2.70067. eCollection 2025 Jan-Dec. <https://doi.org/10.1002/ams2.70067>
- Comparison of clinical outcomes between direct and indirect transfer in patients with ST-segment elevation myocardial infarction. Hai Y. Cardiovasc Interv Ther. 2025 Apr;40(2):277-286. doi: 10.1007/s12928-024-01075-5. Epub 2024 Dec 11. <https://doi.org/10.1007/s12928-024-01075-5>
- Don't blame it on the alcohol! Alcohol and Trauma Outcomes: A 10 year retrospective single-center study. Nowacki JC. Am J Surg. 2025 May 23;248:116444. doi: 10.1016/j.amjsurg.2025.116444. Online ahead of print. <https://doi.org/10.1016/j.amjsurg.2025.116444>
- Effects of the Community Paramedicine at Clinic (CP@clinic) program on the health behaviours of older adults residing in social housing: secondary outcomes of a cluster-randomized trial. Brar J. BMC Public Health. 2025 Mar 6;25(1):887. doi: 10.1186/s12889-025-21997-w. <https://doi.org/10.1186/s12889-025-21997-w>
- Applying the ADAPT guidance to implement a telemedicine and medication delivery service in a malaria-endemic setting: A prospective cohort study. Flaherty KE. Trop Med Int Health. 2025 Mar;30(3):181-192. doi: 10.1111/tmi.14081. Epub 2025 Jan 16. <https://doi.org/10.1111/tmi.14081>

- De-siloing substance misuse and self-harm research through integrated public health and emergency medicine. Schölin L. *Lancet Public Health*. 2025 May 15:S2468-2667(25)00096-9. doi: 10.1016/S2468-2667(25)00096-9. Online ahead of print. [https://doi.org/10.1016/S2468-2667\(25\)00096-9](https://doi.org/10.1016/S2468-2667(25)00096-9)
- Seizure first aid in the community: current situation, suggestions, and the role of the general practitioner in seizure management. Sun M. *Acta Epileptol*. 2025 Mar 3;7(1):11. doi: 10.1186/s42494-025-00202-w. <https://doi.org/10.1186/s42494-025-00202-w>
- An Emergency Medical Services to Emergency Department Checklist for Handoff of Cardiac Arrest: A Modified Delphi Approach. McCann-Pineo M. *J Am Coll Emerg Physicians Open*. 2025 Feb 21;6(2):100071. doi: 10.1016/j.acepjo.2025.100071. eCollection 2025 Apr. <https://doi.org/10.1016/j.acepjo.2025.100071>
- Are the life-saving interventions really life-saving?. DeSantis AJ. *Trauma Surg Acute Care Open*. 2025 May 10;10(Suppl 3):e001545. doi: 10.1136/tsaco-2024-001545. eCollection 2025. <https://doi.org/10.1136/tsaco-2024-001545>
- Recent Outcomes Research in Helicopter Emergency Medical Services: A Scoping Review of Publication-Year 2024 Additions to the Helicopter Outcomes Assessment Research Database. Fritz CL. *Air Med J*. 2025 Jul-Aug;44(4):306-313. doi: 10.1016/j.amj.2025.04.005. Epub 2025 May 20. <https://doi.org/10.1016/j.amj.2025.04.005>
- Comparison of ventilation modes in non-traumatic out-of-hospital cardiac arrest: SYMEVECA phase 2. Hernández-Tejedor A. *Resuscitation*. 2025 Aug;213:110655. doi: 10.1016/j.resuscitation.2025.110655. Epub 2025 May 21. <https://doi.org/10.1016/j.resuscitation.2025.110655>
- Characteristics of Dutch ED patients and their journey through the acute care chain: A province-wide flash-mob study. Claassen L. *PLoS One*. 2025 Apr 3;20(4):e0318510. doi: 10.1371/journal.pone.0318510. eCollection 2025. <https://doi.org/10.1371/journal.pone.0318510>
- Time-space characteristics of emergency medical service attendance and layperson naloxone administration during non-fatal opioid overdoses in Rhode Island: A retrospective, event-level analysis. Rosen JG. *Ann Epidemiol*. 2025 Mar;103:55-60. doi: 10.1016/j.annepidem.2025.02.009. Epub 2025 Feb 24. <https://doi.org/10.1016/j.annepidem.2025.02.009>
- Solutions of clinical guideline implementation in Iran: A qualitative study. Azizzadeh M. *J Educ Health Promot*. 2025 May 30;14:199. doi: 10.4103/jehp.jehp_1648_23. eCollection 2025. https://doi.org/10.4103/jehp.jehp_1648_23
- Knowledge and practices in transfusion regarding bedside compatibility test: Insights from a monocentric observational study. Ghachem I. *Transfus Med*. 2025 May 9. doi: 10.1111/tme.13145. Online ahead of print. <https://doi.org/10.1111/tme.13145>
- [Palliative extubation after ROSC in the emergency setting-a guideline for emergency physicians]. Volberg C. *Med Klin Intensivmed Notfmed*. 2025 Apr 29. doi: 10.1007/s00063-025-01271-y. Online ahead of print. <https://doi.org/10.1007/s00063-025-01271-y>
- Lung Ultrasound in Critical Care: A Narrative Review. Berry L. *Diagnostics (Basel)*. 2025 Mar 17;15(6):755. doi: 10.3390/diagnostics15060755. <https://doi.org/10.3390/diagnostics15060755>
- An Improvised Reduction Method for Anterior Shoulder Dislocation in a Waterborne Environment. Christensen MJ. *Wilderness Environ Med*. 2025 Mar 17;10806032251323501. doi: 10.1177/10806032251323501. Online ahead of print. <https://doi.org/10.1177/10806032251323501>
- Emergency Medical Services response to wildfires from a public health perspective: A systematic review. Castro-Delgado R. *Burns*. 2025 Apr 27;51(6):107521. doi: 10.1016/j.burns.2025.107521. Online ahead of print. <https://doi.org/10.1016/j.burns.2025.107521>
- Analysis of prehospital delay in acute ischaemic stroke and its influencing factors: a multicentre prospective case registry study in China. Su Y. *Stroke Vasc Neurol*. 2025 Mar 16;svn-2024-003535. doi: 10.1136/svn-2024-003535. Online ahead of print. <https://doi.org/10.1136/svn-2024-003535>
- Predictors of non-transport by emergency medical services after a nonfatal opioid overdose: a national analysis. Taylor J. *Health Aff Sch*. 2025 May 20;3(5):qxaf101. doi: 10.1093/haschl/qxaf101. eCollection 2025 May. <https://doi.org/10.1093/haschl/qxaf101>
- Point-of-Care Ultrasound Pulse Checks During Cardiopulmonary Resuscitation on a Patient Simulator (PUPRAS). Betz S. *Diagnostics (Basel)*. 2025 Mar 27;15(7):858. doi: 10.3390/diagnostics15070858. <https://doi.org/10.3390/diagnostics15070858>
- A study on the siting of emergency medical facilities under uncertain demand-A case study of Wuhan country parks. Li S. *Front Public Health*. 2025 Mar 21;13:1504694. doi: 10.3389/fpubh.2025.1504694. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1504694>
- Art of Caring Model for Emergency Care Patients and Professionals. Elmqvist C. *Nurs Philos*. 2025 Apr;26(2):e70024. doi: 10.1111/nup.70024. <https://doi.org/10.1111/nup.70024>
- Triage systems in low-resource emergency care settings. Mitchell R. *Bull World Health Organ*. 2025 Mar 1;103(3):204-212. doi: 10.2471/BLT.23.290863. Epub 2025 Jan 30. <https://doi.org/10.2471/BLT.23.290863>
- Developing an integrated depression and tuberculosis care pathway using a co-design approach in a low-resource setting. Todowede O. *Int J Ment Health Syst*. 2025 May 17;19(1):15. doi: 10.1186/s13033-025-00670-0. <https://doi.org/10.1186/s13033-025-00670-0>

- Blood product use in paediatric trauma: lessons from the TARN data. Mullan K. *Emerg Med J*. 2025 Apr 10;emermed-2024-214397. doi: 10.1136/emermed-2024-214397. Online ahead of print. <https://doi.org/10.1136/emermed-2024-214397>
- Musculoskeletal Sepsis in the Pediatric Intensive Care Unit. Hunter S. *Pediatr Infect Dis J*. 2025 Mar 1;44(3):189-194. doi: 10.1097/INF.0000000000004604. Epub 2024 Nov 6. <https://doi.org/10.1097/INF.0000000000004604>
- Reducing Readmissions Using Collaborative Care. Cawley-Chambers M. *Prof Case Manag*. 2025 May-Jun 01;30(3):93-99. doi: 10.1097/NCM.0000000000000767. Epub 2025 Mar 28. <https://doi.org/10.1097/NCM.0000000000000767>
- Competency-based vascular surgery training for austere conditions. Fox CJ. *Surgery*. 2025 Jun;182:109307. doi: 10.1016/j.surg.2025.109307. Epub 2025 Mar 14. <https://doi.org/10.1016/j.surg.2025.109307>
- Core temperature and mental status of two runners experiencing exertional heat stroke after a road race. Lopez RM. *J Sci Med Sport*. 2025 May;28(5):350-353. doi: 10.1016/j.jsams.2024.12.003. Epub 2024 Dec 16. <https://doi.org/10.1016/j.jsams.2024.12.003>
- Quality improvement program for the severely injured. Casas IM. *Eur J Trauma Emerg Surg*. 2025 Apr 29;51(1):186. doi: 10.1007/s00068-025-02826-6. <https://doi.org/10.1007/s00068-025-02826-6>
- Impact of capacity building training on emergency medical services for chardham yatra: a pre-test post-test study in a hilly region of North India. Kaeley N. *Int J Emerg Med*. 2025 Mar 7;18(1):48. doi: 10.1186/s12245-025-00858-8. <https://doi.org/10.1186/s12245-025-00858-8>
- The impact of community conversations on paramedicine students' learnings of mental health during a rural placement. Green E. *BMC Med Educ*. 2025 Mar 19;25(1):400. doi: 10.1186/s12909-025-06940-2. <https://doi.org/10.1186/s12909-025-06940-2>
- Insulin-induced severe thyrotoxic periodic paralysis: A case report. Wang YL. *World J Clin Cases*. 2025 Mar 6;13(7):101214. doi: 10.12998/wjcc.v13.i7.101214. <https://doi.org/10.12998/wjcc.v13.i7.101214>
- Opportunities for Physical Activity Behavior Change Among Emergency Medical Services Clinicians: Qualitative Investigation. Supples MW. *Prehosp Emerg Care*. 2025 Apr 1:1-9. doi: 10.1080/10903127.2025.2479124. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2479124>
- Artificial intelligence for weight estimation in paediatric emergency care. Isasi I. *BMJ Paediatr Open*. 2025 Mar 12;9(1):e002891. doi: 10.1136/bmjpo-2024-002891. <https://doi.org/10.1136/bmjpo-2024-002891>
- Effect of real-time carbon dioxide sensing stylet-assisted endotracheal intubation: A case-crossover manikin simulation study. Kim Y. *Am J Emerg Med*. 2025 May 26;95:124-128. doi: 10.1016/j.ajem.2025.05.047. Online ahead of print. <https://doi.org/10.1016/j.ajem.2025.05.047>
- Experience developing a pediatric medical chatbot in Singapore: a digital innovation for improved emergency care. Min C. *Front Digit Health*. 2025 Mar 18;7:1557804. doi: 10.3389/fdgth.2025.1557804. eCollection 2025. <https://doi.org/10.3389/fdgth.2025.1557804>
- Consensus between healthcare professionals on the "appropriateness" of attendances in an Irish emergency department. Prendergast C. *Ir J Med Sci*. 2025 May 2. doi: 10.1007/s11845-025-03961-0. Online ahead of print. <https://doi.org/10.1007/s11845-025-03961-0>
- Pathways to early intervention services involving police or ambulance and disengagement rates in racialized and immigrant youth compared to the White majority. Boujelben I. *Schizophr Res*. 2025 Jun;280:122-129. doi: 10.1016/j.schres.2025.04.021. Epub 2025 Apr 25. <https://doi.org/10.1016/j.schres.2025.04.021>
- Long-term health-related quality of life in survivors of extracorporeal cardiopulmonary resuscitation compared to conventional cardiopulmonary resuscitation- A cohort study using Australian and New Zealand extracorporeal membrane oxygenation registry and the Victorian Ambulance Cardiac Arrest Registry. Nanjayya VB. *Resuscitation*. 2025 May;210:110601. doi: 10.1016/j.resuscitation.2025.110601. Epub 2025 Apr 3. <https://doi.org/10.1016/j.resuscitation.2025.110601>
- COMPLICATED CARDIAC ARREST AND ITS RESUSCITATION CHARACTERISTICS IN PATIENTS WITH INTRACEREBRAL HEMORRHAGE: CHINESE STROKE CENTER ALLIANCE. Lu P. *Shock*. 2025 Apr 1;63(4):552-558. doi: 10.1097/SHK.0000000000002486. Epub 2024 Oct 2. <https://doi.org/10.1097/SHK.0000000000002486>
- A transfer triage tool for COVID-19 mass critical care surges. Azeli Y. *Sci Rep*. 2025 Apr 5;15(1):11726. doi: 10.1038/s41598-025-95337-8. <https://doi.org/10.1038/s41598-025-95337-8>
- The role of bystander CPR in out-of-hospital cardiac arrest: what the evidence tells us. Oliveira NC. *Hellenic J Cardiol*. 2025 Mar-Apr;82:86-98. doi: 10.1016/j.hjc.2024.09.002. Epub 2024 Sep 12. <https://doi.org/10.1016/j.hjc.2024.09.002>
- Social Determinants of Health and Emergency Medical Services: A Scoping Review. Burnett SJ. *Prehosp Emerg Care*. 2025 Mar 4:1-14. doi: 10.1080/10903127.2025.2468796. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2468796>
- A comparative analysis of trauma-related mortality in South Korea using classification models. Boo Y. *Int J Med Inform*. 2025 Apr;196:105805. doi: 10.1016/j.ijmedinf.2025.105805. Epub 2025 Feb 1. <https://doi.org/10.1016/j.ijmedinf.2025.105805>
- Spirituality in the line of duty: Perspectives from first responders with acute posttraumatic stress disorder and alcohol use disorder. Kaufman CC. *Psychol Serv*. 2025 May;22(2):349-357. doi: 10.1037/ser0000856. Epub 2024 Apr 11. <https://doi.org/10.1037/ser0000856>

- Utilizing Telemedicine in Public Health Services for the Treatment of Patients with Thoracic Surgical Conditions. Schmidt AF Jr. Telemed J E Health. 2025 Apr 10. doi: 10.1089/tmj.2024.0500. Online ahead of print. <https://doi.org/10.1089/tmj.2024.0500>
- Becoming a designated prescribing practitioner: a pilot educational course. Nathwani P. Educ Prim Care. 2025 Jul;36(4):182-189. doi: 10.1080/14739879.2025.2500045. Epub 2025 May 8. <https://doi.org/10.1080/14739879.2025.2500045>
- Traumatic Hyphema with Commotio Retinae in a Special Operations Environment. Bird SR. J Spec Oper Med. 2025 Apr 30;24(4):105-108. doi: 10.55460/Q09D-3I9E. <https://doi.org/10.55460/Q09D-3I9E>
- Tube Tip in Pharynx (TTIP) Ventilation-a Simple Rescue Technique in Limited Resource Settings. Ellefsen S. Wilderness Environ Med. 2025 Mar;36(1):126-129. doi: 10.1177/10806032241291525. Epub 2024 Oct 26. <https://doi.org/10.1177/10806032241291525>
- Exposure to sub-zero temperatures down to -11 °C does not impact packed red cells storage quality. Derkenne C. Sci Rep. 2025 Apr 19;15(1):13574. doi: 10.1038/s41598-025-98273-9. <https://doi.org/10.1038/s41598-025-98273-9>
- [How to: correctly read scientific articles : Research design and methodology]. Fetz K. Z Rheumatol. 2025 May;84(4):302-311. doi: 10.1007/s00393-025-01653-9. <https://doi.org/10.1007/s00393-025-01653-9>
- A day like no other: the Las Vegas mass shooting lessons from America's largest mass casualty event. Lake CK. Trauma Surg Acute Care Open. 2025 Apr 14;10(Suppl 1):e001786. doi: 10.1136/tsaco-2025-001786. eCollection 2025. <https://doi.org/10.1136/tsaco-2025-001786>
- EMS Tactical Medical Threat Assessment and Protection. Price TGThurman J. 2025 Mar 27. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- A Systematic Review of Interventions for Persons Living With Dementia: The Geriatric ED Guidelines 2.0. Lee S. medRxiv [Preprint]. 2025 Mar 3:2025.02.28.25323113. doi: 10.1101/2025.02.28.25323113. <https://doi.org/10.1101/2025.02.28.25323113>
- The Key to Stability is Love? The Mediating Role of Work-Family Conflict in the Impact of Job Stress on Work Alienation and the Moderating Effect of Affective Commitment. Yücel . Psychol Rep. 2025 Mar 28;332941251329866. doi: 10.1177/00332941251329866. Online ahead of print. <https://doi.org/10.1177/00332941251329866>
- Ethnic disparities in STEMI outcomes among older adults: a comparative study of bedouins and jews. Shashar S. Int J Equity Health. 2025 Mar 10;24(1):66. doi: 10.1186/s12939-025-02427-0. <https://doi.org/10.1186/s12939-025-02427-0>
- When Suicidality Is Suspected. Pary R. South Med J. 2025 Apr;118(4):242-245. doi: 10.14423/SMJ.0000000000001810. <https://doi.org/10.14423/SMJ.0000000000001810>
- Impact of Direct Transfer to Angiography Suite on Treatment Time Metrics in Patients With Acute Intracerebral Hemorrhage. Rodriguez-Luna D. Stroke. 2025 Jun;56(6):1581-1586. doi: 10.1161/STROKEAHA.124.050209. Epub 2025 Mar 20. <https://doi.org/10.1161/STROKEAHA.124.050209>
- Age matters: A Secondary Analysis of Endothelial Biomarkers in the Prehospital Tranexamic Acid for Traumatic Brain Injury Trial. Anand T. J Trauma Acute Care Surg. 2025 Mar 20. doi: 10.1097/TA.0000000000004582. Online ahead of print. <https://doi.org/10.1097/TA.0000000000004582>
- Employment and deployment of additional staff roles in general practice: a realist evaluation of what works for whom, how, and why. McDermott I. Br J Gen Pract. 2025 Feb 27;75(752):e153-e158. doi: 10.3399/BJGP.2024.0562. Print 2025 Mar. <https://doi.org/10.3399/BJGP.2024.0562>
- Enhancing emergency obstetric care navigation through a 'Welcome Person' model: insights from a health system strengthening initiative in Bangladesh. Mahmood HR. J Glob Health. 2025 May 16;15:04128. doi: 10.7189/jogh.15.04128. <https://doi.org/10.7189/jogh.15.04128>
- Design of a public health emergency equipment modularized system for bioterrorism events in major public places based on scenario analysis, literature review, cluster analysis, and Delphi consultation. Sun X. Front Public Health. 2025 Apr 17;13:1513319. doi: 10.3389/fpubh.2025.1513319. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1513319>
- Does Adding Thrombectomy-Capable Stroke Centers in a Regional Stroke Care System Affect Procedural Volume?. Tolles J. Prehosp Disaster Med. 2025 Apr;40(2):119-123. doi: 10.1017/S1049023X25000275. Epub 2025 Apr 16. <https://doi.org/10.1017/S1049023X25000275>
- Thrombolysis and extracorporeal cardiopulmonary resuscitation for cardiac arrest due to pulmonary embolism: A case report. Yuan GX. World J Crit Care Med. 2025 Mar 9;14(1):97443. doi: 10.5492/wjccm.v14.i1.97443. eCollection 2025 Mar 9. <https://doi.org/10.5492/wjccm.v14.i1.97443>
- Suggested guide to using lactate gap as a surrogate marker in the diagnosis of ethylene glycol overdose. Dimeski G. Ann Clin Biochem. 2025 Mar;62(2):140-142. doi: 10.1177/00045632241292514. Epub 2024 Nov 12. <https://doi.org/10.1177/00045632241292514>
- Association between 'Emergency obstetric & newborn care readiness' and delivery service utilization in Bangladesh: Evidence from national health facility assessment surveys. Keya-Korotki K. PLoS One. 2025 May 27;20(5):e0297734. doi: 10.1371/journal.pone.0297734. eCollection 2025. <https://doi.org/10.1371/journal.pone.0297734>
- Volunteer Responder Recruitment, Voluntary Deployment of Automated External Defibrillators, and Coverage of Out-of-Hospital Cardiac Arrest in Denmark. Bo N. J Am Heart Assoc. 2025 Mar 18;14(6):e036363. doi: 10.1161/JAHA.124.036363. Epub 2025 Mar 13. <https://doi.org/10.1161/JAHA.124.036363>

- Effects of extreme temperature on morbidity, mortality, and case severity in German emergency care. Frasch JJ. Environ Res. 2025 Apr 1;270:121021. doi: 10.1016/j.envres.2025.121021. Epub 2025 Feb 4. <https://doi.org/10.1016/j.envres.2025.121021>
- Examining the Reasons for Patient No-Show in an Outpatient Adult Rehabilitation Department in King Abdulaziz Medical City, Riyadh: A Cross-Sectional Study. AIOsaimi RB. Health Sci Rep. 2025 Apr 29;8(5):e70783. doi: 10.1002/hsr2.70783. eCollection 2025 May. <https://doi.org/10.1002/hsr2.70783>
- Assessment of proprietary and improvised pelvic binders: time to application and displacement during casualty evacuation. Howe TJ. BMJ Mil Health. 2025 Apr 15:military-2024-002865. doi: 10.1136/military-2024-002865. Online ahead of print. <https://doi.org/10.1136/military-2024-002865>
- Hand therapy experience after major earthquakes in 2023 in Türkiye: A single-site evaluation. Emir Z. Hand Ther. 2025 May 10:17589983251338744. doi: 10.1177/17589983251338744. Online ahead of print. <https://doi.org/10.1177/17589983251338744>
- Use of an Endotracheal Tube for a Thoracostomy in a Child in Cardiac Arrest: A Case Report. Bhatt K. J Emerg Med. 2025 Apr;71:71-73. doi: 10.1016/j.jemermed.2024.10.006. Epub 2024 Nov 6. <https://doi.org/10.1016/j.jemermed.2024.10.006>
- Clinical, tactical and strategic benefits of a UK Spray Dried Plasma production capability. Ellington M. BMJ Mil Health. 2025 Apr 3:military-2024-002875. doi: 10.1136/military-2024-002875. Online ahead of print. <https://doi.org/10.1136/military-2024-002875>
- High-Risk Patient Refusals in the Prehospital Setting-Clinical and Legal Considerations. McNeilly B. J Am Coll Emerg Physicians Open. 2025 Mar 5;6(2):100083. doi: 10.1016/j.acepjo.2025.100083. eCollection 2025 Apr. <https://doi.org/10.1016/j.acepjo.2025.100083>
- Examining the Impacts of Migration on the Mental Health of EMS Clinicians in a Southwestern U.S. State. Blackburn CC. Prehosp Emerg Care. 2025 Apr 1:1-7. doi: 10.1080/10903127.2025.2483355. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2483355>
- Mental health first aid training and assessment for healthcare professionals and medical nursing students: a systematic review. Li L. BMC Psychol. 2025 Mar 3;13(1):186. doi: 10.1186/s40359-025-02519-0. <https://doi.org/10.1186/s40359-025-02519-0>
- Exploring the association between moral injury and posttraumatic stress symptoms among Canadian public safety personnel. D'Alessandro-Lowe AM. J Trauma Stress. 2025 Apr;38(2):272-283. doi: 10.1002/jts.23122. Epub 2024 Dec 16. <https://doi.org/10.1002/jts.23122>
- Medical complications during interhospital transfer for thrombectomy in patients with acute ischemic stroke. Mirkov D. Eur Stroke J. 2025 Mar;10(1):36-45. doi: 10.1177/23969873241272507. Epub 2024 Aug 26. <https://doi.org/10.1177/23969873241272507>
- Hypoglycaemia as a cause of dynamic ECG changes: recognition and management. Saluja S. BMJ Case Rep. 2025 May 15;18(5):e265603. doi: 10.1136/bcr-2025-265603. <https://doi.org/10.1136/bcr-2025-265603>
- Physician Experiences With Implementing a Virtual Observation Unit in Emergency Medicine. Jung OS. Ann Emerg Med. 2025 May;85(5):436-444. doi: 10.1016/j.annemergmed.2024.11.013. Epub 2025 Jan 1. <https://doi.org/10.1016/j.annemergmed.2024.11.013>
- Factor structure and factorial invariance of the PTSD checklist for DSM-5 in public safety personnel: Results from a large and diverse sample. Boehme BAE. Psychol Trauma. 2025 Mar;17(3):576-582. doi: 10.1037/tra0001601. Epub 2023 Nov 2. <https://doi.org/10.1037/tra0001601>
- Cross-cultural adaptation and validation of the Chinese version of the Revised Identification of Seniors At Risk tool in the emergency department. Ouyang L. Geriatr Nurs. 2025 May-Jun;63:604-610. doi: 10.1016/j.gerinurse.2025.04.011. Epub 2025 May 10. <https://doi.org/10.1016/j.gerinurse.2025.04.011>
- Perspectives of health workers on malaria case referral among pregnant women attending antenatal care in Savelugu Municipality, Ghana: A qualitative descriptive study. Adokiya MN. PLoS One. 2025 Mar 18;20(3):e0319567. doi: 10.1371/journal.pone.0319567. eCollection 2025. <https://doi.org/10.1371/journal.pone.0319567>
- Pathophysiological changes during medical helicopter transport in the Canary Islands and their relationship with meteorological conditions. Artero García A. Emergencias. 2025 Apr;37(2):111-116. doi: 10.55633/s3me/005.2025. <https://doi.org/10.55633/s3me/005.2025>
- Emergency laparoscopic surgery for respiratory failure caused by perforated peptic ulcer and severe scoliosis: A case report. Miyamoto K. Int J Surg Case Rep. 2025 Mar;128:111020. doi: 10.1016/j.ijscr.2025.111020. Epub 2025 Feb 6. <https://doi.org/10.1016/j.ijscr.2025.111020>
- Rurality and Area Deprivation and Outcomes After Out-of-Hospital Cardiac Arrest. Cheek L. JAMA Netw Open. 2025 Apr 1;8(4):e253435. doi: 10.1001/jamanetworkopen.2025.3435. <https://doi.org/10.1001/jamanetworkopen.2025.3435>
- SIMSAMU - A French medical dispatch dialog open dataset. Nun A. Comput Methods Programs Biomed. 2025 Aug;268:108857. doi: 10.1016/j.cmpb.2025.108857. Epub 2025 May 15. <https://doi.org/10.1016/j.cmpb.2025.108857>
- Beyond proximity: an observational study of stillbirth rates and emergency obstetric and newborn care accessibility in The Gambia. Wariri O. BMJ Glob Health. 2025 Apr 3;10(4):e016579. doi: 10.1136/bmjgh-2024-016579. <https://doi.org/10.1136/bmjgh-2024-016579>

- Implementation of a CPR quality data collection program in the emergency department: a quality improvement initiative. Mok G. CJEM. 2025 Jun;27(6):451-459. doi: 10.1007/s43678-025-00882-w. Epub 2025 Mar 7. <https://doi.org/10.1007/s43678-025-00882-w>
- A Comparison of Ketamine to Midazolam for the Management of Acute Behavioral Disturbance in the Out-of-Hospital Setting. Muldowney M. Ann Emerg Med. 2025 May;85(5):411-420. doi: 10.1016/j.annemergmed.2024.09.003. Epub 2024 Oct 22. <https://doi.org/10.1016/j.annemergmed.2024.09.003>
- Does a Targeted Engagement and Diversion program reduce emergency department utilization?. Seliga R. CJEM. 2025 May;27(5):381-389. doi: 10.1007/s43678-025-00888-4. Epub 2025 Mar 22. <https://doi.org/10.1007/s43678-025-00888-4>
- 'Getting Everyone on the Same Page': Long-Term-Care Nurses' Experiences With Advance Care Planning. Krishnan P. Int J Older People Nurs. 2025 Mar;20(2):e70013. doi: 10.1111/opn.70013. <https://doi.org/10.1111/opn.70013>
- Reliability of the Cormack-Lehane Classification: A Scoping Review. Arkala A. Cureus. 2025 Mar 25;17(3):e81159. doi: 10.7759/cureus.81159. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.81159>
- Traumatic hemipelvectomy: an appeal for primary completion. Lindahl J. Arch Orthop Trauma Surg. 2025 May 2;145(1):279. doi: 10.1007/s00402-025-05850-8. <https://doi.org/10.1007/s00402-025-05850-8>
- Influence of smartphone-based first aid systems on the outcome of out-of-hospital cardiac arrest. Linder SK. Minerva Anestesiol. 2025 May;91(5):422-429. doi: 10.23736/S0375-9393.25.18786-5. <https://doi.org/10.23736/S0375-9393.25.18786-5>
- Breaking the vicious cycle of delayed healthcare seeking for people who use drugs. Papalamprakopoulou Z. Harm Reduct J. 2025 Mar 5;22(1):27. doi: 10.1186/s12954-025-01166-3. <https://doi.org/10.1186/s12954-025-01166-3>
- Impact of snowfall on emergency medical system and mortality in patients with acute coronary syndrome. Mori Y. Sci Rep. 2025 Mar 1;15(1):7262. doi: 10.1038/s41598-025-91092-y. <https://doi.org/10.1038/s41598-025-91092-y>
- A Case of Atrial Standstill Misdiagnosed as Atrial Fibrillation: Diagnostic Insights and Clinical Implications. Wu Z. JACC Case Rep. 2025 May 14;30(10):103873. doi: 10.1016/j.jaccas.2025.103873. <https://doi.org/10.1016/j.jaccas.2025.103873>
- Bridging the Global Divide: Advancing Traumatic Brain Injury Research Through Globally Representative Data. Powla PP. Neurocrit Care. 2025 Apr 14. doi: 10.1007/s12028-025-02271-8. Online ahead of print. <https://doi.org/10.1007/s12028-025-02271-8>
- The Fundamentals of Care Framework: Application Within a Post-Graduate Nursing Programme Facilitated by a Pedagogical Project for Educators. Jangland E. J Adv Nurs. 2025 Mar 6. doi: 10.1111/jan.16881. Online ahead of print. <https://doi.org/10.1111/jan.16881>
- Increased leptospirosis incidence following flooding in Rio Grande do Sul, Brazil. Michelon W. Int J Environ Health Res. 2025 Apr 28;1-6. doi: 10.1080/09603123.2025.2498623. Online ahead of print. <https://doi.org/10.1080/09603123.2025.2498623>
- Updates in Food Anaphylaxis Management. Lieberman JA. J Allergy Clin Immunol Pract. 2025 Apr;13(4):723-729. doi: 10.1016/j.jaip.2024.12.044. Epub 2025 Jan 31. <https://doi.org/10.1016/j.jaip.2024.12.044>
- Improving care and equity in the American trauma system: past, present and future. Smith S. Trauma Surg Acute Care Open. 2025 May 14;10(2):e001729. doi: 10.1136/tsaco-2024-001729. eCollection 2025. <https://doi.org/10.1136/tsaco-2024-001729>
- Ethical and Safety Implications of Medical Emergency Landing Exploitations: A Call for Policy Action. Kooli C. Glob J Qual Saf Healthc. 2025 Apr 11;8(2):89-92. doi: 10.36401/JQSH-25-1. eCollection 2025 May. <https://doi.org/10.36401/JQSH-25-1>
- STEMI in Times of Crisis: Comparative Analysis During Pandemic and War. Zeldetz V. J Clin Med. 2025 Mar 4;14(5):1720. doi: 10.3390/jcm14051720. <https://doi.org/10.3390/jcm14051720>
- Beyond Nurse Efficiency: A Multilevel Analysis of Nurse, Contextual, and Patient-Related Factors in Triage Duration. Zaboli A. J Emerg Nurs. 2025 May 19;S0099-1767(25)00138-2. doi: 10.1016/j.jen.2025.04.008. Online ahead of print. <https://doi.org/10.1016/j.jen.2025.04.008>
- The Implementation of Dynamic Appraisal of Situational Aggression Score at Emergency Department Triage. Costigan AD. Ann Emerg Med. 2025 Apr 1;S0196-0644(25)00118-0. doi: 10.1016/j.annemergmed.2025.02.023. Online ahead of print. <https://doi.org/10.1016/j.annemergmed.2025.02.023>
- Strategies and Recommendations to Improve Accessibility of Essential Surgery in Rural Settings in OECD Countries: A Scoping Review. Osman G. World J Surg. 2025 May 31. doi: 10.1002/wjs.12631. Online ahead of print. <https://doi.org/10.1002/wjs.12631>
- Successful management of a penetrating cardiac injury in a surgical department of sub-Saharan Africa: A case report. Tendeng JN. Int J Surg Case Rep. 2025 Apr;129:111205. doi: 10.1016/j.ijscr.2025.111205. Epub 2025 Mar 26. <https://doi.org/10.1016/j.ijscr.2025.111205>
- Current scope of pediatric trauma video review and development of a Canadian program. Beno S. Curr Opin Pediatr. 2025 Jun 1;37(3):244-249. doi: 10.1097/MOP.0000000000001454. Epub 2025 Mar 19. <https://doi.org/10.1097/MOP.0000000000001454>
- Association between time taken to start dispatch assisted-bystander cardiopulmonary resuscitation (DA-CPR) and outcomes for out-of-hospital cardiac arrest (OHCA). Takahashi H. Resuscitation. 2025 Aug;213:110651. doi: 10.1016/j.resuscitation.2025.110651. Epub 2025 May 21. <https://doi.org/10.1016/j.resuscitation.2025.110651>

- Assessing the effectiveness and cost-effectiveness of a smart home emergency call system: study protocol for a randomised controlled trial in Germany. Rehse H. *BMJ Open*. 2025 Apr 29;15(4):e092893. doi: 10.1136/bmjopen-2024-092893. <https://doi.org/10.1136/bmjopen-2024-092893>
- Advances in endovascular thrombectomy for the treatment of acute ischemic stroke. Lauer D. *Expert Rev Neurother*. 2025 Jun;25(6):675-687. doi: 10.1080/14737175.2025.2490538. Epub 2025 Apr 13. <https://doi.org/10.1080/14737175.2025.2490538>
- [Exploring the voice of patients: Mapping their experience following care in an integrated health area]. López-Picazo Ferrer J. *J Healthc Qual Res*. 2025 May-Jun;40(3):101107. doi: 10.1016/j.jhqr.2024.12.006. Epub 2025 Jan 16. <https://doi.org/10.1016/j.jhqr.2024.12.006>
- Effectiveness of STEMI networks with out-of-hospital triage: a systematic review and meta-analysis. Cartanya-Bonvehí J. *Rev Esp Cardiol (Engl Ed)*. 2025 Apr;78(4):311-318. doi: 10.1016/j.rec.2024.07.008. Epub 2024 Aug 8. <https://doi.org/10.1016/j.rec.2024.07.008>
- Civil Monetary Penalties from Violations of the Emergency Medical Treatment and Labor Act for Patients Arriving or Leaving with Law Enforcement. Ahmed S. *West J Emerg Med*. 2025 May 19;26(3):712-719. doi: 10.5811/westjem.39677. <https://doi.org/10.5811/westjem.39677>
- Extreme ambient temperature and emergency healthcare service utilization due to substance use disorders: a systematic review and meta-analysis. Jhang H. *Sci Rep*. 2025 Apr 19;15(1):13582. doi: 10.1038/s41598-025-98247-x. <https://doi.org/10.1038/s41598-025-98247-x>
- Burden of Musculoskeletal (MSK) Pain and Arthritis in India: A Community Oriented Program for Control of Rheumatic Diseases (COPCORD-Bone and Joint Decade (BJD)) India Project. Chopra A. *Int J Rheum Dis*. 2025 Mar;28(3):e70163. doi: 10.1111/1756-185X.70163. <https://doi.org/10.1111/1756-185X.70163>
- Rapid microbiological respiratory point-of-care testing: a qualitative study with primary care clinicians. Clarke R. *Br J Gen Pract*. 2025 Mar 27;75(753):e241-e249. doi: 10.3399/BJGP.2024.0413. Print 2025 Apr. <https://doi.org/10.3399/BJGP.2024.0413>
- Lymphoma: factors associated with unplanned diagnostic pathways and survival -a nationwide Danish register-based cohort study. Rasmussen LA. *Leuk Lymphoma*. 2025 May 27:1-12. doi: 10.1080/10428194.2025.2508299. Online ahead of print. <https://doi.org/10.1080/10428194.2025.2508299>
- Home and injury location discordance patterns in paediatric trauma: trends by mechanism, age and childhood opportunity level. Ross EE. *Inj Prev*. 2025 Apr 4:ip-2024-045554. doi: 10.1136/ip-2024-045554. Online ahead of print. <https://doi.org/10.1136/ip-2024-045554>
- Where Trouble Starts: Communication Breakdown in a Complex Emergency Call. Natrass R. *Health Commun*. 2025 Mar;40(3):394-404. doi: 10.1080/10410236.2024.2346677. Epub 2024 Jun 10. <https://doi.org/10.1080/10410236.2024.2346677>
- Improving CPR Predictive Model in ED: The Role of Initial Data and KTAS. Hong S. *Stud Health Technol Inform*. 2025 May 15;327:605-606. doi: 10.3233/SHTI250414. <https://doi.org/10.3233/SHTI250414>
- Enhancing Pediatric Emergency Care in Low-Resource Settings Through Simulation-Based Training: A Narrative Review. Del Castillo Miranda JC. *Sage Open Pediatr*. 2025 Mar 21;12:30502225251319883. doi: 10.1177/30502225251319883. eCollection 2025 Jan-Dec. <https://doi.org/10.1177/30502225251319883>
- Burn disasters in North Carolina: An Analysis of Four Major Incidents with a Look to the Future. King BT. *J Burn Care Res*. 2025 May 26:iraf095. doi: 10.1093/jbcr/iraf095. Online ahead of print. <https://doi.org/10.1093/jbcr/iraf095>
- Medical validity and layperson interpretation of emergency visit recommendations by the GPT model: A cross-sectional study. Tanaka C. *Acute Med Surg*. 2025 Mar 12;12(1):e70042. doi: 10.1002/ams2.70042. eCollection 2025 Jan-Dec. <https://doi.org/10.1002/ams2.70042>
- Is there an association between 30-day mortality from out-of-hospital cardiac arrest (OHCA) and deprivation levels within Hampshire? A retrospective cohort study. Owen P. *Resusc Plus*. 2025 Feb 8;22:100898. doi: 10.1016/j.resplu.2025.100898. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100898>
- Community-engaged artificial intelligence: an upstream, participatory design, development, testing, validation, use and monitoring framework for artificial intelligence and machine learning models in the Alaska Tribal Health System. Rice BT. *Front Artif Intell*. 2025 Apr 7;8:1568886. doi: 10.3389/frai.2025.1568886. eCollection 2025. <https://doi.org/10.3389/frai.2025.1568886>
- The perception of safety regarding the transfer of infants from the neonatal intensive care unit to a level II neonatology department: a mixed-method cohort study using a Safety-II approach. de Bijl-Marcus K. *BMC Pediatr*. 2025 Mar 17;25(1):211. doi: 10.1186/s12887-025-05537-4. <https://doi.org/10.1186/s12887-025-05537-4>
- Risk factors for non-clinical prolonged lengths of stay after elective colorectal surgery. Gleaves X. *Sci Rep*. 2025 Mar 17;15(1):9184. doi: 10.1038/s41598-025-93013-5. <https://doi.org/10.1038/s41598-025-93013-5>
- Risk factors for early suspected ventilator-associated pneumonia in severe thoracic blunt trauma patient: A French national cohort study. Duclos G. *PLoS One*. 2025 May 27;20(5):e0324120. doi: 10.1371/journal.pone.0324120. eCollection 2025. <https://doi.org/10.1371/journal.pone.0324120>
- Multiple trauma and shock vital signs as potential for improved outcome in patients with severe head trauma. Imanishi Y. *Acute Med Surg*. 2025 Apr 25;12(1):e70058. doi: 10.1002/ams2.70058. eCollection 2025 Jan-Dec. <https://doi.org/10.1002/ams2.70058>

- Comparison of Novel Chest Seal Designs to Commercially Available Chest Seals at Relevant Physiological Pressures. Wells N. *J Spec Oper Med*. 2025 Apr 4;25(1):17-22. doi: 10.55460/RBLU-P3DF. <https://doi.org/10.55460/RBLU-P3DF>
- Impact of the pandemic on traffic injuries in Macao: an analysis of interrupted time-series data. Liang M. *Inj Prev*. 2025 May 13;ip-2024-045242. doi: 10.1136/ip-2024-045242. Online ahead of print. <https://doi.org/10.1136/ip-2024-045242>
- Development of a prolonged field care kit using a modified Delphi survey approach. Dawood ZS. *J Trauma Acute Care Surg*. 2025 Apr 10. doi: 10.1097/TA.0000000000004625. Online ahead of print. <https://doi.org/10.1097/TA.0000000000004625>
- Impact of Trauma Team Census on Patients With Rib Fractures. Duncan AJ. *Cureus*. 2025 May 20;17(5):e84479. doi: 10.7759/cureus.84479. eCollection 2025 May. <https://doi.org/10.7759/cureus.84479>
- [Leading symptom: motor manifestations with impaired consciousness : Management of epileptic seizures and status epilepticus]. Möller L. *Med Klin Intensivmed Notfmed*. 2025 Mar;120(2):103-109. doi: 10.1007/s00063-024-01223-y. Epub 2024 Dec 27. <https://doi.org/10.1007/s00063-024-01223-y>
- Point-of-Care Electroencephalography in Acute Neurological Care: A Narrative Review. Fratangelo R. *Neurol Int*. 2025 Mar 24;17(4):48. doi: 10.3390/neurolint17040048. <https://doi.org/10.3390/neurolint17040048>
- Healthcare professional's management of the risk for postoperative urinary retention in hip surgery patients - a qualitative interview study. Hommel A. *Int J Orthop Trauma Nurs*. 2025 May;57:101180. doi: 10.1016/j.ijotn.2025.101180. Epub 2025 Apr 11. <https://doi.org/10.1016/j.ijotn.2025.101180>
- Assessing Hemorrhage Control and Tourniquet Skills in School-Aged Children. Chang CD. *J Am Coll Emerg Physicians Open*. 2025 Mar 14;6(3):100078. doi: 10.1016/j.acepo.2025.100078. eCollection 2025 Jun. <https://doi.org/10.1016/j.acepo.2025.100078>
- The impact of dispatcher-assisted CPR and prior bystander CPR training on neurologic outcomes in out-of-hospital cardiac arrest: a multicenter study. Takahashi H. *Resuscitation*. 2025 Jul;212:110617. doi: 10.1016/j.resuscitation.2025.110617. Epub 2025 Apr 17. <https://doi.org/10.1016/j.resuscitation.2025.110617>
- Quality of basic emergency obstetric and newborn care services from patients' perspective in selected public health centers in Addis Ababa, Ethiopia 2022: A cross-sectional study. Bahre W. *PLoS One*. 2025 Apr 3;20(4):e0320729. doi: 10.1371/journal.pone.0320729. eCollection 2025. <https://doi.org/10.1371/journal.pone.0320729>
- Awareness and preparedness of health systems and emergency medicine systems to the climate change challenges and threats: an international survey. Petrino R. *Eur J Emerg Med*. 2025 Apr 1;32(2):100-108. doi: 10.1097/MEJ.0000000000001196. Epub 2024 Nov 5. <https://doi.org/10.1097/MEJ.0000000000001196>
- [A temporary trauma team established in primary hospital for disaster rescue]. Wang Z. *Beijing Da Xue Xue Bao Yi Xue Ban*. 2025 Apr 18;57(2):323-327. doi: 10.19723/j.issn.1671-167X.2025.02.016. <https://doi.org/10.19723/j.issn.1671-167X.2025.02.016>
- Obstetric care in rural critical access hospitals: A domestic application of the World Health Organization Emergency Obstetric Care framework in rural communities. Glover AL. *J Rural Health*. 2025 Mar;41(2):e70037. doi: 10.1111/jrjh.70037. <https://doi.org/10.1111/jrjh.70037>
- Impact of smartphone activated first responders on provision of bystander CPR, bystander AED and outcomes for out-of-hospital cardiac arrest (OHCA). Takahashi H. *Resuscitation*. 2025 Jul;212:110645. doi: 10.1016/j.resuscitation.2025.110645. Epub 2025 May 16. <https://doi.org/10.1016/j.resuscitation.2025.110645>
- The regional training centre for the emergency medical teams initiative in the WHO African region: a review of the development and progress over the past 4 years. Oyugi B. *Front Public Health*. 2025 Mar 28;13:1542261. doi: 10.3389/fpubh.2025.1542261. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1542261>
- A team without a name: emergency medicine recognition and its impact on working conditions and well-being. Kemnitz MG. *Med Klin Intensivmed Notfmed*. 2025 May 2. doi: 10.1007/s00063-025-01275-8. Online ahead of print. <https://doi.org/10.1007/s00063-025-01275-8>
- Electric scooter injury and trauma in Edmonton: a multicentre prospective and retrospective observational study. Bristow E. *Can J Surg*. 2025 Apr 17;68(2):E160-E168. doi: 10.1503/cjs.004924. Print 2025 Mar-Apr. <https://doi.org/10.1503/cjs.004924>
- Outcomes of emergency medical service transport on venoarterial extracorporeal life support in cardiogenic shock. Yang C. *Perfusion*. 2025 Apr 15;2676591251331952. doi: 10.1177/02676591251331952. Online ahead of print. <https://doi.org/10.1177/02676591251331952>
- A Simulation Curriculum for Ground and Air ECMO Transport. Shouldice D. *MedEdPORTAL*. 2025 Mar 18;21:11508. doi: 10.15766/mep_2374-8265.11508. eCollection 2025. https://doi.org/10.15766/mep_2374-8265.11508
- Disposable female urinal bottle (the UniWee) improves patient experience for immobile women with lower limb fractures. Booth S. *Emerg Med J*. 2025 Apr 22;42(5):326-333. doi: 10.1136/emered-2024-214181. <https://doi.org/10.1136/emered-2024-214181>
- Credentialing & privileging an important factor for diagnostic accuracy of diabetic retinopathy screening in the health clinics of Penang. Nasim AK. *Med J Malaysia*. 2025 May;80(3):346-351.
- Bullet to the Heart: A Case Report. Christian-Colón G. *Cureus*. 2025 May 17;17(5):e84268. doi: 10.7759/cureus.84268. eCollection 2025 May. <https://doi.org/10.7759/cureus.84268>

- Development and description of a porcine model of combat casualty care for traumatic-hemorrhagic shock research and medical training. Cardona V. *Eur J Trauma Emerg Surg*. 2025 May 22;51(1):215. doi: 10.1007/s00068-025-02892-w. <https://doi.org/10.1007/s00068-025-02892-w>
- Treatment for Atlanto-occipital Dislocation, Vertical Atlanto-axial Dislocation, and Acute Subdural Hematoma Presenting with Out-of-hospital Cardiac Arrest: A Case Report. Wakahara S. *NMC Case Rep J*. 2025 Apr 1;12:85-90. doi: 10.2176/jns-nmc.2024-0294. eCollection 2025. <https://doi.org/10.2176/jns-nmc.2024-0294>
- High-dimensional analysis of injured patients reveals distinct circulating proteomic profiles in plasma vs. whole blood resuscitation. Moheimani H. *Cell Rep Med*. 2025 Mar 18;6(3):102022. doi: 10.1016/j.xcrm.2025.102022. <https://doi.org/10.1016/j.xcrm.2025.102022>
- Extremity fasciotomy in the developing world setting - a South African experience. Bok A. *S Afr J Surg*. 2025 Mar;63(1):15-18.
- Fatal Seatbelt Syndrome in an Elderly Wheelchair User: A Case Report. Sugitani Y. *Cureus*. 2025 Mar 4;17(3):e80046. doi: 10.7759/cureus.80046. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.80046>
- Scientific output of emergency and urgency professionals in Spain during the 2015-2019 5-year period vs the previous 5 years (2010-2014). M Fernández-Guerrero I. *Emergencias*. 2025 Apr;37(2):117-130. doi: 10.55633/s3me/011.2025. <https://doi.org/10.55633/s3me/011.2025>
- Individual factors associated with out-of-hours outpatient visits for emergency medical care and readmissions within 90 days of discharge among older adults: A retrospective cohort study. Tsuchiya-Ito R. *Geriatr Gerontol Int*. 2025 Jun;25(6):789-798. doi: 10.1111/ggi.70051. Epub 2025 May 7. <https://doi.org/10.1111/ggi.70051>
- Fall sensors, home emergency system, and social service for ≥ 75-year-olds living at home - a matched control intervention study. Zoellick JC. *BMC Geriatr*. 2025 Apr 2;25(1):217. doi: 10.1186/s12877-025-05856-2. <https://doi.org/10.1186/s12877-025-05856-2>
- Associations with resolution of ST-segment elevation myocardial infarction criteria on out-of-hospital 12-lead electrocardiograms following resuscitation from cardiac arrest. Naas CJ. *Resuscitation*. 2025 Apr;209:110567. doi: 10.1016/j.resuscitation.2025.110567. Epub 2025 Mar 6. <https://doi.org/10.1016/j.resuscitation.2025.110567>
- The impact of the COVID-19 pandemic on resuscitation attempts, bystander CPR and survival outcomes in Australia and New Zealand: A binational population-based, Epistudy study. Howell S. *Resusc Plus*. 2025 Feb 7;22:100894. doi: 10.1016/j.resplu.2025.100894. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100894>
- Association between pre-arrest left ventricular ejection fraction and survival in nontraumatic out-of-hospital cardiac arrest. Ho YJ. *Eur J Emerg Med*. 2025 Apr 1;32(2):131-140. doi: 10.1097/MEJ.0000000000001181. Epub 2024 Sep 16. <https://doi.org/10.1097/MEJ.0000000000001181>
- The Ethiopian emergency medical team: its formation, progress, response experience and opportunities. Oyugi B. *Front Public Health*. 2025 Apr 30;13:1542303. doi: 10.3389/fpubh.2025.1542303. eCollection 2025. <https://doi.org/10.3389/fpubh.2025.1542303>
- Time to bystander CPR and survival for witnessed out-of-hospital cardiac arrest. O'Keefe EL. *Resuscitation*. 2025 Apr;209:110566. doi: 10.1016/j.resuscitation.2025.110566. Epub 2025 Feb 25. <https://doi.org/10.1016/j.resuscitation.2025.110566>
- Comparison of direct laryngoscopy and digital intubation with and without bougie assistance in novice learners: A simulation-based study. Thordarson BDB. *AEM Educ Train*. 2025 May 14;9(3):e70053. doi: 10.1002/aet2.70053. eCollection 2025 Jun. <https://doi.org/10.1002/aet2.70053>
- Imaging in Acute Obstetric Conditions: A Pictorial Essay. Ahn H. *Korean J Radiol*. 2025 Jul;26(7):660-677. doi: 10.3348/kjr.2025.0037. Epub 2025 Apr 29. <https://doi.org/10.3348/kjr.2025.0037>
- Prevention and control of multidrug-resistance tuberculosis in Ethiopia: Patients' perspectives from the Oromia region. Beyene RA. *PLoS One*. 2025 May 12;20(5):e0322054. doi: 10.1371/journal.pone.0322054. eCollection 2025. <https://doi.org/10.1371/journal.pone.0322054>
- Heterogeneity in willingness to share personal health information: a nationwide cluster analysis of 20,000 adults in Japan. Sassa M. *Arch Public Health*. 2025 Apr 18;83(1):109. doi: 10.1186/s13690-025-01599-z. <https://doi.org/10.1186/s13690-025-01599-z>
- [Children and adolescents in German emergency departments : The most common reasons for presentation throughout the day-current insights from the AKTIN emergency department registry]. Bergmann J. *Med Klin Intensivmed Notfmed*. 2025 Mar 6. doi: 10.1007/s00063-025-01254-z. Online ahead of print. <https://doi.org/10.1007/s00063-025-01254-z>
- Saving lives together in sport: - A pilot study attempting to increase the number and availability of automated external defibrillators and to initiate voluntary training in cardiopulmonary resuscitation with the use of automated external defibrillators in Norwegian amateur football clubs. Steenstrup SE. *Resuscitation*. 2025 Apr;209:110586. doi: 10.1016/j.resuscitation.2025.110586. Epub 2025 Mar 14. <https://doi.org/10.1016/j.resuscitation.2025.110586>
- Stroke and post-stroke aphasia management in low- and middle-income African countries: a scoping review. Kankam K. *Disabil Rehabil*. 2025 Apr 22:1-18. doi: 10.1080/09638288.2025.2493209. Online ahead of print. <https://doi.org/10.1080/09638288.2025.2493209>
- The impact of a voluntary alcohol and other drug diversion program on reoffending, imprisonment, and health. Weatherburn D. *Int J Drug Policy*. 2025 Apr;138:104747. doi: 10.1016/j.drugpo.2025.104747. Epub 2025 Mar 1. <https://doi.org/10.1016/j.drugpo.2025.104747>

- Early prediction of intensive care unit admission in emergency department patients using machine learning. Pandey D. *Aust Crit Care*. 2025 Mar;38(2):101143. doi: 10.1016/j.aucc.2024.101143. Epub 2024 Dec 5. <https://doi.org/10.1016/j.aucc.2024.101143>
- Resuscitation Practices at Emergency Medical Service Agencies Working in Black and Hispanic Versus White Catchment Areas in the United States. Chan PS. *Circ Cardiovasc Qual Outcomes*. 2025 Jun;18(6):e011799. doi: 10.1161/CIRCOUTCOMES.124.011799. Epub 2025 May 30. <https://doi.org/10.1161/CIRCOUTCOMES.124.011799>
- Classifying Race in Out-of-Hospital Cardiac Arrest and Potential Disparities: A Retrospective Cohort Study. Shin J. *Circ Cardiovasc Qual Outcomes*. 2025 Mar;18(3):e011446. doi: 10.1161/CIRCOUTCOMES.124.011446. Epub 2025 Jan 23. <https://doi.org/10.1161/CIRCOUTCOMES.124.011446>
- Changing Trends in the Mental Health Status of Healthcare Workers at COVID-19 Wards Three Years After the COVID-19 Pandemic Outbreak in Saudi Arabia. Alharbi SH. *J Multidiscip Healthc*. 2025 May 10;18:2581-2590. doi: 10.2147/JMDH.S509252. eCollection 2025. <https://doi.org/10.2147/JMDH.S509252>
- Penetrating Cardiac Injury: A 20-Year Retrospective Analysis at a High-Complexity University Center. Wada LS. *Braz J Cardiovasc Surg*. 2025 Mar 18;40(2):e20240049. doi: 10.21470/1678-9741-2024-0049. <https://doi.org/10.21470/1678-9741-2024-0049>
- Moving beyond tokenism: Sustaining engagement of persons living with dementia in identifying emergency research priorities. Sandoval J. *J Am Geriatr Soc*. 2025 May;73(5):1344-1352. doi: 10.1111/jgs.19269. Epub 2024 Nov 22. <https://doi.org/10.1111/jgs.19269>
- Multiorgan Failure Secondary to Intentional Acetaminophen Overdose-Induced Methemoglobinemia. Abutineh MA. *Cureus*. 2025 May 10;17(5):e83833. doi: 10.7759/cureus.83833. eCollection 2025 May. <https://doi.org/10.7759/cureus.83833>
- Precision en-bloc retroperitoneal paraganglioma resection performed laparoscopically: A case report. Zhou JL. *World J Clin Cases*. 2025 Apr 26;13(12):98721. doi: 10.12998/wjcc.v13.i12.98721. <https://doi.org/10.12998/wjcc.v13.i12.98721>
- Research priorities for pediatric pain management in emergency medicine. Tsze DS. *Acad Emerg Med*. 2025 Jun;32(6):688-698. doi: 10.1111/acem.70028. Epub 2025 Apr 3. <https://doi.org/10.1111/acem.70028>
- Can we identify stroke sub-type without imaging? A multidimensional analysis. Alshehri A. *Med Eng Phys*. 2025 Jul;141:104364. doi: 10.1016/j.medengphy.2025.104364. Epub 2025 May 13. <https://doi.org/10.1016/j.medengphy.2025.104364>
- Treatment administration during a seizure in home-settings: Time to treat (TT). Toledo M. *Med Clin (Barc)*. 2025 May 22;165(2):106996. doi: 10.1016/j.medcli.2025.106996. Online ahead of print. <https://doi.org/10.1016/j.medcli.2025.106996>
- Dual drug-loaded self-wearable electrospun nanofibers for synergistic pharmacological intervention through tertiary hemostasis in prehospital trauma care. Sasmal PK. *Biomed Mater*. 2025 May 30;20(4). doi: 10.1088/1748-605X/addbb6. <https://doi.org/10.1088/1748-605X/addbb6>
- Metabolic effects of high-dose glucocorticoid following out-of-hospital cardiac arrest. Beske RP. *Intensive Care Med*. 2025 Apr 26;13(1):46. doi: 10.1186/s40635-025-00754-8. <https://doi.org/10.1186/s40635-025-00754-8>
- Transport time as a potential limiting factor for thrombolytic treatment of stroke in Norway. Ibsen J. *BMC Health Serv Res*. 2025 Mar 14;25(1):377. doi: 10.1186/s12913-025-12503-4. <https://doi.org/10.1186/s12913-025-12503-4>
- "A banana in the tailpipe": a qualitative study of patient flow in the healthcare system. Samadbeik M. *BMC Health Serv Res*. 2025 May 23;25(1):745. doi: 10.1186/s12913-025-12873-9. <https://doi.org/10.1186/s12913-025-12873-9>
- Temporal trends in the incidence and outcomes of cardiopulmonary arrest events treated in the emergency department at a tertiary hospital in Jordan. Alrawashdeh A. *Resusc Plus*. 2025 Feb 15;22:100907. doi: 10.1016/j.resplu.2025.100907. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100907>
- GenECG: a synthetic image-based ECG dataset to augment artificial intelligence-enhanced algorithm development. Bodagh N. *BMJ Health Care Inform*. 2025 May 31;32(1):e101335. doi: 10.1136/bmjhci-2024-101335. <https://doi.org/10.1136/bmjhci-2024-101335>
- Oral Microbiome Changes During Hospitalization in Older Adults Not Receiving Mechanical Ventilation. Rathbun KP. *Am J Crit Care*. 2025 May 1;34(3):208-217. doi: 10.4037/ajcc2025470. <https://doi.org/10.4037/ajcc2025470>
- Management and outcome of patients with cardiac arrest after avalanche accidents in the Swiss Alps: A retrospective analysis. Knapp J. *Resusc Plus*. 2025 Mar 4;22:100922. doi: 10.1016/j.resplu.2025.100922. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100922>
- Improving Acute Ischemic Stroke Care in Kazakhstan: Cross-Sectional Survey. Makhanbetkhan S. *J Clin Med*. 2025 Mar 28;14(7):2336. doi: 10.3390/jcm14072336. <https://doi.org/10.3390/jcm14072336>
- Applicable Strategies Against Acute Decompensated Heart Failure Patients According to Time of Hospitalization. Oguri M. *Circ J*. 2025 Mar 25;89(4):492-499. doi: 10.1253/circj.CJ-24-0653. Epub 2025 Feb 18. <https://doi.org/10.1253/circj.CJ-24-0653>
- Preliminary Assessment of Contemporary Wartime Vascular Injuries. Bilman V. *Eur J Vasc Endovasc Surg*. 2025 May 19;S1078-5884(25)00453-8. doi: 10.1016/j.ejvs.2025.05.031. Online ahead of print. <https://doi.org/10.1016/j.ejvs.2025.05.031>
- Emergency Anesthesiology Encounters, Care Practices, and Outcomes for Patients with Firearm Injuries: A 9-Year Single-Center US Level 1 Trauma Experience. Walters AM. *Anesth Analg*. 2025 Mar 1;140(3):554-563. doi: 10.1213/ANE.00000000000007152. Epub 2024 Aug 23. <https://doi.org/10.1213/ANE.00000000000007152>

- Case Report: Management of cerebral arterial gas embolism via transfer to an outpatient hyperbaric chamber. Thomas EJ. *Front Med (Lausanne)*. 2025 Apr 14;12:1533459. doi: 10.3389/fmed.2025.1533459. eCollection 2025. <https://doi.org/10.3389/fmed.2025.1533459>
- Defining the terminology of first responders alerted for out-of-hospital cardiac arrest by medical dispatch centres: An international consensus study on nomenclature. Metelmann C. *Resusc Plus*. 2025 Feb 20;22:100912. doi: 10.1016/j.resplu.2025.100912. eCollection 2025 Mar. <https://doi.org/10.1016/j.resplu.2025.100912>
- Self-referral trends to a virtual emergency department following initial presentation: A retrospective exploratory analysis. Baines BL. *Australas Emerg Care*. 2025 Apr 10:S2588-994X(25)00023-5. doi: 10.1016/j.auec.2025.03.008. Online ahead of print. <https://doi.org/10.1016/j.auec.2025.03.008>
- Examining the Presence of Border Patrol Agents in Hospitals in South Texas. Blackburn CC. *J Immigr Minor Health*. 2025 Jun;27(3):424-430. doi: 10.1007/s10903-025-01673-2. Epub 2025 Mar 5. <https://doi.org/10.1007/s10903-025-01673-2>
- Emergency department glucose cut-off for 2-year mortality: A multicentre, prospective, cohort study. Linares CB. *Eur J Clin Invest*. 2025 May 15:e70066. doi: 10.1111/eci.70066. Online ahead of print. <https://doi.org/10.1111/eci.70066>
- Predicting the Number of Consultations by Emergency Medical Teams During Disasters Using a Constant Attenuation Model: Analyzing the Data of 6 Disasters in Japan and Mozambique Between 2016-2020. Yoshida T. *Arch Acad Emerg Med*. 2025 Mar 10;13(1):e38. doi: 10.22037/aaemj.v13i1.2457. eCollection 2025. <https://doi.org/10.22037/aaemj.v13i1.2457>
- Overdoses Involving Medetomidine Mixed with Opioids - Chicago, Illinois, May 2024. Nham A. *MMWR Morb Mortal Wkly Rep*. 2025 May 1;74(15):258-265. doi: 10.15585/mmwr.mm7415a1. <https://doi.org/10.15585/mmwr.mm7415a1>
- Trauma team members' perceptions of the effectiveness of the current trauma care system in Addis Ababa, Ethiopia: a phenomenological study. Goshu EM. *BMC Health Serv Res*. 2025 Mar 31;25(1):472. doi: 10.1186/s12913-025-12611-1. <https://doi.org/10.1186/s12913-025-12611-1>
- Effects of an increase in emergency cases with difficulties in transport to hospital during the COVID-19 pandemic on postoperative short-term outcomes of colorectal perforation: A study based on the National Clinical Database. Ogawa S. *Ann Gastroenterol Surg*. 2024 Nov 27;9(3):505-517. doi: 10.1002/ags3.12887. eCollection 2025 May. <https://doi.org/10.1002/ags3.12887>
- Out-of-hospital cardiac arrest: A 10-year analysis of survival and neurological outcomes. Schwaiger D. *Heart Lung*. 2025 Sep-Oct;73:1-8. doi: 10.1016/j.hrtlng.2025.04.003. Epub 2025 Apr 18. <https://doi.org/10.1016/j.hrtlng.2025.04.003>
- Factors associated with mortality among patients with penetrating non-compressible torso hemorrhage in South Africa: A retrospective cohort study. Bhaumik S. *Afr J Emerg Med*. 2025 Jun;15(2):613-620. doi: 10.1016/j.afjem.2025.02.002. Epub 2025 May 3. <https://doi.org/10.1016/j.afjem.2025.02.002>
- Diabetes with COVID-19 was a significant risk factor for mortality, mechanical ventilation, and renal replacement therapies: A multicenter retrospective study in Japan. Suwanai H. *PLoS One*. 2025 Mar 19;20(3):e0319801. doi: 10.1371/journal.pone.0319801. eCollection 2025. <https://doi.org/10.1371/journal.pone.0319801>
- Nomogram for Predicting Hemorrhagic Transformation Risk in Acute Ischemic Stroke Patients With Atrial Fibrillation. Chen J. *CNS Neurosci Ther*. 2025 Apr;31(4):e70402. doi: 10.1111/cns.70402. <https://doi.org/10.1111/cns.70402>
- Oxygen and carbon dioxide targets after cardiac arrest: an updated systematic review. Holmberg MJ. *Resuscitation*. 2025 Jun;211:110620. doi: 10.1016/j.resuscitation.2025.110620. Epub 2025 Apr 23. <https://doi.org/10.1016/j.resuscitation.2025.110620>
- Development of a Quality Indicator Set for the Optimal Acute Management of Moderate to Severe Traumatic Brain Injury in the Australian Context. Jeffcote T. *Neurocrit Care*. 2025 Apr;42(2):485-494. doi: 10.1007/s12028-024-02107-x. Epub 2024 Sep 5. <https://doi.org/10.1007/s12028-024-02107-x>
- The Suitability of the South African Triage Scale (SATS) in Triaging Patients With Penetrating Neck Injuries at a High-Level Trauma Center, in the Western Cape, South Africa. Jessop TS. *World J Surg*. 2025 May;49(5):1351-1358. doi: 10.1002/wjs.12578. Epub 2025 Apr 8. <https://doi.org/10.1002/wjs.12578>
- Determining the Optimal Cutoff Value for the Reverse Shock Index Multiplied by the Glasgow Coma Scale for the Prediction of In-Hospital Mortality in Pediatric Trauma Patients: A Retrospective Cohort Study. Choi SJ. *J Clin Med*. 2025 Apr 26;14(9):2994. doi: 10.3390/jcm14092994. <https://doi.org/10.3390/jcm14092994>
- P-ROSC, UB-ROSC, and RACA Scores in Predicting the Return of Spontaneous Circulation in Out-of-hospital Cardiac Arrest: A Retrospective Cohort. Janbavonkij T. *Arch Acad Emerg Med*. 2025 Mar 17;13(1):e39. doi: 10.22037/aaemj.v13i1.2631. eCollection 2025. <https://doi.org/10.22037/aaemj.v13i1.2631>
- Precision emergency medicine in health care delivery and access: Framework development and research priorities. Salhi RA. *Acad Emerg Med*. 2025 Apr;32(4):444-453. doi: 10.1111/acem.15028. Epub 2024 Oct 8. <https://doi.org/10.1111/acem.15028>
- Association of central capillary refill time with mortality in adult trauma patients: a secondary analysis of the crash-2 randomised controlled trial data. Jegerlehner S. *Scand J Trauma Resusc Emerg Med*. 2025 May 12;33(1):82. doi: 10.1186/s13049-025-01407-1. <https://doi.org/10.1186/s13049-025-01407-1>
- The Complex Interplay Between Factors Affecting Collaborative Outcomes During Major Infectious Disease Outbreaks. Li M. *Disaster Med Public Health Prep*. 2025 May 28;19:e128. doi: 10.1017/dmp.2025.127. <https://doi.org/10.1017/dmp.2025.127>

- Injury survivability and death preventability during recent conflicts in French combat fatalities: A retrospective study. Schmitt J. *J Trauma Acute Care Surg*. 2025 May 23. doi: 10.1097/TA.0000000000004653. Online ahead of print. <https://doi.org/10.1097/TA.0000000000004653>
- Validation of the FASILA Score for Predicting Interventions and Outcomes in Traumatic Abdominal and Pelvic Injuries: A Prospective Clinical Study. El-Menyar A. *World J Surg*. 2025 May 19. doi: 10.1002/wjs.12632. Online ahead of print. <https://doi.org/10.1002/wjs.12632>
- Comparative Safety of Medications for Severe Agitation: A Geriatric Emergency Department Guidelines 2.0 Systematic Review. Casey MF. *J Am Geriatr Soc*. 2025 Apr 24. doi: 10.1111/jgs.19485. Online ahead of print. <https://doi.org/10.1111/jgs.19485>
- Improving paediatric undertriage in a regional trauma network - A registry cohort study. Ageron FX. *Anaesth Crit Care Pain Med*. 2025 Apr;44(2):101497. doi: 10.1016/j.accpm.2025.101497. Epub 2025 Feb 21. <https://doi.org/10.1016/j.accpm.2025.101497>
- Copper-Based Metal-Organic Framework as a Potential Therapeutic Gas Carrier: Optimization, Synthesis, Characterization, and Computational Studies. Singh C. *ACS Appl Bio Mater*. 2025 Mar 17;8(3):2440-2458. doi: 10.1021/acsabm.4c01907. Epub 2025 Feb 19. <https://doi.org/10.1021/acsabm.4c01907>
- Impact of the Advanced Practice Nurse in Triage of Primary Care Emergency Departments. Jiménez-García Á. *J Emerg Nurs*. 2025 May;51(3):487-497. doi: 10.1016/j.jen.2024.11.001. Epub 2025 Jan 21. <https://doi.org/10.1016/j.jen.2024.11.001>
- Clinical Characteristics and Risk Factors for Severe Japanese Spotted Fever: A Retrospective Multicenter Study in the Nagasaki Prefecture, Western Japan. Matsui K. *Jpn J Infect Dis*. 2025 Mar 21;78(2):63-70. doi: 10.7883/yoken.JJID.2024.216. Epub 2024 Oct 31. <https://doi.org/10.7883/yoken.JJID.2024.216>
- Psychotropic Drugs for Older Adults With Psychiatric Disorders Presenting to the Emergency Department: Prescription Patterns and Treatment Outcomes. Mazza M. *Psychiatr Res Clin Pract*. 2025 Mar 21;7(2):117-127. doi: 10.1176/appi.prcp.20250002. eCollection 2025 Summer. <https://doi.org/10.1176/appi.prcp.20250002>
- Evaluating monocyte distribution width in pediatric emergency care. Agnello L. *Clin Chim Acta*. 2025 Jul 15;575:120357. doi: 10.1016/j.cca.2025.120357. Epub 2025 May 13. <https://doi.org/10.1016/j.cca.2025.120357>
- Risk of delayed percutaneous coronary intervention for STEMI in the Southeast United States. Messinger MC. *Am Heart J*. 2025 May 13;289:67-77. doi: 10.1016/j.ahj.2025.05.002. Online ahead of print. <https://doi.org/10.1016/j.ahj.2025.05.002>
- EMS Crime Scene Responsibility. Price TGO'Neill RM. 2025 Mar 28. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Defibrillation. Goyal AChhabra LSingh BCooper JS. 2025 Mar 23. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-.
- Impact of COVID-19 on Severe Trauma Patients in Korea: A Nationwide Regional Subgroup Analysis. Kim CN. *Disaster Med Public Health Prep*. 2025 May 7;19:e111. doi: 10.1017/dmp.2025.115. <https://doi.org/10.1017/dmp.2025.115>
- Emergency admission Predictive Risk Stratification Models: Assessment of Implementation Consequences (PRISMATIC 2): a protocol for a mixed-methods study. Kingston M. *BJGP Open*. 2025 Apr 24;9(1):BJGPO.2024.0182. doi: 10.3399/BJGPO.2024.0182. Print 2025 Apr. <https://doi.org/10.3399/BJGPO.2024.0182>
- Emergency Department-Initiated Interventions for Illicit Drug Overdose: Retrospective Study Findings and Best Practice Recommendations. Palumbo R. *J Addict Nurs*. 2025 Apr-Jun 01;36(2):78-85. doi: 10.1097/JAN.0000000000000615. <https://doi.org/10.1097/JAN.0000000000000615>
- Beyond Urgency: Emergency Nurse and Physician Perspectives on Nonurgent Emergency Department Use and the Role of Underlying Conditions. McIntyre A. *J Emerg Nurs*. 2025 Apr 28;S0099-1767(25)00108-4. doi: 10.1016/j.jen.2025.03.022. Online ahead of print. <https://doi.org/10.1016/j.jen.2025.03.022>
- "Comparative analysis of large language models against the NHS 111 online triaging for emergency ophthalmology". Khan SA. *Eye (Lond)*. 2025 May;39(7):1301-1308. doi: 10.1038/s41433-025-03605-8. Epub 2025 Jan 21. <https://doi.org/10.1038/s41433-025-03605-8>
- STEMI under fire: evaluating management and challenges in a warzone amidst the 2023 Israeli conflict. Zeldetz V. *BMC Health Serv Res*. 2025 May 8;25(1):661. doi: 10.1186/s12913-025-12809-3. <https://doi.org/10.1186/s12913-025-12809-3>
- System-Level Effects of an Outreach Service Focusing on Continuity of Care in Nursing Homes: A 12-Month Before and After Cost-Benefit Analysis. Malmström T. *Scand J Caring Sci*. 2025 Mar;39(1):e70008. doi: 10.1111/scs.70008. <https://doi.org/10.1111/scs.70008>
- Early cardiovascular collapse after envenoming by snakes in Australia, 2005-2020: an observational study (ASP-31). Isbister GK. *Med J Aust*. 2025 Apr 7;222(6):313-317. doi: 10.5694/mja2.52622. Epub 2025 Mar 9. <https://doi.org/10.5694/mja2.52622>
- Trends and Patterns of Road Traffic Accidents in Maharashtra: A Comparative Examination of NCRB and MEMS Databases. Jena BN. *Indian J Community Med*. 2025 Mar-Apr;50(2):300-306. doi: 10.4103/ijcm.ijcm_773_23. Epub 2025 Jan 30. https://doi.org/10.4103/ijcm.ijcm_773_23
- Utilizing machine learning and geographic analysis to improve Post-crash traffic injury management and emergency response systems. Hanterdsith B. *Int J Inj Contr Saf Promot*. 2025 Mar;32(1):108-117. doi: 10.1080/17457300.2025.2487632. Epub 2025 Apr 11. <https://doi.org/10.1080/17457300.2025.2487632>

- High-altitude HEMS missions-a retrospective analysis of 3,564 air rescue missions conducted between 2011 and 2021. Klocker E. Scand J Trauma Resusc Emerg Med. 2025 May 30;33(1):97. doi: 10.1186/s13049-025-01419-x. <https://doi.org/10.1186/s13049-025-01419-x>
- Determinants of neonatal near miss among neonates admitted at Bahir Dar public hospitals, North West Ethiopia: A case-control study. Alemu DM. J Neonatal Perinatal Med. 2025 May;18(3):235-245. doi: 10.1177/19345798251324513. Epub 2025 Mar 2. <https://doi.org/10.1177/19345798251324513>
- Looking into opportunities for maternity continuum of care improvement within the primary health care system in Northwest Ethiopia: primary health care-oriented research. Mihret MS. BMC Health Serv Res. 2025 Apr 9;25(1):518. doi: 10.1186/s12913-025-12688-8. <https://doi.org/10.1186/s12913-025-12688-8>
- Association between the use of an app for providing healthcare information for parents and urgent emergency department visits for children: a cross-sectional study in Japan. Sakamoto M. BMJ Open. 2025 Apr 7;15(4):e098838. doi: 10.1136/bmjopen-2025-098838. <https://doi.org/10.1136/bmjopen-2025-098838>
- People With Adrenal Insufficiency Who Are in Adrenal Crisis Are Frequently Unable to Self-Administer Rescue Injections. Hover WJ. Endocr Pract. 2025 May;31(5):625-630. doi: 10.1016/j.eprac.2025.02.017. Epub 2025 Mar 3. <https://doi.org/10.1016/j.eprac.2025.02.017>
- Accuracy of early warning scores for predicting clinical worsening in COPD patients. Castro-Portillo E. ERJ Open Res. 2025 Apr 22;11(2):00744-2024. doi: 10.1183/23120541.00744-2024. eCollection 2025 Mar. <https://doi.org/10.1183/23120541.00744-2024>
- Validation of the SHELTER score after aneurysmal subarachnoid hemorrhage cohort: An observational retrospective study. Savi M. Clin Neurol Neurosurg. 2025 Aug;255:108980. doi: 10.1016/j.clineuro.2025.108980. Epub 2025 May 25. <https://doi.org/10.1016/j.clineuro.2025.108980>
- Parent injury admission as a potential adverse childhood experience: A 25 US Level I Trauma center investigation. Buggaveeti AE. Injury. 2025 Apr 14;112344. doi: 10.1016/j.injury.2025.112344. Online ahead of print. <https://doi.org/10.1016/j.injury.2025.112344>
- Perioperative Anticholinergic Medication Use and Incident Dementia among Older Surgical Patients: a Retrospective Cohort Study using Real-World Data. Holler E. Drugs Aging. 2025 Mar;42(3):235-243. doi: 10.1007/s40266-025-01185-6. Epub 2025 Feb 4. <https://doi.org/10.1007/s40266-025-01185-6>
- Initiation of mechanical thrombectomy in an insular setting with helicopter transfer: a 2-year experience from the first, complete, tertiary stroke center in the Caribbean. Bourgeois-Beauvais Q. J Neurointerv Surg. 2025 May 22;17(6):595-601. doi: 10.1136/jnis-2024-021703. <https://doi.org/10.1136/jnis-2024-021703>
- Evaluation of direct oral anticoagulant continuation versus switching to a parenteral anticoagulant in critically ill patients: a retrospective cohort study. Alshehri AM. Thromb J. 2025 Mar 10;23(1):20. doi: 10.1186/s12959-025-00703-1. <https://doi.org/10.1186/s12959-025-00703-1>
- Abdominal aortic junctional tourniquet (AAJT-S): a systematic review of utility in military practice. Webster S. BMJ Mil Health. 2025 May 21;171(3):262-268. doi: 10.1136/military-2023-002451. <https://doi.org/10.1136/military-2023-002451>
- The Association of Not Being Treated at the Nearest Hospital on Trauma In-Hospital Mortality: A Geospatial and Socioeconomic Factors Analysis. Ordoñez-Arenas L. World J Surg. 2025 Jun;49(6):1654-1664. doi: 10.1002/wjs.12607. Epub 2025 May 2. <https://doi.org/10.1002/wjs.12607>
- Where does cryoprecipitate fit into balanced resuscitation? An evaluation of 2,117 hemorrhaging patients using viscoelastic-based resuscitation. Van Gent JM. J Trauma Acute Care Surg. 2025 Jul 1;99(1):73-78. doi: 10.1097/TA.0000000000004643. Epub 2025 Apr 17. <https://doi.org/10.1097/TA.0000000000004643>
- Impact of the COVID-19 Pandemic on Out-of-Hospital Cardiac Arrests Occurring in the Workplace. Tanaka Y. Cureus. 2025 Mar 6;17(3):e80168. doi: 10.7759/cureus.80168. eCollection 2025 Mar. <https://doi.org/10.7759/cureus.80168>
- Out-of-Hospital Cardiac Arrest 30-Day-Outcomes: The Importance of the First Electrocardiogram After Successful Resuscitation. Martens E. J Emerg Med. 2025 Apr;71:1-9. doi: 10.1016/j.jemermed.2024.09.010. Epub 2024 Oct 15. <https://doi.org/10.1016/j.jemermed.2024.09.010>
- Penetrating trauma in Spain: analysis of the Spanish trauma registry (RETRAUCI). Gutiérrez-Gutiérrez J. Med Intensiva (Engl Ed). 2025 Jun;49(6):502165. doi: 10.1016/j.medine.2025.502165. Epub 2025 Mar 25. <https://doi.org/10.1016/j.medine.2025.502165>
- Epidemiology and outcomes of out-of-hospital cardiac arrest in Zhejiang, China based on Electronic Medical Record Surveillance. Chen S. Resusc Plus. 2025 Apr 24;23:100962. doi: 10.1016/j.resplu.2025.100962. eCollection 2025 May. <https://doi.org/10.1016/j.resplu.2025.100962>
- [Is it still appropriate to transfer residents of nursing homes in the 16th arrondissement of Paris to emergency?]. de Farcy PM. Geriatr Psychol Neuropsychiatr Vieil. 2025 Mar 1;23(1):75-84. doi: 10.1684/pnv.2025.1211. <https://doi.org/10.1684/pnv.2025.1211>
- Improving Bystander Response: How Long Does It Take to Retrieve an AED From Varying Distances. Gramm ER. Prehosp Emerg Care. 2025 Apr 1:1-5. doi: 10.1080/10903127.2025.2475323. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2475323>
- First Results of Our Local Practice Guide Used During the Late Phase of Resuscitation in Patients with Refractory VF in Out of Hospital Cardiac Arrest. Slagt C. Open Access Emerg Med. 2025 May 28;17:203-213. doi: 10.2147/OAEM.S510483. eCollection 2025. <https://doi.org/10.2147/OAEM.S510483>

- Timeline for Repeat EMS Encounters Resulting in Transport Following "Lift Assist" in a Suburban EMS System. Dorsett M. *Prehosp Emerg Care*. 2025 May 29;1-6. doi: 10.1080/10903127.2025.2502459. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2502459>
- Diversity Among EMS Fellows. Innes JC. *Prehosp Emerg Care*. 2025 Apr 29;1-9. doi: 10.1080/10903127.2025.2470962. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2470962>
- Implementation of a cascade training model to enhance emergency care capacity of healthcare workers during the COVID-19 outbreak in Uganda. Wasukira SB. *Afr J Emerg Med*. 2025 Mar;15(1):565-570. doi: 10.1016/j.afjem.2025.01.001. Epub 2025 Feb 1. <https://doi.org/10.1016/j.afjem.2025.01.001>
- Ventilators Currently Used in Emergency Neonatal Transport: Italian National Survey, Year 2025. Perez CR. *Air Med J*. 2025 Jul-Aug;44(4):291-301. doi: 10.1016/j.amj.2025.04.003. Epub 2025 May 13. <https://doi.org/10.1016/j.amj.2025.04.003>
- Assessment of Emergency Medical Service (EMS) response times and operational factors in out-of-hospital cardiac arrests (OHCA): a retrospective analysis. Goniewicz M. *Postepy Kardiologii Interwencyjnej*. 2025 Mar;21(1):25-36. doi: 10.5114/aic.2024.145345. Epub 2024 Nov 26. <https://doi.org/10.5114/aic.2024.145345>
- Bystander Defibrillation and Survival According to Emergency Medical Service Response Time After Out-of-Hospital Cardiac Arrest: A Nationwide Registry-Based Cohort Study. Hindborg M. *Prehosp Emerg Care*. 2025 Apr 29;1-9. doi: 10.1080/10903127.2025.2478211. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2478211>
- Improving the usability of large emergency 911 data reporting systems: A machine learning case study using emergency incident descriptions. Yoon NK. *J Safety Res*. 2025 Jul;93:335-341. doi: 10.1016/j.jsr.2025.04.001. Epub 2025 Apr 7. <https://doi.org/10.1016/j.jsr.2025.04.001>
- Shortened NIHSS for Rapid Stroke Assessment in Emergency Care Settings. Rahnemayan S. *Neurologist*. 2025 May 1;30(3):150-154. doi: 10.1097/NRL.0000000000000608. <https://doi.org/10.1097/NRL.0000000000000608>
- One year of passive weapons detection and deterrence at an academic emergency department: A mixed-methods study. McGuire SS. *Am J Emerg Med*. 2025 Mar;89:57-60. doi: 10.1016/j.ajem.2024.12.021. Epub 2024 Dec 12. <https://doi.org/10.1016/j.ajem.2024.12.021>
- Continuous quality improvement across a South Australian health service and the role it plays in a learning health system: a qualitative study. Bierbaum M. *BMC Health Serv Res*. 2025 Mar 27;25(1):457. doi: 10.1186/s12913-025-12557-4. <https://doi.org/10.1186/s12913-025-12557-4>
- Barriers to Care: Examining the Unique Obstacles of Indigenous American Patients With Acute Neurosurgical Injuries. Cole KL. *Neurosurgery*. 2025 Apr 1;96(4):841-849. doi: 10.1227/neu.00000000000003162. Epub 2024 Sep 20. <https://doi.org/10.1227/neu.00000000000003162>
- Prevalence, diagnostic accuracy, and healthcare utilization patterns in patients with COPD in primary healthcare: a population-based study. Vila M. *NPJ Prim Care Respir Med*. 2025 Mar 21;35(1):17. doi: 10.1038/s41533-025-00419-9. <https://doi.org/10.1038/s41533-025-00419-9>
- The Norwegian national trauma registry: development process and essential data insights. Ringdal KG. *Scand J Trauma Resusc Emerg Med*. 2025 May 1;33(1):78. doi: 10.1186/s13049-025-01390-7. <https://doi.org/10.1186/s13049-025-01390-7>
- Visual outcomes of central retinal artery occlusion: Exploring treatment strategies beyond the conventional time window. Yang CC. *J Stroke Cerebrovasc Dis*. 2025 Mar;34(3):108240. doi: 10.1016/j.jstrokecerebrovasdis.2025.108240. Epub 2025 Jan 12. <https://doi.org/10.1016/j.jstrokecerebrovasdis.2025.108240>
- A machine learning-based Coagulation Risk Index predicts acute traumatic coagulopathy in bleeding trauma patients. Richards JE. *J Trauma Acute Care Surg*. 2025 Apr 1;98(4):614-620. doi: 10.1097/TA.0000000000004463. Epub 2024 Sep 27. <https://doi.org/10.1097/TA.0000000000004463>
- Long-Term Improvements in Glycemia and User-Reported Outcomes Associated with Open-Source Automated Insulin Delivery Systems in Adults with Type 1 Diabetes in the United Kingdom: A Real-World Observational Study. Liarakos AL. *Diabetes Technol Ther*. 2025 Apr;27(4):283-291. doi: 10.1089/dia.2024.0556. Epub 2025 Jan 27. <https://doi.org/10.1089/dia.2024.0556>
- Evaluation of the optimal timing for advanced airway management for adult patients with out-of-hospital cardiac arrest: A retrospective observational study from a multicenter registry. Kishihara Y. *Resusc Plus*. 2025 Apr 15;23:100957. doi: 10.1016/j.resplu.2025.100957. eCollection 2025 May. <https://doi.org/10.1016/j.resplu.2025.100957>
- Factors that predict emergency department length of stay in analysis of national data. Kim M. *Clin Exp Emerg Med*. 2025 Mar;12(1):35-46. doi: 10.15441/ceem.24.309. Epub 2024 Oct 16. <https://doi.org/10.15441/ceem.24.309>
- Emergency care for young people after self-harm: a realist review protocol. Romeu D. *BMJ Open*. 2025 Mar 15;15(3):e099554. doi: 10.1136/bmjopen-2025-099554. <https://doi.org/10.1136/bmjopen-2025-099554>
- A Change of Pace: Modifying Pacemaker Settings in the Emergency Department as Emergency Physicians, A Case Report. Kelesis M. *J Emerg Med*. 2025 Apr;71:82-87. doi: 10.1016/j.jemermed.2024.10.012. Epub 2024 Nov 2. <https://doi.org/10.1016/j.jemermed.2024.10.012>
- Temperature directly correlates with emergency surgical case admissions independent of seasonality. Patenge A. *Sci Rep*. 2025 May 6;15(1):15832. doi: 10.1038/s41598-025-00957-9. <https://doi.org/10.1038/s41598-025-00957-9>
- Non-urgent patients in emergency centres in Western Cape district health services. Pather M. *S Afr Fam Pract* (2004). 2025 Apr 30;67(1):e1-e11. doi: 10.4102/safp.v67i1.6116. <https://doi.org/10.4102/safp.v67i1.6116>

- Human-centred AI for emergency cardiac care: Evaluating RAPIDx AI with PROLIFERATE_AI. Pinero de Plaza MA. *Int J Med Inform.* 2025 Apr;196:105810. doi: 10.1016/j.ijmedinf.2025.105810. Epub 2025 Jan 28. <https://doi.org/10.1016/j.ijmedinf.2025.105810>
- Factors Related to Stroke Awareness and Severity in an Underserved Urban Community. Marmo JM. *Nurs Res.* 2025 Jul-Aug 01;74(4):294-298. doi: 10.1097/NNR.0000000000000829. Epub 2025 Apr 17. <https://doi.org/10.1097/NNR.0000000000000829>
- The association between emergency department length of stay and hospital length of stay: an observational multi-centre cohort study. van Dijk M. *Intern Emerg Med.* 2025 May 26. doi: 10.1007/s11739-025-03964-w. Online ahead of print. <https://doi.org/10.1007/s11739-025-03964-w>
- Medications used for seizure-emergency management in the UK community: A clinical practice research datalink retrospective database study. Ma Y. *Epilepsia Open.* 2025 May 14. doi: 10.1002/epi4.70035. Online ahead of print. <https://doi.org/10.1002/epi4.70035>
- Hemorrhage control in pelvic ring injuries: the role of PCCDs and other acute measures in Germany. Metzger F. *Eur J Trauma Emerg Surg.* 2025 Apr 3;51(1):159. doi: 10.1007/s00068-025-02836-4. <https://doi.org/10.1007/s00068-025-02836-4>
- Long-Term Disability After Traumatic Spinal Injuries: A Military Retrospective Study. Akavian I. *Mil Med.* 2025 Apr 23;190(5-6):e1084-e1091. doi: 10.1093/milmed/usae411. <https://doi.org/10.1093/milmed/usae411>
- Imaging strategies for patients with multiple and/or severe injuries in the resuscitation room: a systematic review and clinical practice guideline update. Huber-Wagner S. *Eur J Trauma Emerg Surg.* 2025 Apr 2;51(1):158. doi: 10.1007/s00068-025-02840-8. <https://doi.org/10.1007/s00068-025-02840-8>
- Early initiated noradrenaline versus fluid therapy for hypotension and shock in the emergency department (VASO-SHOCK): a protocol for a pragmatic, multi-center, superiority, randomized controlled trial. Bentsen LP. *Scand J Trauma Resusc Emerg Med.* 2025 Apr 7;33(1):59. doi: 10.1186/s13049-025-01369-4. <https://doi.org/10.1186/s13049-025-01369-4>
- Evaluation of road traffic injuries in the post-pandemic era: a two-and-a-half-year review of clinical characteristics and outcomes at a major trauma center. Alharbi RJ. *Int J Emerg Med.* 2025 Apr 29;18(1):86. doi: 10.1186/s12245-025-00817-3. <https://doi.org/10.1186/s12245-025-00817-3>
- The effect of the proportion of low-titer O whole blood for resuscitation in pediatric trauma patients on 6-, 12- and 24-hour survival. Petersen EM. *J Trauma Acute Care Surg.* 2025 Apr 1;98(4):587-592. doi: 10.1097/TA.0000000000004564. Epub 2025 Feb 3. <https://doi.org/10.1097/TA.0000000000004564>
- Disparities in postoperative surveillance and use of emergency health services following endovascular abdominal aortic aneurysm repair among Medicare beneficiaries. St John E. *J Vasc Surg.* 2025 Jul;82(1):111-121.e4. doi: 10.1016/j.jvs.2025.03.059. Epub 2025 Mar 12. <https://doi.org/10.1016/j.jvs.2025.03.059>
- Trends and predictors of leaving before medically advised in US emergency departments from 2016 to 2021. Al-nashri Y. *Am J Emerg Med.* 2025 Apr;90:47-54. doi: 10.1016/j.ajem.2024.12.081. Epub 2024 Dec 31. <https://doi.org/10.1016/j.ajem.2024.12.081>
- Optimizing placement of public-access naloxone kits using geospatial analytics: a modelling study. Leung KHB. *CMAJ.* 2025 Mar 16;197(10):E258-E265. doi: 10.1503/cmaj.241228. <https://doi.org/10.1503/cmaj.241228>
- [Recommendations for avoiding medical strain: A comparative analysis of regional responses in Hyogo Prefecture during the eighth wave of COVID-19]. Hamada M. Nihon Koshu Eisei Zasshi. 2025 Apr 1. doi: 10.11236/jph.24-096. Online ahead of print. <https://doi.org/10.11236/jph.24-096>
- Neurological Injury in Comatose Patients Following Substance-Use-Related Out-of-Hospital Cardiac Arrest: A Retrospective Cohort Study in a Safety Net Hospital. Shih JJ. *Neurocrit Care.* 2025 Mar 13. doi: 10.1007/s12028-025-02229-w. Online ahead of print. <https://doi.org/10.1007/s12028-025-02229-w>
- Mobile app communication to prevent ER visits post-circumcision: a prospective observational study. Sancı A. *Int Urol Nephrol.* 2025 May;57(5):1465-1471. doi: 10.1007/s11255-024-04345-6. Epub 2024 Dec 27. <https://doi.org/10.1007/s11255-024-04345-6>
- Early versus late administration of adrenaline in pediatric patients with out-of-hospital cardiac arrest. Oishi T. *Am J Emerg Med.* 2025 Mar;89:67-74. doi: 10.1016/j.ajem.2024.12.028. Epub 2024 Dec 12. <https://doi.org/10.1016/j.ajem.2024.12.028>
- Clinical education: nursing students' experiences with multisource feedback using a digital assessment instrument in the emergency medical Service - a qualitative study. Nilsson T. *BMC Med Educ.* 2025 Mar 18;25(1):391. doi: 10.1186/s12909-025-06950-0. <https://doi.org/10.1186/s12909-025-06950-0>
- Reproducibility of the TRIPEd-GM paediatric triage system. Míguez-Navarro MC. *Enferm Clin (Engl Ed).* 2025 Apr-May;35(3):502191. doi: 10.1016/j.enfcl.2025.502191. Epub 2025 Apr 25. <https://doi.org/10.1016/j.enfcl.2025.502191>
- Temporal Trends in Public Stroke Awareness in Korea, 2009 to 2023. Lee EJ. *J Am Heart Assoc.* 2025 May 6;14(9):e038776. doi: 10.1161/JAHA.124.038776. Epub 2025 May 2. <https://doi.org/10.1161/JAHA.124.038776>
- First aid knowledge for burn injuries among healthcare workers and the general population in Saudi Arabia: A cross-sectional study. Alshiakh SM. *Burns.* 2025 Jun;51(5):107507. doi: 10.1016/j.burns.2025.107507. Epub 2025 Apr 18. <https://doi.org/10.1016/j.burns.2025.107507>
- User-Centered Design of an Electronic Dashboard for Monitoring Facility-Level Basic Emergency Obstetric Care Readiness in Amhara, Ethiopia: Mixed Methods Study. Dougherty K. *JMIR Hum Factors.* 2025 Apr 3;12:e64131. doi: 10.2196/64131. <https://doi.org/10.2196/64131>

- Unplanned Emergency Department or Inpatient Acute Care Within 1 Week After Administration of Peptide Receptor Radionuclide Therapy: Frequency of Occurrence and Standard Operating Procedures for Radioprotection in These Situations. Prabhu RS. *Pract Radiat Oncol*. 2025 Mar-Apr;15(2):e109-e114. doi: 10.1016/j.prro.2024.07.002. Epub 2024 Jul 23. <https://doi.org/10.1016/j.prro.2024.07.002>
- Evaluation of moderate periorbital cellulitis and home-based therapy in children (EPOCH study, Part 2): A prospective single centre cohort study. McPherson Z. *Clin Exp Ophthalmol*. 2025 Mar;53(2):184-193. doi: 10.1111/ceo.14455. Epub 2024 Oct 23. <https://doi.org/10.1111/ceo.14455>
- Self-injurious thoughts and behaviours as the reason for contact to Norwegian emergency primary care centres: an observational study. Hunsager A. *Scand J Prim Health Care*. 2025 Mar;43(1):85-95. doi: 10.1080/02813432.2024.2400668. Epub 2024 Sep 11. <https://doi.org/10.1080/02813432.2024.2400668>
- Trends in stimulant-related emergency department visits among adults in California, 2017-2021. Han BH. *Am J Emerg Med*. 2025 Jul;93:94-98. doi: 10.1016/j.ajem.2025.03.051. Epub 2025 Mar 23. <https://doi.org/10.1016/j.ajem.2025.03.051>
- Emergency visits for end-of-life patients receiving physician-led home care in Japan: A retrospective observational study. Kosaka M. *Medicine (Baltimore)*. 2025 May 16;104(20):e42501. doi: 10.1097/MD.00000000000042501. <https://doi.org/10.1097/MD.00000000000042501>
- Trends in cardiac arrest care and mortality in United States emergency departments over eight years. Buell KG. *Am J Emerg Med*. 2025 Jun;92:126-134. doi: 10.1016/j.ajem.2025.03.012. Epub 2025 Mar 13. <https://doi.org/10.1016/j.ajem.2025.03.012>
- The Spector Job Satisfaction Survey: Associations of Satisfaction with Leaving EMS. Gage CB. *Prehosp Emerg Care*. 2025 Apr 1:1-8. doi: 10.1080/10903127.2025.2482100. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2482100>
- Community responses and adaptations following the closure of a rural pharmacy and primary care facility. Palacios HV. *J Rural Health*. 2025 Mar;41(2):e12896. doi: 10.1111/jrh.12896. Epub 2024 Nov 7. <https://doi.org/10.1111/jrh.12896>
- Association between nitrogen dioxide exposure and out-of-hospital cardiac arrest onset in China: A multi-center, time-stratified, case-crossover study. Pan C. *J Hazard Mater*. 2025 Aug 5;493:138341. doi: 10.1016/j.jhazmat.2025.138341. Epub 2025 Apr 22. <https://doi.org/10.1016/j.jhazmat.2025.138341>
- Low Back Pain Presentation and Management at the Emergency Department: Differences Between Older Adults Residing in the Community and Aged Care Homes. Ellem R. *J Eval Clin Pract*. 2025 Apr;31(3):e70088. doi: 10.1111/jep.70088. <https://doi.org/10.1111/jep.70088>
- Association of the COVID-19 pandemic with the incidence of suicidal/self-harm emergencies in Japan: dependence of trend on the regional length of movement restriction. Ushimoto T. *Intern Emerg Med*. 2025 Apr;20(3):855-863. doi: 10.1007/s11739-024-03694-5. Epub 2024 Jun 26. <https://doi.org/10.1007/s11739-024-03694-5>
- [Utilization of apneic oxygenation in anesthesiology: a nationwide survey in Germany]. Uzun DD. *Anaesthesiologie*. 2025 May;74(5):283-293. doi: 10.1007/s00101-025-01529-2. Epub 2025 Apr 28. <https://doi.org/10.1007/s00101-025-01529-2>
- Surgical repair for postinfarction left ventricular free-wall rupture: 25-year single-centre experience . Kainuma S. *Eur J Cardiothorac Surg*. 2025 Mar 4;67(3):ezaf084. doi: 10.1093/ejcts/ezaf084. <https://doi.org/10.1093/ejcts/ezaf084>
- Characteristics of supervised injection site clients and factors associated with requiring overdose intervention, Montreal, Canada, 2018-2022. Zolopa C. *Int J Drug Policy*. 2025 Mar;137:104711. doi: 10.1016/j.drugpo.2025.104711. Epub 2025 Jan 21. <https://doi.org/10.1016/j.drugpo.2025.104711>
- Prescribing for acute migraine in a rural Australian hospital. van Bockxmeer JJ. *Rural Remote Health*. 2025 Apr;25(2):8686. doi: 10.22605/RRH8686. Epub 2025 Apr 2. <https://doi.org/10.22605/RRH8686>
- Patterns of opioid prescribing to opioid-naïve patients after surgical and emergency care: A population-based cross-sectional study using linked administrative databases in Nova Scotia (2017-2019). Merdad RA. *Drug Alcohol Rev*. 2025 May;44(4):1124-1137. doi: 10.1111/dar.14029. Epub 2025 Mar 7. <https://doi.org/10.1111/dar.14029>
- Is methamphetamine blood concentration in emergency department patients associated with the clinical picture?. McCutcheon D. *Addiction*. 2025 May;120(5):1007-1015. doi: 10.1111/add.16765. Epub 2025 Jan 20. <https://doi.org/10.1111/add.16765>
- Pediatric Trauma Mortality in Jerusalem's Israeli Healthcare System: A Retrospective Analysis. Brooks R. *J Epidemiol Glob Health*. 2025 Mar 25;15(1):49. doi: 10.1007/s44197-025-00391-0. <https://doi.org/10.1007/s44197-025-00391-0>
- Participation-based clinical clerkships contribute to increased medical student confidence in community emergency care: a cohort study. Mihara H. *BMC Med Educ*. 2025 May 20;25(1):734. doi: 10.1186/s12909-025-07317-1. <https://doi.org/10.1186/s12909-025-07317-1>
- Ventilation Rates and Capnography in Pediatric Out-of-Hospital Cardiac Arrest with Advanced Airways. Stanton K. *Prehosp Emerg Care*. 2025 May 29:1-6. doi: 10.1080/10903127.2025.2496756. Online ahead of print. <https://doi.org/10.1080/10903127.2025.2496756>
- Early Mobilization and Predictors of Delayed Disposition for Geriatric Hip Fractures. Jenkins R. *J Orthop Trauma*. 2025 Apr 1;39(4):180-185. doi: 10.1097/BOT.0000000000002956. <https://doi.org/10.1097/BOT.0000000000002956>

- The Impact of the COVID-19 Public Health Crisis on the Surgical Management of Abdominal Aortic Aneurysm Rupture.** Huang A. *Ann Vasc Surg.* 2025 May;114:302-312. doi: 10.1016/j.avsg.2024.12.049. Epub 2024 Dec 26. <https://doi.org/10.1016/j.avsg.2024.12.049>
- The association between urgency level and hospital admission, mortality and resource utilization in three emergency department triage systems: an observational multicenter study.** van Wegen ME. *Scand J Trauma Resusc Emerg Med.* 2025 May 1;33(1):72. doi: 10.1186/s13049-025-01392-5. <https://doi.org/10.1186/s13049-025-01392-5>
- Sudden Cardiac Arrest Associated with Hemodialysis: A Community-Based Study.** Truyen TTTT. *Kidney360.* 2025 May 1;6(5):805-813. doi: 10.34067/KID.0000000705. Epub 2025 Jan 17. <https://doi.org/10.34067/KID.0000000705>
- Pragmatic Risk Stratification Method to Identify Emergency Department Presentations for Alternative Care Service Pathways: Registry-Based Retrospective Study Over 5 Years.** Tay JRH. *J Med Internet Res.* 2025 May 12;27:e73758. doi: 10.2196/73758. <https://doi.org/10.2196/73758>
- Maternal health care services utilization and associated factors among pregnant women in Kersa district, Jimma zone, Southwest Ethiopia.** Abebe TA. *PLoS One.* 2025 May 29;20(5):e0323977. doi: 10.1371/journal.pone.0323977. eCollection 2025. <https://doi.org/10.1371/journal.pone.0323977>
- Feasibility of Direct-Access Physical Therapy for Concussion Management in the Pediatric Emergency Department: A Pilot Implementation Study.** Gagnon I. *Phys Ther.* 2025 May 3;105(5):pzaf051. doi: 10.1093/ptj/pzaf051. <https://doi.org/10.1093/ptj/pzaf051>
- Experiences of Birth Attendants on Upward Obstetric Emergency Referrals in Low- and Middle-Income Countries: Protocol for a Scoping Review.** Juqu FZ. *JMIR Res Protoc.* 2025 Apr 10;14:e64886. doi: 10.2196/64886. <https://doi.org/10.2196/64886>
- Blood transfusion strategies for major bleeding in trauma.** Brunskill SJ. *Cochrane Database Syst Rev.* 2025 Apr 24;4(4):CD012635. doi: 10.1002/14651858.CD012635.pub2. <https://doi.org/10.1002/14651858.CD012635.pub2>



GUIDELINES FOR AUTHORS

The *International Journal of Paramedicine (IJOP)* is a forum for scholarly contributions and state-of-the-art research relevant to patient care and the growth and advancement of paramedicine, including the areas of paramedic leadership, management, education, operations, culture, professional and clinical practice. The *IJOP* encourages exploration of paramedicine from diverse theoretical and practical views from all disciplines, including business and economics; the natural, basic, and applied sciences; and the humanities, social sciences, and arts. Priority will be given to submissions that use sound theoretical or conceptual frameworks, strong methodological design, and relevance to the international paramedic community. All methodologies such as quantitative, qualitative, mixed methods, and knowledge syntheses will be considered.

NEMSMA is a longtime collaborator with National Association of EMS Physicians in support of *Pre-hospital Emergency Care*. In continuation of that relationship, *IJOP* and *PEC* have established a collaborative relationship that will facilitate the exchange of submissions in certain circumstances based in part on which journal may be the best fit for a particular manuscript.

SUBMISSION CHECKLIST

Authors need to register with the journal prior to submitting or, if already registered, can simply log in and begin the submission process.

Download the following worksheets to assist with the submission process. Complete the forms, use them to assist with the submission process, then upload with the submission.

- Complete one of these forms per submission: [IJOP Submission Info Form](#)
- Complete one of these forms per author: [IJOP Author Info Form](#)

GENERAL GUIDELINES AND NOTES

- The *IJOP* only publishes material in English. Please use Academic English.
- The *IJOP* accepts submissions in the following categories:
 - [Case Studies](#) (2,000 words)
 - [Concepts](#) (3,000 words)
 - [Correspondence / Commentary](#) (1,000 words)
 - [Education](#) (3,000 words)
 - [Empirical Investigations / Original Research](#) (4,500 words)
 - [Methodology](#) (2,000 words)
 - [Quality Improvement Project Reports](#) (3,000 words)
 - [Reviews / Synthesis](#) (4,000 words)
 - [Special Reports](#) (2,000 words)
 - [Toolbox](#) (1,500 words)

The word limits noted above are guidelines for the various submission types. Authors are encouraged to adhere to these guidelines and to be concise in their submissions.

- Merriam-Webster's Collegiate Dictionary (11th ed.) should be consulted for spelling.
- Contributions that explore non-clinical topics such as leadership, operations, education, professional practice, and the culture of paramedicine are strongly encouraged.
- Based on the international scope of the *IJOP*, contributions should provide a degree of generalizability and transferability to global settings and should have relevance to the *IJOP*'s broad readership.
- *IJOP* discourages multiple publications derived from a single study.
- All original research submissions must have received approval from an Institutional Research Board (IRB) or Research Ethics Board (REB).
- Once a submission has been assessed for suitability by the editorial team, it will undergo a double-blind peer-review by independent, anonymized reviewers.

As part of the submission process, authors will be required to confirm that their submission complies with all of the items below. Submissions may be returned that do not adhere to these guidelines:

DOCUMENTS

- The submission cannot be previously published or in the submission process of another publication (or an explanation has been provided in a cover letter to the Editor).
- The Author and Funding File and the Main Submission File are both in Microsoft Word document file format.
- An ICMJE Form for Disclosure of Potential Conflicts of Interest is submitted for each author.
- All illustrations, figures, and tables should be placed within the text at the appropriate points AND submitted as separate files in a high resolution format.
- Supplemental media files (e.g., spreadsheets, slides, audio or video files) may be included for reader access. The file should be hosted by the authors unless other arrangements have been made with the Editors.
- Where available, URLs for each reference have been provided.

MANUSCRIPT

- The text is double-spaced in a 12-point font.
- Page numbers and line numbering are used for the 'Main Submission File'
- The text adheres to the stylistic and bibliographic requirements outlined.
- Authors are strongly encouraged to follow any EQUATOR (Enhancing the QUALity and Transparency Of health Research) Guidelines that apply to their type of submission. These include, but are not limited to:
 - Randomized trials
 - [CONSORT and its extensions](#)
 - Observational studies
 - [STROBE and its extensions](#)
 - Systematic reviews
 - [PRISMA and its extensions](#)
 - Study protocols
 - [SPIRIT and the PRISMA-P extension](#)
 - Diagnostic/prognostic studies
 - [STARD and the TRIPOD extension](#)
 - Case reports
 - [CARE and its extensions](#)
 - Clinical practice guidelines
 - [AGREE and the RIGHT extension](#)

- Qualitative research
 - [SRQR and the COREQ extension](#)
- Animal pre-clinical studies
 - [ARRIVE](#)
- Quality improvement studies
 - [SQUIRE and its extensions](#)
- Economic evaluations
 - [CHEERS](#)

Note that there is a section in EQUATOR with guidelines specific to emergency medicine that may also be applicable to studies in paramedicine.

SUBMISSION FILES

The following describes the 'standard' submission files that should be uploaded via the *Journal* submission website for each manuscript. Please refer to the specific submission guidelines for each submission category for more specific instructions that may apply.

AUTHOR AND FUNDING INFORMATION FILE

AUTHOR INFORMATION

- All authors of a manuscript should provide their full name with up to four post-nominals and up to two organizational affiliations and titles – exactly as they should appear in the publication.
- The email of all authors should also be included.
- If available, please include [ORCiDs](#) numbers for each author.
- You also include social media handles (e.g., Facebook, Twitter, LinkedIn) for each author.
- Please ensure that everyone who meets the International Committee of Medical Journal Editors (ICMJE) requirements for authorship is included as an author (<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>).
- If an author changes their affiliation during the peer-review process, the new affiliation information can be given to the Editorial Team and will be handled as any other manuscript revision. Please note that no changes to affiliation can be made after the pre-publication galley of the manuscript have been accepted for final publication.
- Identify one author as the corresponding author. They will be shown as such when the article is published and will be the point of contact between the editorial team and the authors.
- If the work presented in the manuscript was presented at conference or published in abstract form, identify the name of the event, location, format, and date of presentation.
- Acknowledgements, where applicable, can be provided. Brevity is strongly encouraged.

FUNDING INFORMATION

- Please provide the details for any funding that supported the submitted work, to include all details required by your funding and grant-awarding bodies. The following template sentences are suggested:
 - For single agency grants: This work was supported by the [Funding Agency] under Grant [number xxxx].
 - For multiple agency grants: This work was supported by the [Funding Agency #1] under Grant [number xxxx]; [Funding Agency #2] under Grant [number xxxx]; and [Funding Agency #3] under Grant [number xxxx].

- If a funding source was not involved, please confirm with a statement such as, “External funding was not used to support this work.”

MAIN SUBMISSION FILE

To provide a high level of objectivity in the peer-review process *IJOP* uses a double blind process. The identities of the authors and their institutions are not revealed to the reviewers and the identifies of the reviewers are not revealed to the authors.

Due to the double blind review process, information about the authors and their institutions should not appear anywhere in the main submission file. This should include removal of identifying information in the ‘properties’ of the Microsoft Word (.doc or .docx) files that are submitted.

Please do not use extensive formatting of the document. Use single spaces between sentences. Separate paragraphs with a carriage return. Do not indent the first line paragraphs with tabs or added spaces.

Unless stated otherwise in the directions for a specific manuscript category, all submissions should include the following elements in the following order as a single document file, called the Main Document File.

TITLE

- Provide the suggested title for the published article. Please note that the title used for publication is subject to editorial team approval.

ABSTRACT, KEYWORDS, DISCLOSURES / CONFLICTS, PRESENTATIONS, AND ACKNOWLEDGEMENTS

- Unless exempted or described differently in the directions for a specific submission category, abstracts MUST be limited to 300 words or less, including the section headers (e.g., Problem, Methods, etc.). Use structured abstracts when possible.
- Unless exempted or described differently in the directions for a specific submission category, this page will also include between three (3) and six (6) keywords or short phrases that will be used for title and search engine optimization. Keywords of paramedicine, EMS, and emergency medical services will be added by default and will not count towards the keyword count requirements.
- State any disclosures or conflicts for each author. This will be in addition to completion of the ICMJE Disclosure Forms for each author as described below. If there are no conflicts, please state ‘none.’

PRIMARY MANUSCRIPT BODY

- The primary body of the manuscript will come next in the main submission file. The composition of the primary body of the manuscript may vary with the category of the manuscript. Refer to specific manuscript category descriptions for details.
- The manuscript should use a minimum of formatting. If there are multiple levels of heading and sub-headings, please indicate the heading level by placing (H1) directly after the heading text for the top level heading, H2 for sub-headings, H3 for sub-sub headings, etc.
- Tables should be used to summarize large amounts of information rather than writing it out as a narrative. Tables may be created within the word processor or inserted from another program (e.g., Excel). If another program is used to create the table, please include the original source file as a supplementation media file submission. All tables should be inserted into this primary manuscript body file. They must be labelled sequentially, and referred to in the text. Table captions must include the table number and a name for the table at a minimum. Additional

descriptive text may be added to the caption as needed to complement the reference to the table in the main body of the paper.

- Figures shall be inserted directly into the text at the appropriate position. These may be lower resolution images to simply show their correct placement. Figures must be labelled sequentially and referred to in the text. Figure captions must be included with the figure number and a name for the figure at a minimum. Additional descriptive text may be added to the caption as needed to complement the reference to the figure in the main body of the paper. In addition to including figures in the text, submit each figure as a supplemental media files in high resolution PDF, .jpeg, .tiff, or .png file formats, with a 300dpi minimum resolution.

REFERENCES

- Where applicable, the references for the manuscript come next. Use endnotes rather than footnotes. The APA style in-text reference marks and in endnotes must be used.
- In each endnote reference, include hyperlink whenever possible to the referenced document. A DOI hyperlink is preferred, which will have a format of <https://doi.org/XXXXX>. If a DOI is not available, provide a link to the source journal, publisher website or similar source.
- Authors are responsible for the accuracy of all references, links and in text citations.

APPENDICES

- Where applicable, any appendices to the manuscript are inserted next.

ICMJE FORMS FOR DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

- One form per author should be submitted.
- The form is available at: <https://icmje.org/disclosure-of-interest/>

SUPPLEMENTAL MEDIA FILES

- If the submission includes any supplemental tables or figures, they would be each be uploaded individually for inclusion at the end of the article.
- For spreadsheets used to generate tables, upload them as individual files and clearly indicate which table they are associated with.
- If there are any supplemental media files (e.g., spreadsheets, slide decks, audio or video files), provide links to where readers can access them. They must be readily accessible without passwords or other restrictions.

GUIDELINES FOR CATEGORY-SPECIFIC SUBMISSIONS

CASE REPORTS (≤2,000 WORDS)

- These manuscripts share the experience of unusual clinical presentations, circumstances, or treatment approaches. Case reports should be structured as described in the Consensus-based Clinical Case Reporting Guideline (CARE; <https://www.equator-network.org/reporting-guidelines/care/>).

CONCEPTS (≤3,000 WORDS)

- These papers present a specific management or clinical concept, idea, or theory – and describes its practical application. If the paper presents a new concept, it may also suggest research, improvement projects, or pilot implementations of its application. Along with other standard submission file elements, the primary manuscript body pages file for Concept papers should contain:

- Introduction - The introduction should describe the problem, issue, or circumstance that the concept is intended to address. Where applicable, address the current literature that demonstrates a gap and any pertinent background information.
- Concept Description – Provide a description of the concept and how it can be applied. Where applicable, provide sufficient detail and clarity of any methods or procedures and the setting and population to which the concept applies.
- Discussion - Authors are encouraged to include a critical review of related research and a fulsome discussion that highlights how the concept contributes to the field of paramedicine. Address any limitations of the concept.

DIALOGUES (≤1,000 WORDS)

- The Dialogues section will publish comments and questions from readers related to previously published articles. Along with other standard submission file elements, the primary manuscript body pages file for correspondence should include:
 - Subject Paper Information - Provide the title, name of the first author, and the *IJOP* issue for the paper that is the subject of the correspondence.
 - The narrative of the correspondence.

EDITORIALS (≤2,000 WORDS)

- Editorials are a venue for the expression of opinion and perspective on topics relevant to the paramedicine community. They should make clear point(s) in a concise manner with a scholarly approach and tone. They should not be used for the presentation of data, findings, or research that has not been previously published.

EDUCATIONAL METHODS AND PROCESSES (≤3,000 WORDS)

- These submissions explore a specific educational process, approach, or method. The paper should also discuss any issues to consider in its practical application. Along with other standard submission file elements, the primary manuscript body pages file for Education papers should contain:
 - Introduction - The introduction should describe the problem, issue, or circumstance that the educational process, approach, or method is intended to address. Where applicable, address the current literature that demonstrates a gap and any pertinent background information.
 - Description – Provide a description of the educational process, approach, or method and how it can be applied. Where applicable, provide sufficient detail and clarity of any methods or procedures and the setting and population to which the process, approach or method applies.
 - Discussion - Authors are encouraged to include a critical review of related research and a fulsome discussion that highlights how the concept contributes to the field of paramedicine. Address any limitations of the concept.

EMPIRICAL INVESTIGATIONS / ORIGINAL RESEARCH (≤4,500 WORDS)

- The submission of manuscripts for empirical investigations / original research may be clinical or non-clinical. Several of the EQUATOR guidelines, described previously, may apply to any given study in this category. Please apply them as appropriate to your particular investigation.
- Authors may provide, or editors may suggest, that some information be provided as a supplemental file so that the main paper remains concise. The supplemental content may include data sets, images, video clips, and in-depth details on methodology. Along with other standard

submission file elements, the primary manuscript body pages file for empirical investigations / original research should include elements as called for in the applicable EQUATOR guidelines.

- NEMSMA is a longtime collaborator with National Association of EMS Physicians in support of *Prehospital Emergency Care (PEC)*. In continuation of that relationship, *IJOP* and *PEC* have established a collaborative relationship that exchanges manuscripts in certain circumstances. Empirical investigations on clinical topics may be forwarded to *PEC* for their initial consideration with author consent.

METHODOLOGY (≤2,000 WORDS)

- This category of submissions provides deep explorations of methods used or may be used in research studies or improvement projects. These methods should be novel in some way that makes them of significant interest in their own right, separate from the studies in which they are utilized. These papers can also provide a more detailed description of the methods than would otherwise be appropriate in the primary research or improvement project manuscript. The primary paper's methods section may direct readers to a methodology paper in this category for more detailed descriptions of the methods it utilized.
- Along with other standard submission file elements, the primary manuscript body pages file for Methodology papers should contain appropriate elements from the EQUATOR guidelines, as described for empirical investigations.

QUALITY IMPROVEMENT PROJECT REPORTS (≤3,000 WORDS)

- *IJOP* acknowledges the importance of quality improvement activities to optimize EMS system performance and patient outcomes and welcomes manuscripts describing quality improvement projects.
- United States regulations do not require quality improvement activities to have Institutional Review Board (IRB) or Research Ethics Board (REB) approval. The distinction between manuscripts requiring or not requiring IRB/REB approval may be subtle. Manuscripts not requiring approval will generally be those which do not apply clinical treatments or diagnostic methods that have not been previously established in the literature. A manuscript that explores different ways to implement a clinical treatment or diagnostic method may not require approval.
- The *IJOP* shall reject manuscripts that appear to have framed an activity as quality improvement to circumvent research compliance, conduct, or reporting standards.
- Authors may contact the editorial office if they are uncertain whether their work should be submitted as a quality improvement or a research manuscript. If there any doubt, authors are encouraged to submit QI projects to an IRB to obtain their independent judgement of the need for IRB oversight.
- Quality improvement project reports should adhere to the Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines (<http://www.squire-statement.org>). With permission of the Editorial Team, authors may submit manuscripts that use other generally accepted improvement project frameworks (e.g., IHI Model for Improvement; DMAIC).
- In general, quality improvement project reports should describe the process being examined; the process change(s) that were tested; the baseline process performance level; the methods used for conducting process tests and evaluating the results; the results, including the post-intervention performance levels; any confounding variables and balancing measures; and the process change iterations as applicable.
- The manuscript discussions and conclusions should highlight what the external audience can learn from the reported experience, not just the activity's internal success or failure.

- Authors may provide, or editors may suggest, that some information be provided as a supplemental file so that the main paper remains concise. The supplemental content may include data sets, images, video clips, and in-depth details on methodology.

REVIEWS / SYNTHESIS (≤4,000 WORDS)

- *IJOP* invites the submission of reviews of all types, including those with and those without meta-analytic components. In addition to the guidelines for original research provided elsewhere in these guidelines, any submissions in this category should be consistent with the Prisma 2020 guidelines for reporting systematic reviews <https://www.equator-network.org/reporting-guidelines/prisma/>.

TOOLBOX (≤3000 WORDS)

- These submissions will explain a tool or technique and describe its practical use. Where applicable, the articles may include a supplemental file or link that contains the tool and a data file where the reader may try out the tool.
- Along with other standard submission file elements, the primary manuscript body pages file for Toolbox papers should contain:
 - Introduction - The manuscript shall include an introduction that provides an overview of the type(s) of projects that the tool or technique could be used for or the specifics of the project that it was actually used in.
 - Description of the Tool / Technique – As the central focus on the paper, this section shall provide in an in-depth examination of the tool or technique and its mechanics. Describe how the tool or technique should be applied in context of a clinical, operational, or administrative setting.
 - Discussion – Discuss the underlying rationale for the tool or technique and why it may be favored over other options.
 - Provide a critique of related methods. Also include discussion of any limitations of the tool or technique.
 - Exercise – Where applicable, describe how to use the tool or technique in conjunction with a sample data set or scenario.

SPECIAL REPORTS

- This submission category will be used for articles of a scholarly nature that do not fit into one of the other *IJOP* submission categories. Authors are encouraged to use the guidelines described in this document that seem to be most applicable to their Special Report, but consultation with the Editorial Team before manuscript submission is strongly encouraged.



ERRATA AND CORRIGENDA

ERRATA AND CORRIGENDA

Recommended Citation: Errata and Corrigenda. (2025). *International Journal of Paramedicine*. (11), 141. <https://doi.org/10.56068/LWVS5636>. Retrieved from <https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3470>.

Keywords: errata, corrigenda, corrections, emergency medical services, EMS, paramedicine

Published: August 4, 2025

Occasionally, authors and journal publishers make errors in the publication review and production processes. To maintain the integrity and accuracy of the work, errata and corrigenda are published. Errata refer to errors made by the journal while corrigenda refer to errors made by the authors.

AUGUST 4, 2025

CORRIGENDA:

Torgerson, C., Taylor, N., Hughes, M., Chapman, K., & Kennel, J. (2025). Mental Health Symptoms, Stressors, and Coping: An Exploration of First Responder Experiences Working in Rural, Suburban, and Urban Areas. *International Journal of Paramedicine*. (11), 16-35.

A postnomial for one of the authors of this manuscript, Jamie Kennel, was omitted. It is corrected to show as Jamie Kennel, PhD, NRP

- Article: <https://doi.org/10.56068/SCUS4555>
- Complete issue with corrected article: <https://doi.org/10.56068/MCNE6613>