

CURRICULUM VITAE
Johns Hopkins University School of Medicine



Michael A Rosen, PhD

September 17, 2021

DEMOGRAPHIC AND PERSONAL INFORMATION

Current Appointments

University

- 2015-Present Associate Professor, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine
- 2015-Present Joint Appointment, Johns Hopkins University School of Nursing
- 2015-Present Joint Appointment, Johns Hopkins University Bloomberg School of Public Health, Department of Health Policy and Management

Personal Data

Johns Hopkins University School of Medicine
The Armstrong Institute for Patient Safety and Quality
Constellation Energy Building – 15th Floor
750 E. Pratt Street, Baltimore, MD 21202

Tel 410-637-6269
Fax 410-637- 4380
Email mrosen44@jhmi.edu

Education and Training

Undergraduate

- 1998 B.S., Psychology, University of Central Florida, Orlando, FL

Doctoral/graduate

- 2005 M.A., English/Technical Communications, University of Central Florida, Orlando, FL
- 2010 Ph.D., Applied Experimental and Human Factors Psychology, University of Central Florida, Orlando, FL

Professional Experience

- 2003-2004 Usability Specialist, Usability Lab, Statistical Research Division, US Bureau of the Census, Suitland, MD
- 2004-2010 Sr. Graduate Research Associate, Institute for Simulation and Training, University of Central Florida, Orlando, FL
- 2005-2010 Instructor, St. John's River Community College, Palatka, FL
- 2010-2011 Associate, Booz Allen Hamilton, Washington, DC
- 2011-2015 Assistant Professor, Anesthesiology and Critical Care Medicine; the Armstrong Institute for Patient Safety and Quality, Johns Hopkins University School of Medicine, Baltimore, MD
- 2015-present Associate Professor, Anesthesiology and Critical Care Medicine; the Armstrong Institute for Patient Safety and Quality, Johns Hopkins University School of Medicine, Baltimore, MD
- 2015-present Jointly appointed in Johns Hopkins University School of Nursing

2015-present	Jointly appointed in the Bloomberg School of Public Health, Department of Health Policy and Management, Johns Hopkins University
2018-present	Co-Director, Master of Applied Science in Patient Safety and Healthcare Quality, Bloomberg School of Public Health, Johns Hopkins University
2019-present	Associate Director for Team Science, Institute for Clinical and Translational Research, Johns Hopkins University
2021	Interim Director of Research for the Johns Hopkins University School of Medicine Simulation Center
2021	Core Faculty, The Hopkins Business of Health Initiative

PUBLICATIONS

Original Research [OR]

1. Salas E, **Rosen MA**, King HB. Managing teams managing crises: Principles for teamwork in the ER and beyond. *Theoretical Issues in Ergonomics Science*. 2007;8(5):381-394.
2. Salas E, **Rosen MA**, Burke CS, Nicholson D, Howse WR. Markers for Enhancing Team Cognition in Complex Environments: The Power of Team Performance Diagnosis. *Aviation, Space, and Environmental Medicine*, Special Supplement on Operational Applications of Cognitive Performance Enhancement Technologies. 2007;78(5):B77-B85.
3. **Rosen MA**, Salas E, Wilson KA, King HB, Salisbury M, Augenstein JS, Robinson DW, Birnbach DJ. Measuring Team Performance for Simulation-based Training: Adopting Best Practices for Healthcare. *Simulation in Healthcare*. 2008;3(1), 33-41. *Article accompanied by commentary
4. Salas E, Cooke NJ, **Rosen MA**. On teams, teamwork, and team performance: Discoveries and Developments. *Human Factors*. 2008;50(3):540-547.
5. **Rosen MA**, Salas E, Silvestri S, Wu TS, Lazzara EH. A measurement tool for simulation-based training in Emergency Medicine: The Simulation Module for Assessment of Resident Targeted Event Responses (SMARTER) Approach. *Simulation in Healthcare*. 2008;3(3):170-179.
6. **Rosen MA**, Salas E, Wu TS, Silvestri S, Lazzara EH, Lyons R, Weaver SJ, King HB. Promoting teamwork: An event-based approach to simulation-based teamwork training for Emergency Medicine Residents. *Academic Emergency Medicine*. 2008;15(11):1190-1198.
7. **Rosen MA**, Fiore SM, Salas E, Letsky M, Warner N. Tightly coupling cognition: Understanding how communication and awareness drive coordination in teams. *The International Journal of Command and Control*. 2008;2(1):1-30.
8. Wilson KA, Salas E, **Rosen MA**, Taekman JM, Augenstein JS. Games doctors play: Guiding principles for training shared cognition. *International Cognitive Technology Journal*. 2008;13(2):8-16.
9. Deering S, **Rosen MA**, Salas E, King HB. Building team and technical competency for obstetric emergencies: The Mobile Obstetric Emergency Simulator (MOES) System. *Simulation in Healthcare*. 2009;4(3):166.
10. Lazzara EH, Weaver SL, DiazGranados D, **Rosen MA**, Salas E, Wu TS, Silvestri S, Augenstein JS, Birnbach DJ, Robinson DW, King HB. TEAM MEDSS: A Tool for Designing Medical Simulation Scenarios. *Ergonomics in Design*. 2010;18(1):11-17.
11. Weaver SL, **Rosen MA**, DiazGranados D, Lazzara EH, Lyons R, Salas E, Knych S, McKeever M, Adler L, Barker M, King HB. Does teamwork improve performance in the operating room? A multi-level evaluation. *Joint Commission Journal on Quality and Patient Safety*. 2010;36(3):133-142.
12. Salas E, **Rosen MA**, DiazGranados D. Expertise-based intuition and decision making in organizations. *Journal of Management*. 2010;36:941-973.
13. Fiore SM, **Rosen MA**, Smith-Jentsch KA, Salas E, Letsky M, Warner N. Toward an Understanding of Macrocognition in Teams: Predicting Processes in Complex Collaborative Contexts. *Human Factors*. 2010;52(2):203-224.
14. Weaver SL, Salas E, Lyons R, Lazzara EH, **Rosen MA**, DiazGranados D, Grim JG, Augenstein JS, Birnbach DJ, King HB. Simulation-based team training at the sharp end: A qualitative study of

- simulation-based team training design, implementation, and evaluation in healthcare. *Journal of Emergencies, Trauma, and Shock*. 2010;4(3):369-77.
15. **Rosen, MA**, Weaver SL, Lazzara EH, Salas E, Wu TS, Silvestri S, Schiebel N, Almeida S, King HB. Tools for evaluating team performance in simulation-based training. *Journal of Emergencies, Trauma, and Shock*. 2010;3:353-9.
 16. Weaver SL, Lyons R, DiazGranados D, **Rosen MA**, Salas E, Oglesby J, Birnbach DJ, Augenstein JS, Robinson DW, King HB. The anatomy of healthcare team training: The state of practice. *Academic Medicine*. 2010;85:1746-60.
 17. Weaver SL, **Rosen MA**, Salas E, Baum KD, King HB. Integrating the science of team training: Guidelines for continuing medical education. *Journal of Continuing Education in the Health Professions*. 2010;30:208-20.
 18. Deering S., **Rosen MA**, Ludi V, Munroe M, Pocrnich A, Laky C, Napolitano P. On the front lines of patient safety: Implementation and evaluation of team training in Iraq. *Joint Commission Journal on Quality and Patient Safety*. 2011;37(8):350-6.
 19. **Rosen MA**, Bedwell WL, Wildman JL, Fritzsche BA, Salas E, Burke CS. Managing adaptive performance in teams: Guiding principles and behavioral markers for measurement. *Human Resources Management Review*. 2011;21:107-22.
 20. Patterson PD, Weaver MD, Weaver S, **Rosen MA**, Todorova G, Weingart L, Krackhardt D, Lave J, Arnold R, Yealy D, Salas E. Measuring teamwork and conflict among Emergency Medical Technician personnel. *Prehospital Emergency Care*. 2012;16:98-108.
 21. Wildman JL, Thayer A, **Rosen MA**, Salas E., Mathieu J, Rayne S. Task types and team level attributes: A synthesis of team classification literature. *Human Resources Development Review*. 2012;11:97-129.
 22. Weaver SJ, Newman-Toker D, **Rosen MA**. Reducing Cognitive Skill Decay and Diagnostic Error: Theory-Based Practices for Continuing Education in Health Care. *Journal of Continuing Education in the Health Professions*. 2012;32:269-78.
 23. **Rosen MA**, Hunt E, Pronovost PJ, Federowicz M, Weaver SJ. In Situ Simulation in Continuing Education for the Healthcare Professions: A Systematic Review. *Journal of Continuing Education in the Health Professions*. 2012;32:243-54.
 24. Grossman R, Salas E, Pavlas D, **Rosen MA**. Using Instructional Features to Enhance Demonstration-Based Training in Management Education. *Academy of Management Learning and Education*. 2013;12(2):1-25.
 25. Ohtake PJ, Lazarus M, Schillo R, **Rosen MA**. Simulation Experience Enhances Physical Therapy Student Confidence in Managing a Patient in the Critical Care Environment. *Physical Therapy Journal*. 2013;93:216-28.
 26. **Rosen MA**, Sampson JB, Jackson EV, Jr., Koka R, Chima AM, Ogbuagu OU, Marx MK, Koroma M, Lee BH. Failure Mode and Effects Analysis of the Universal Anesthesia Machine in Two Tertiary Care Hospitals in Sierra Leone. *British Journal of Anesthesia*. 2014;113(3):410-5.
 27. Hicks CW, **Rosen MA**, Hobson D, Ko C, Wick, E. Improving Safety and Quality of Care With Enhanced Teamwork Through Operating Room Briefings. *JAMA Surgery*. 2014;149(8):863-8.
 28. **Rosen MA**, Lee BH, Sampson JB, Koka R, Chima AM, Ogbuagu OU, Marx MK, Kamara TB, Koroma M, & Jackson, EV, Jr. Failure Modes and Effects Analysis (FMEA) Applied to the Maintenance and Repair of Anesthetic Equipment in an Austere Medical Environment. *International Journal of Quality in Healthcare*. 2014;26(4):404-10.
 29. Johnston FM, Tergas AI, Bennett JL, Valero V, Morrissey C, Nickles Fader A., Hobson D., Weaver SJ, **Rosen MA**, Wick EC. Measuring Briefing and Checklist Compliance in Surgery: A Tool for Quality Improvement. *American Journal of Medical Quality*. 2014;29(6):491-8.
 30. Dietz AS, Pronovost PJ, Mendez-Tellez P, Wyskiel R, Marsteller JA, Thompson DA, & **Rosen MA**. A Systematic Review of Teamwork in the ICU: What do we know about Teamwork, Team Tasks, and Improvement Strategies? *Journal of Critical Care*. 2014;29(6):908-14.
 31. Dietz AS, Pronovost PJ, Benson KN, Mendez-Tellez P, Dwyer C, Wyskiel R, & **Rosen MA**. A Systematic Review of Behavioral Marker Systems in Healthcare: What do we know about their Attributes, Validity, and Application? *BMJ Quality and Safety*. 2014;23(12):1031-9.

32. Weaver SJ, Dy S, **Rosen MA**. Team-Training in Health Care: A Narrative Synthesis of the Literature. *BMJ Quality and Safety*. 2014;23;359-372.
33. Arnholt AM, Duval-Arnould JM, McNamara LM, **Rosen MA**, Singh K, & Hunt, EA. Comparatively evaluating medication preparation sequences for treatment of hyperkalemia in pediatric cardiac arrest: A prospective, randomized, simulation-based study. *Pediatric Critical Care Medicine*. 2015;16(7):224-30.
34. Wyskiel RM, Chang BH, Alday AA, Thompson DA, **Rosen MA**, Dietz AS, & Marsteller JA. Towards Expanding the Acute Care Team: Learning How to Involve Families in Care Processes. *Families, Systems, and Health*. 2015 Sep;33(3):242-9.
35. **Rosen MA**, Chima AM, Sampson JB, Jackson EV Jr, Koka R, Marx M, Kamara TB, Obugu OU, & Lee BH. Engaging Staff to Improve Quality and Safety in an Austere Medical Environment: A Case-control Study in Two Sierra Leonean Hospitals. *International Journal of Quality in Healthcare*. 2015;27(4):320-7.
36. **Rosen MA**, Goeschel CA, Che X, Fawole JO, Rees D, Ingle RC, Gelinas L, Martin JN, Kosel KC, Pronovost PJ, & Weaver SJ. Simulation in the Executive Suite: Lessons Learned from Building Patient Safety Leadership. *Simulation in Healthcare*. 2015;10(6):372-7.
37. Sullivan N, Duval-Arnould JM, Perretta JS, **Rosen MA**, & Hunt EA. The Ideal Dance: Using Simulation to Design Choreography for the First Few Minutes of a Cardiopulmonary Arrest. *Clinical Simulation in Nursing*. 2015;11(11):489-93.
38. Koka R, Chima AM, Sampson JB, Jackson EV, Obugu OO, **Rosen MA**, Koroma M, Tran TP, Marx MK, & Lee BH. Anesthesia Practice and Perioperative Outcomes at Two Tertiary Care Hospitals in Freetown, Sierra Leone. *Anesthesia & Analgesia*. 2016, 123(1):213-227.
39. Lee NH, Priebe CH, Tang R, & **Rosen MA**. A Model Selection Approach for Clustering a Multinomial Sequence with Non-negative Factorization. *IEEE Transactions on Pattern Analysis and Machine Intelligence*. 2016; 38(12): 2345-8.
40. Waldfogel JM, Battle DJ, **Rosen MA**, Knight L, Saiki CB, Nesbit SA, Cooper RS, Browner IS, Hoofring LH, Billing LS, & Dy SM. Team Leadership and Cancer End of Life Decision Making. *Journal of Oncology Practice*. 2016;12(11):1135-40.
41. Hunt EA, Duval-Arnould JM, Chime N, Jones K, **Rosen MA**, Hollingsworth M, Aksamit D, Twilley IM, Camacho C, Nogee D, Jung J, Nelson-McMillan K, Shilkofski N, & Perretta J. Integration of In-Hospital Cardiac Arrest Contextual Curriculum into a Basic Life Support Course: A Randomized, Controlled Simulation Study. *Resuscitation*. 2017; 114:127-132. [SI/QI]
42. Grant MC, Hanna A, Benson A, Hobson D, Wu CL, Yuan CT, **Rosen MA**, Wick EC. Dedicated Operating Room Teams and Clinical Outcomes in an Enhanced Recovery after Surgery Pathway for Colorectal Surgery. *Journal of the American College of Surgeons*. 2017 Dec 21.
43. Mort E, Bruckel J, Donelan K, Paine L, **Rosen MA**, Thompson D, Weaver SJ, Yagoda D, Pronovost P. Improving health care quality and patient safety through peer-to-peer assessment: demonstration project in two academic medical centers. *American Journal of Medical Quality*. 2017; 32(5):472-9. [SI/QI]
44. **Rosen MA**, Mueller BU, Milstone AM, Remus DR, Demski R, Pronovost PJ, Miller MR. Creating a Pediatric Joint Council to Promote Patient Safety and Quality, Governance, and Accountability Across Johns Hopkins Medicine. *The Joint Commission Journal on Quality and Patient Safety*. 2017 May 31;43(5):224-31. [SI/QI]
45. Scherzer DJ, Chime NO, Tofil NM, Hamilton MF, Singh K, Stanley RM, Kline J, McNamara LM, **Rosen MA**, Hunt EA, Stone K. Survey of pediatric trainee knowledge: dose, concentration, and route of epinephrine. *Annals of Allergy, Asthma & Immunology*. 2017 Apr 1;118(4):516-8.
46. Aboumatar HJ, Weaver SJ, Rees D, **Rosen MA**, Sawyer MD, Pronovost PJ. Towards high-reliability organising in healthcare: a strategy for building organisational capacity. *BMJ Quality and Safety*. 2017 Aug 1;26(8):663-70.
47. Chime NO, Riese VG, Scherzer DJ, Perretta JS, McNamara L, **Rosen MA**, Hunt EA. Epinephrine Auto-Injector Versus Drawn Up Epinephrine for Anaphylaxis Management: A Scoping Review. *Pediatric Critical Care Medicine*. 2017 May 10;18(8):764-9.
48. Shuffler ML, Kramer WS, Carter DR, Thayer AL, **Rosen MA**. Leveraging a team-centric approach to diagnosing multiteam system functioning: The role of intrateam state profiles. *Human Resource Management Review*. 2018 Dec 1; 28(4):361-77.

49. Nelson K, **Rosen MA**, Shilkofski NA, Haggerty Bradshaw J, Saliski M, Hunt EA. Cognitive Aids Do Not Prompt Initiation of Cardiopulmonary Resuscitation in Simulated Pediatric Cardiopulmonary Arrests. *Simulation in Healthcare*. 2018;13(1):41-6.
50. Sampson J, Nelson-Williams H, Chima A, Lee B, **Rosen MA**, Ogbuagu B, Koka R, Tran T, Koroma M, & Jackson E. Medical Simulation as a Vital Adjunct to Identifying Clinical Life-threatening Safety Gaps in Austere Environments. *Journal of the National Medical Association*. 2018: 110(2):117-23.
51. **Rosen MA**, Dietz AS, Lee N, Wang I, Markowitz J, Wyskiel RM, Yang T, Priebe CE, Spairstein A, Gurses AP, & Pronovost PJ. Sensor-based Measurement of Critical Care Nursing Workload: Unobtrusive Measures of Nursing Activity Complement Traditional Task and Patient Level Indicators of Workload to Predict Perceived Exertion. *PLOS ONE*, 13(10), p.e0204819.
52. Dietz AS, Salas E, Pronovost PJ, Jentch F, Wyskiel R, Mendez-Telez PA, Dwyer C, & **Rosen MA**. The Evaluation of a Measurement System to Assess Intensive Care Unit Team Performance. *Critical Care Medicine*. 2018: 46(12): 1898-1905. *Article accompanied by commentary
53. Austin M, Kirley E, **Rosen MA**, & Winters B. A comparison of two structured taxonomic strategies in capturing adverse events in U.S. hospitals. *Health Services Research*. 2018:1-10. DOI: 10.1111/1475-6773.13090
54. Stone AB, Yuan CT, **Rosen MA**, Grant MC, Benishek LE, Hanahan E, Lubomski LH, Ko C, & Wick EC. Barriers to and facilitators of implementing enhanced recovery pathways using an implementation framework: a systematic review. *JAMA Surgery*. 2018: 153(3):270-9.
55. Hunt E, Jeffers J, McNamara L, Newton H, Ford K, Bernier M, Tucker E, Jones K, O'Brien CE, Dodge P, Vanderwagen S, Meredith C, Pegram T, **Rosen MA**, & Duval-Arnould J. A Resuscitation Quality Bundle is Associated with Improved CPR Performance: CODE-ACES2. *Journal of the American Heart Association*. 2018 Dec 18;7(24):e009860. [SI/QI]
56. Hsu Y, Kosinski AS, Wallace AS, Saha-Chaudhuri P, Chang BH, Speck K, **Rosen MA**, Gurses AP, Xie A, Huang S, Cameron DE, Thompson DA, & Marsteller J. Using a society database to evaluate a patient safety collaborative: The Cardiovascular Surgical Translational Study. *Journal of Comparative Effectiveness Research*. 2018 Dec 11;8(1):21-32.
57. Gurses AP, Dietz AS, Nowakowski E, Andonian J, Schiffhauer M, Billman C, Abashian AM, Trexler P, Osei P, Benishek LE, Xie A, Pronovost PJ, **Rosen MA**, Maragakis LL with CDC Prevention Epicenter Program. Human factors-based risk analysis to improve the safety of doffing enhanced personal protective equipment. *Infection Control & Hospital Epidemiology*:1-9. 2018 Dec 6:1-9.
58. Kim S, Weaver SJ, Yang T, & **Rosen MA**. Managing creativity and compliance in the pursuit of patient safety. *BMC Health Services Research*. 2018 Dec;19(1):116.
59. Sampson JB, Lee BH, Koka R, Chima AM, Jackson EV, Ogbuagu OO, Tran TP, & **Rosen MA**. Human Factors Evaluation of the Universal Anaesthesia Machine: Assessing Equipment with High-fidelity Simulation Prior to Deployment in a Resource-Constrained Environment. *Journal of the National Medical Association*. 2019 Oct 1;111(5):490-9.
60. D'Souza T, **Rosen MA**, Bertram AK, Apfel A, Desai SV, & Garibaldi BT. The use of a real-time location system (RTLS) to understand resident workflow in an academic medical center. *Journal of Graduate Medical Education*. 2019 Jun;11(3):324-7.
61. Chang BH, Hsu YJ, **Rosen MA**, Gurses AP, Huang S, Xie A, Speck K, Marsteller JA, & Thompson DA. Reducing three infections across cardiac surgery programs: A multi-site across-unit collaboration. *American Journal of Medical Quality*. 2020 Jan;35(1):37-45.
62. Allen JA, Taylor J, Murray RM, Kilcullen M, Cushenbery L, Gevers J, Larson L, Ioku T, Maupin C, Perry S, Park S, **Rosen MA**, Fry T, McLeod P, Harris A, & Fosler K. Mitigating Violence Against First Responder Teams: Results and Ideas From the Hackmanathon. *Small Group Research*. 2020 Jun;51(3):375-401.
63. Barasch N, Romig MC, Demko ZO, Dwyer C, Dietz A, **Rosen MA**, Griffiths SM, Ravitz AD, Pronovost PJ, Saperstein A. Automation and interoperability of a nurse-managed insulin infusion protocol as a model to improve safety and efficiency in the delivery of high-alert medications. *Journal of Patient Safety and Risk Management*. 2020 Feb;25(1):5-14.
64. Kilcullen M, Bisbey T, **Rosen MA**, & Salas E. Does Team Orientation Matter? A State of the Science Review, Meta-Analysis and Multilevel Framework. *Journal of Organizational Behavior*. In press.

65. **Rosen MA**, Romig M, Demko Z, Barasch N, Dwyer C, Pronovost PJ, & Sapirstein A. A Smart Agent System for Insulin Infusion Protocol Management: A Simulation-based Human Factors Evaluation Study. *BMJ Quality and Safety*. Published Online First: 10 March 2021. doi: 10.1136/bmjqs-2020-011420.
66. Kasda E, Robson C, Khaleghzadegan S, Paine L, Dietz AS, Lee N, & **Rosen MA**. Finding Stories behind the Categories: Discovery in Patient Safety Event Reports using Generative Modeling and Lexical Analysis. *Journal of Patient Safety and Risk Management*. Under revision. [SI/QI]
67. **Rosen MA**, Han H, & Denison-Himelfarb C. Guided Self-Reflection for Research Teams: Initial Validation of a Structured Tool. *Journal of Clinical and Translational Research*. Under review.
68. Weaver SJ, Khaleghzadegan S, Benishek L, Kim S, & **Rosen MA**. Simu-Leader: A Randomized Evaluation of a Simulation-based Patient Safety Leadership Program. *BMJ Quality and Safety*. Under review.
69. Kazi S, Dietz AS, Berenholtz S, Sapirstien A, & **Rosen MA**. Measurement of Nontechnical Competencies in Intensivists through Peer Assessments. *Journal of Critical Care*. Under review.
70. Demko Z, Barasch N, Dwyer C, Romig M, Sapirstein A, & **Rosen MA**. Nurse-managed Insulin Infusion Protocols: A multi-method Human Factors Evaluation to Inform System Redesign. *Human Factors*. To be submitted.
71. Han H, Byiringiro S, Lacanieta C, Weston C, Terkowitz M, Reese M, **Rosen MA**, Himmelfarb C, Sheikhattari P, Medeiros M, Fakunle D. Storytelling training to promote stakeholder engagement in research dissemination. *Journal of Clinical and Translational Research*. In press.
72. Marsteller JA, **Rosen MA**, Wyskiel R, Chang BH, Hsu Y, Thompson DA, Kim G, Speck K, Ijagbemi M, Huang S, Gurses AP. Multi-Team Shared Expectations Tool (MT-SET): A Tool and Activity to Improve Teamwork across Health Care Teams. *PLOS One*. Under review.
73. Wong VSS, Williams MK, Akiona CK, Avalos LN, Taylor EJ, Stein AG, Koenig MA, Rosen MA. Demographic and technological factors influencing virtual seizure clinic visit satisfaction before and during the Covid-19 pandemic in rural Hawaii. 2021. *Epilepsy & Behavior*. [In Press]

Review Articles [RA]

1. Salas E, **Rosen MA**, Held JD, Weissmuller JJ. Performance measurement in simulation-based training: A review and best practices. *Simulation & Gaming: An Interdisciplinary Journal*. 2009; 40(3):328-376.
2. Salas E, **Rosen MA**, Weaver SL, Held JD, Weissmuller JJ. Guidelines for Performance Measurement in Simulation-based Training. *Ergonomics in Design*. 2009;17(4):12-18.
3. **Rosen MA**, Salas E, Pavlas D, Jensen R, Fu D, Lampton D (2010). Demonstration-based training: A review and typology of instructional features. *Human Factors*. 2010;52:596-609.
4. Cuong-Pham J, Aswani MS, **Rosen MA**, Lee H, Huddle M, Weeks K, Pronovost PJ. Reducing medical errors and adverse events. *Annual Review of Medicine*. 2012;63:447-63.
5. **Rosen MA**, Dietz AS, Yang T, Priebe CE, & Pronovost PJ. An Integrative Framework for Sensor-based Measurement of Teamwork in Healthcare. *Journal of the American Informatics Association*, 2015;22(1):11-16.
6. Pronovost PJ, Marsteller JA, Wu AW, Holzmuller CG, Thompson DA, Lubomski LH, Paine LA, Hobson DB, Sawyer MD, Wyskiel RM, Aboumatar H, Needham DM, Goeschel CA, Winters BD, Pham JC, Sapirstein, A, Romig M, Mendez-Tellez PA, Gurses AP, **Rosen MA**, Weaver SJ, Austin JM, Latif A, Berenholtz SM. (2014) Advancing the science of patient safety and quality improvement to the next level. *Advances in the Prevention and Control of HAIs*. Rockville, MD: Agency for Healthcare Research and Quality. <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/advances-in-hai/hai-article1.html>
7. Deutsch ES, Dong Y, Halamek, LP, **Rosen MA**, Taekman JM, & Rice J. Leveraging Healthcare Simulation Technology for Human Factors Research: Closing the gap between bench and bedside. *Human Factors*. 2016; 58(7):1082-95.
8. **Rosen MA**, DiazGranados D, Benishek LE, Dietz AS, Thompson D, Pronovost PJ, & Weaver SJ. Teamwork in Health Care: Key Discoveries Enabling Safer, High Quality Care. *American Psychologist*. 2018; 73(4):433-50.
9. Kazi S, Khaleghzadegan S, Shelhamer MJ, Sapirstein A, Goeddel L, Chime N, Dinh J, Salas E, & **Rosen MA**. Team Physiological Dynamics: A Critical Review. *Human Factors*. 2019 Sep 26:0018720819874160.
10. Salas E, Bisbey TM, Traylor AM, **Rosen MA**. Can Teamwork Promote Safety in Organizations? *Annual Review of Organizational Psychology and Organizational Behavior*. 2020 Jan 21;7:283-313.

Editorials [ED]

1. Salas E, **Rosen MA**. Beyond the bells and whistles: When simulation-based team training works best. *Harvard CRICO RMF Forum*. 2008;26(4):6-7.
2. Salas E, **Rosen MA**, King HB. Integrating teamwork into the 'DNA' of Graduate Medical Education: Principles for simulation-based training. *Journal of Graduate Medical Education*. 2009;1(2):243-244.
3. **Rosen MA**, Shuffler M, Salas E. How experts make decisions: Beyond the JDM paradigm. *Industrial and Organizational Psychology: Perspectives on Science and Practice*. 2010;3:438-442.
4. Salas E, King HB, **Rosen MA**. Improving Teamwork and Safety: Towards a Practical Systems Approach. *Social Science in Medicine*. 2012;75:986-9.
5. Salas E, **Rosen MA**. Building high reliability teams: Progress and some reflections on teamwork training. *BMJ Quality & Safety*. 2013;22:369-373.
6. Salas E, Paige J, **Rosen MA**. Creating new realities in healthcare: The status of simulation as a patient safety improvement method. *BMJ Quality and Safety*. 2013;22:449-52.
7. Clarke JL, Miff S, Cutler D, Udow-Phillips M, Wolterman D, Rosenthal M, McGonigal J, Smith Gelinas L, DeMotte C, Hatlie MJ, Collier S, Hicks D, Doty J, Goeschel C, **Rosen MA**, Weaver SJ, Johnson A, Welch R, Nass PL, & McGonigal K. Navigating to Excellence Solutions Driving Exceptional Results. *American Journal of Medical Quality*. 2014: 29(1 suppl), 3S-18S.
8. **Rosen MA**, Pronovost PJ. Advancing the Use of Checklists for Evaluating Performance in Health Care. *Academic Medicine*. 2014;89(7):963-5.
9. West C, Landry K, Graham A, Graham L, Cianciolo AT, Kalet A, **Rosen MA**, Sherman D. Conversation Starters: Evaluating Interprofessional Teamwork During a Large Scale Simulation. *Teaching and Learning in Medicine*. 2015;27(4):366-39.
10. Pham J, Goeschel CA, Berenholtz SM, Demski R, Lubomski LH, **Rosen MA**, Sawyer MD, Thompson DA, Trexler P, Weaver SJ, Weeks KR, & Pronovost PJ. CLABSI Conversations: Lessons from Peer-to-Peer Assessments to Reduce Central Line-Associated Bloodstream Infections. *Quality Management in Healthcare*. 2016;25(2): 67-78.
11. Pronovost PJ, Weaver SJ, Berenholtz SM, Lubomski LH, Maragakis LL, Marsteller JA, Pham JC, Sawyer MD, Thompson DA, Weeks K, **Rosen MA**. Reducing preventable harm: observations on minimizing bloodstream infections. *Journal of Health Organization and Management*. 2017 Mar 20;31(1).
12. Gurses AP, **Rosen MA**, Pronovost PJ. Improving Guideline Compliance and Health Care Safety Using Human Factors Engineering: The Case of Ebola. *Journal of Patient Safety and Risk Management*. 2018;23(3) 93–95.
13. **Rosen MA**, Benishek L, Kim S, Hanahan E, & Khaleghzadegan S. The Simu-Leader Programme. *Health Management*. 2018; 18(5): 360-61.
14. Shuffler ML, Salas E, **Rosen MA**. The Evolution and Maturation of Teams in Organizations: Convergent Trends in the New Dynamic Science of Teams. *Frontiers in Psychology*. 2020. <https://doi.org/10.3389/fpsyg.2020.02128>
15. Myers C, **Rosen MA** & Yuan CT. What a Pandemic Reveals About Learning in Health Care Organizations. *Industrial and Organizational Psychologist*. Cambridge University Press; 2021;14(1-2):126–9.
16. Kennel V, **Rosen MA** & Lowndes B. Virtual Teamwork in Healthcare Delivery: I-O Psychology in Telehealth Research and Practice. *Industrial and Organizational Psychologist*. Cambridge University Press; 2021;14(1-2):235–8.
17. **Rosen MA**, Denison-Himmelfarb C, Bauer T, Mullins CD. The Health Literate Learning Health Care System. *New England Journal of Medicine*. Under review.

Book Chapters, Monographs [BC]

1. Salas E, **Rosen MA**, Burke CS, Goodwin GF, & Fiore SM. (2006). The making of a dream team: When expert teams do best. In KA Ericsson, N Charness, PJ Fletovich & RR Hoffman (Eds.), *The Cambridge Handbook of Expertise and Expert Decision Making* (pp. 439-453). New York: Cambridge University Press.
2. **Rosen MA**, Kelly B, & Salas E. (2006). The role of shared cognition and CSCW in strategic alliances. In S Martinez-Fierro, JA Medina-Garrido & JR Ruiz-Navarro (Eds.), *Utilizing Information Technology in Developing Strategic Alliances among Organizations* (pp. 74-91). Hershey, PA: Idea Group.

3. Stagl KC, Salas E, **Rosen MA**, Priest HA, Burke CS, Goodwin GF, et al. (2007). Distributed team performance: Continuing the dialogue. In F Dansereau & FJ Yammarino (Eds.), *Multi-level Issues in Organizations and Time* (Vol. 6, pp. 83-91). Amsterdam: Elsevier/JAI.
4. Stagl KC, Salas E, **Rosen MA**, Priest HA, Burke CS, Goodwin GF, et al. (2007). Distributed team performance: A multi-level review of distribution, diversity, and demography. In F Dansereau & FJ Yammarino (Eds.), *Multi-level Issues in Organizations and Time* (Vol. 6, pp. 11-58). Amsterdam: Elsevier/JAI.
5. **Rosen MA**, Fiore SM, & Salas E. (2007). Of memes and teams: Exploring the memetics of team problem solving. In D Jonassen (Ed.), *Learning to Solve Complex Scientific Problems* (pp. 131-156). New York: Erlbaum.
6. **Rosen MA**, Salas E, Lyons R, & Fiore SM. (2008). Expertise and naturalistic decision making in organizations: Mechanisms of effective decision making. In GP Hodgkinson & WH Starbuck (Eds.), *The Oxford Handbook of Organizational Decision Making: Psychological and Management Perspectives* (pp. 211-230). Oxford, UK: Oxford University Press.
7. Fiore SM, **Rosen MA**, Salas E, Burke CS, & Jentsch F. (2008). Processes in complex team problem solving: Parsing and defining the theoretical problem space. In M Letsky, N Warner, SM Fiore & C Smith (Eds.), *Macro cognition in Teams*. London: Ashgate.
8. Burke CS, Hess KP, Priest HA, **Rosen MA**, Salas E, Paley M, et al. (2008). Facilitating leadership in a global community: A training tool for multicultural team leaders. In S Reddy (Ed.), *Managing Multicultural Teams* (pp. 178-197). Hyderabad, India: Icfai University Press.
9. Salas E, & **Rosen MA**. (2008). Naturalistic decision making, expertise, and Homeland Security. In G Voeller (Ed.), *Handbook of Science and Technology for Homeland Security*. Hoboken, NJ: Wiley.
10. Salas E, Weaver SL, **Rosen MA**, & Smith-Jentsch KA. (2009). Managing team performance in complex settings: Research-based best practices. In JW Smither & S London (Eds.), *Performance Management: Putting Research into Practice* (pp. 197-232). San Francisco, CA: Jossey-Bass.
11. Salas E, & **Rosen MA**. (2009). Performance assessment in virtual environments: Guiding principles for training. In DD Schmorow, J Cohn & D Nicholson (Eds.), *The PSI Handbook of Virtual Environments for Training and Education: Developments for the Military and Beyond* (Vol. 1, pp. 225-235). Westport, CT: Praeger Security International.
12. Salas E, **Rosen MA**, Burke CS, & Goodwin GF. (2009). The wisdom of collectives in organizations: An update of the teamwork competencies. In E Salas, GF Goodwin & CS Burke (Eds.), *Team Effectiveness in Complex Organizations: Cross-disciplinary perspectives and approaches* (pp. 39-79). New York: Routledge.
13. Salas E, & **Rosen MA**. (2010). Experts at work: Principles for developing expertise in organizations. In SWJ Kozlowski & E Salas (Eds.), *Learning, Training, and Development in Organizations* (pp. 99-134). New York: Routledge.
14. Burke CS, Salas E, Smith-Jentsch KA, & **Rosen MA**. (2010). Measuring macrocognition in teams: Some insights for navigating the complexities. In ES Patterson & JE Miller (Eds.), *Macro cognition metrics and science: Design and evaluation for real-world teams* (pp. 29-46). Aldershot, UK: Ashgate.
15. **Rosen MA**, Feldman M, Salas E, King HB, & Lopreiato J. (2010). Challenges and opportunities for applying human factors methods to the development of non-technical skills in healthcare education. In V Duffy (Ed.), *Advances in Human Factors and Ergonomics in Healthcare* (pp. 1-30). Boca Raton, FL: CRC Press.
16. **Rosen MA**, Fiore SM, McDaniel R, & Salas E. (2010). Adapting narrative theory to improve the implementation of story in problem-based learning. In DH Andrews, TD Hull, & DeMeester K. (Eds.), *Storytelling as an Instructional Method: Research Perspectives* (pp. 87-104). Rotterdam: Sense Publishers.
17. Fiore SM, **Rosen MA**, & Salas E. (2011). Uncertainty management and macrocognition in teams: A multidisciplinary review and integration. In KL Mosier and UM Fischer (Eds.), *Informed by knowledge: Expert performance in complex situations* (pp. 247-60). Psychology Press: New York.
18. Salas E, **Rosen MA**, Held JD, & Weissmuller JJ. (2011). Performance measurement in simulation-based training: A review and best practices. In F Jentsch, M Curtis & E Salas (Eds.), *Simulation in Aviation Training*. Aldershot, UK: Ashgate.
19. Goeschel C, **Rosen MA**, Lubomski L, Thompson D, Pronovost PJ, & Berenholtz S. (2012). Identifying and responding to patient safety problems. In S Berman (Ed.), *From Front Office to Front Line* (2nd ed.) (pp. 37-57). Joint Commission Resources.

20. Salas, E., Weaver, S.J., **Rosen, M. A.**, Gregory, M.E. (2012). Team training for patient safety. In P. Carayon (Ed.), *Handbook of Human Factors and Ergonomics in Health Care and Patient Safety* (2nd ed.) (pp. 627-47). New York: Routledge.
21. **Rosen MA**, Salas E, Tannenbaum SI, Pronovost P, & King HB. (2012). Simulation-based team training in healthcare: Designing scenarios, measuring performance, and providing feedback. In P Carayon (Ed.), *Handbook of Human Factors and Ergonomics in Health Care and Patient Safety* (2nd ed.) (pp. 573-94). New York: Routledge.
22. **Rosen MA**, Wildman JL, Salas E, & Rayne S. (2012). Measuring team dynamics in the wild. In AB Hollingshead & MS Poole (Eds.), *Research methods for studying group and teams: A guide to approaches, tools, and technologies* (pp. 386-417). New York: Routledge.
23. **Rosen MA**, Salas E, Lazzara EH, & Lyons R. (2012). Cognitive task analysis: Methods for capturing and leveraging expertise in the workplace. In MA Wilson, W Bennett, SG Gibson, and GM Alliger. (Eds.), *The Handbook of Work Analysis: The Methods, Systems, & Science of Work Measurement in Organizations* (pp. 185-200). New York: Routledge.
24. **Rosen MA**, & Pronovost PJ, (2012). Teamwork in healthcare: From training programs to integrated systems of development. In K Frush & E Salas (Eds.), *Improving Patient Safety through Teamwork and Team Training* (pp. 239-43). Oxford, UK: Oxford University Press.
25. Salas E, & **Rosen MA**, (2012). Using the science of teamwork to transform healthcare: Themes and what's next. In K Frush & E Salas (Eds.), *Improving Patient Safety through Teamwork and Team Training* (pp. 257-60). Oxford, UK: Oxford University Press.
26. **Rosen MA**, Schiebel N, Salas E, Wu TS, Silvestri S, & King HB. (2012). How can team performance be measured, assessed, and diagnosed? In K Frush & E Salas (Eds.), *Improving Patient Safety through Teamwork and Team Training* (pp. 59-93). Oxford, UK: Oxford University Press.
27. Salas E, **Rosen MA**, & DiazGranados D. (2012). Decision making in naturalistic environments. In SWJ Kozlowski (Ed.), *Oxford Handbook of Industrial and Organizational Psychology (Vol. 2, pp. .* Oxford, UK: Oxford University Press.
28. Weaver SJ, & **Rosen MA**. Team-training in healthcare: Brief review. In RM Watcher, PG Shekelle, P Pronovost (Eds.). Making healthcare safer II. Rockville, MD. Agency for Healthcare Research and Quality, Rockville, MD. <https://www.ahrq.gov/research/findings/evidence-based-reports/ptsafetyuptp.html>
29. Salas E, **Rosen MA**, & Weaver SJ. (2013). Best Practices for Measuring Team Performance in Healthcare. In WC McGaghie (Ed.), *International Best Practices for Evaluation in the Health Professions* (pp.169-97). London, UK: Radcliffe Publishing.
30. Weaver SJ, Che X, Pronovost PJ, Goeschel CA, Kosel K C, & **Rosen MA**. (2014). Improving Patient Safety and Care Quality: A Multi-Team System Perspective. In E Salas, R Rico, & M Shuffler (Eds.). In *Pushing the Boundaries: Multiteam Systems in Research & Practice* (pp. 35-60). Emerald Group Publishing Limited.
31. Hunt EA, Grant D, & **Rosen MA**. (2016) Simulation Training and Team Dynamics. DH Shaffner (Ed), *Roger's Handbook of Pediatric Intensive Care*, 5th Edition. (pp. 29-36). Wolters Kluwer.
32. **Rosen MA**, Coffman I, Dietz AS, & Pham JC. (2017). Decision Making in Emergency Medical Systems. J Keebler (Ed). *Human Factors in Emergency Medical Systems* (pp. 41-52). Boca Raton, FL: CRC Press.
33. **Rosen MA**, Tran G, Carolan H, Romig M, Dwyer C, Dietz AS, Kim G, Ravitz A, Sapirstien A, & Pronovost PJ. (2015). Weaver CA, Ball MJ, Kim GR, & Kiel JM (Eds.) *Data Driven Patient Safety and Clinical Information Technology: Cases, Strategies, and Solutions*. In: *Healthcare Information Management Systems*, 4th Ed (pp. 301-316). Springer International Publishing.
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35. **Rosen MA**, Dietz AS, & Kazi S. (2018). Beyond Coding Interaction: New horizons in interaction analysis. Brauner E, Boos M, & Kolbe M (Eds). *Cambridge Handbook of Group Interaction Analysis* (pp. 142–161). Cambridge University Press.
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37. Museaus P, Tatar D, **Rosen MA**. Medical Computational Thinking: Computer Scientific Reasoning in the Medical Curriculum. (2017). In Rich PJ & Hodges CB (Eds). Emerging Research, Practice, and Policy on Computational Thinking (pp. 85-98) Springer International Publishing.
38. **Rosen MA**, Kazi S, & Khaleghzadegan S. (2019). Microenvironmental Influences on Team Performance in Cancer Care. In D. Berrigan and N. Berger (Eds). Putting Cancer in Its Place: Geospatial Approaches to Energy Balance and Breast Cancer (pp. 399-414). Springer.
39. Khaleghzadegan S, Kazi S, & **Rosen MA**. (2020). Unobtrusive Measurement of Team Cognition: A Review and Event-Based Approach to Measurement Design. In M McNeese, E. Salas, & M. Endsley (Eds.), The Handbook of Distributed Team Cognition (pp. 95-113). CRC Taylor & Francis.
40. Kazi S, Khaleghzadegan S, & **Rosen MA**. (2020). Technological Advances to Understand and Improve Individual and Team Resilience in Extreme Environments. In L.B. Landon, K.J. Slack, & E. Salas (Eds.), Psychology and Human Performance in Space Programs (pp 87-105). CRC Press.
41. **Rosen MA**, Che X, Dietz A, Katznelson J, & Hunt EA. (2021). Interdisciplinary Team Training. In Strother C, Okuda H, & McLaughlin S (Eds). The Comprehensive Textbook of Healthcare Simulation: Emergency Medicine Edition (pp. 57-65). Springer.
42. Grant D, Hunt EA, Shilkofski N, Shetty R & **Rosen MA**. (In development) Simulation Training and Team Dynamics. DH Shaffner (Ed), *Roger's Handbook of Pediatric Intensive Care*, 6th Edition. (pp. xx). Wolters Kluwer.

Guidelines/Protocols, Consensus Statement, Expert Opinion, Consortium Articles [GL]

1. Cheng A, Nadkarni VM, Mancini MB, Hunt EA, Sinz EH, Merchant RM, Donoghue A, Duff JP, Eppich W, Auerbach M, Bigham BL. Resuscitation education science: educational strategies to improve outcomes from cardiac arrest: a scientific statement from the American Heart Association. *Circulation*. 2018 Aug 7;138(6):e82-122. AHA Education Scientific Statement byline author listed as **member of American Heart Association Education Science Investigators**.

Research letters, white papers, brief reports [RL]

1. Letsky M, Warner N, Fiore SM, **Rosen MA**, Salas E. Macrocognition in complex team problem solving. Office of Naval Research Arlington VA; 2007 Jun 1. <https://apps.dtic.mil/sti/pdfs/ADA481422.pdf>
2. Weaver SJ, **Rosen MA**. Team-Training in Health Care: Brief Update Review. In: Making Health Care Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices. Rockville (MD): Agency for Healthcare Research and Quality (US); 2013 Mar. (Evidence Reports/Technology Assessments, No. 211.) Chapter 40. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK133357/>
3. **Rosen MA**, Ali KJ, Buckley BO, Goeschel C. Leadership To Improve Diagnosis: A Call to Action. Rockville, MD: Agency for Healthcare Research and Quality; June 2021. AHRQ Publication No. 20(21)-0040-5-EF. <https://www.ahrq.gov/patient-safety/reports/issue-briefs/leadership.html>
4. Yuan CT, Liu TN, Eidman B, Lin D, Wick EC, & **Rosen MA**. Critical Behaviors for Driving Successful Multidisciplinary Perioperative Improvement Teams. *JAMA Surgery*. Under Review.

Media Releases or Interviews [MR]

- | | |
|-----------|--|
| 9/11/2014 | Web feature: Article [RA5] featured on MDLinx.com website. |
| 2/5/2016 | Print Interview: Gantz, S. (2016, February 5 th). Hopkins to help NASA pick good spacemates for Mars mission. The Baltimore Business Journal. Retrieved from http://www.bizjournals.com/baltimore/blog/cyberbizblog/2016/02/johns-hopkins-researchers-are-developing-a-test-to.html |
| 2/15/2016 | Print Interview: Cohen, M. (2016, February 15 th). <i>Hopkins, Nasa join to pick Mars Astronauts</i> . The Baltimore Sun. Retrieved from http://www.baltimoresun.com/health/maryland-health/bs-hs-travel-to-mars-20160209-story.html . |

- 2/24/2016 Television interview: Johnson, L. (Producer). (2016, February 24th). John Hopkins University helps NASA pick astronauts for Mars missions [Television news interview]. In ABC2 In Focus. Baltimore, MD: ABC2. Retrieved from: <http://www.abc2news.com/news/in-focus/john-hopkins-university-helps-nasa-pick-astronauts-for-mars-missions>
- 4/4/2016 Television interview: Bardan, R. (Producer). (2016, April 4th). Bald eagles born in DC, plus, candidates for mission to Mars [Television news interview]. In Salkin, J. (Executive Producer), Direct Connection. Owings Mills, MD: Maryland Public Television. Retrieved from: <http://video.mpt.tv/video/2365711845/>
- 2/6/2017 Print Interview: Cohn, M. (2017, February 6th). *Hopkins to share surgical care methods with 750 other hospitals*. The Baltimore Sun. <https://www.baltimoresun.com/health/bs-hs-surgical-safety-20170206-story.html>
- 2019 Print Interview: Wexler, L. (Summer 2019). *To Boldly and Safely Go*. Johns Hopkins Magazine (Vol 71, No. 2, pp. 33-9).

Other Media [OM]

- 2018 – present Simu-leader online simulation for developing safety and quality leadership skills, www.simuleader.org/simuleader (general program) and www.simuleader.org/eras (developed for AHRQ's ISCR program).

FUNDING

EXTRAMURAL Funding

Research Extramural Funding – Current

- | | |
|-------------------------|--|
| 01/01/2021 – 09/30/2021 | Medical Simulation and Information Systems (MSIS)
MYRAP_00030461
APL
\$26,891
Role, PI 0% in kind |
| 09/01/2020 – 08/31/2022 | CDC – Infection Prevention and Control Subcontract
21010414
APL
\$2,380,952
PI: Gurses
Role: Co-I, 20% |
| 9/30/2016-12/21/2022 | The Comprehensive Unit-base Safety Program (CUSP) for Improving Surgical Care and Recovery
HHSP233201500020I/HHSP23337004
Agency for Healthcare Research and Quality (AHRQ)
\$14,323,879
PI: Rosen: 40% effort |
| 12/1/2016 – 11/30/2022 | Developing and Validating Sensor-based Measurement Strategies for Team Member Selection
NNX17AB55G
National Aeronautics and Space Administration (NASA)
\$687,497.00
PI: Rosen 20% effort |
| 12/01/2017-04/16/2022 | Identifying Meaningful Indicators of Collective Allostatic Load from Low-Cost, Wearable Sensors |

140D6318C0018
Stottler Henke SBIR Phase II through DARPA
\$143,323.00
Role: Project Director for sub-receipient, 10% effort

5/31/2019 – 4/30/2024	Johns Hopkins Institute for Clinical and Translational Research- UL Portion UL1TR003098-01 NIH/NCATS \$9,881,107 PI: Ford Role: Co-I (Associate Director for Team Science): 10%
07/01/2019-06/30/2021	Development of a Large Screen Integrated Data Display to Facilitate Pediatrics I9IPLOI34770161 American Heart Association \$90,909 PI: Hunt Role: Co-I, 2% effort
08/01/2019-7/31/2024	The Graduate Medical Laboratory (GEL): Reimagining Residency Initiative No ID Number American Medical Association (AMA) \$1,800,000 PI: Desai Role: Co-I, 5%
09/30/2019-09/29/2022	A Human Factors and Systems Approach for Understanding the Diagnostic Process and Associated Safety Hazards in the Emergency Department R01HS027198 Agency for Healthcare Research and Quality (AHRQ) \$277,780 PI: Gurses Role: Co-I, 3% effort

Research Extramural Funding – Pending

07/01/2021 – 12/31/2022	ACTION IV RFTO #7: TeamSTEPs Curriculum Updates No # yet (submission due 4/30/2021) Agency for Healthcare Research and Quality (AHRQ) \$400,000 Role: PI, 15% effort
09/01/2021 – 08/30/2023	Developing Novel Linguistic Analytic Methods to Optimize Relationship Quality and Equity in HIV Care 4040-0010 National Institutes of Health \$275,000 PI: Beach Role: Co-I, 20%
07/01/2022 – 06/31/2027	Precision Intra-operative Teaming: Strategies for Managing High Risk Pediatric Patients R01: No # yet (submission due 06/2021) NIH: National Institute of Child Health and Human Development \$2,500,000 Role: PI, 20% effort

Research Extramural Funding – Previous

09/30/2010 – 07/31/2015	Translating CER results from ICU study to improve outcomes in cardiac surgery R18HS019934 AHRQ \$3,010,923 PI: Pronovost Role: Co-I: 10% effort
7/1/2011-4/30/2018	A Multifaceted Intervention to Reduce Ventilator-Associated Pneumonia in the ICU 1R01HL105903 NIH/NHLBI \$1,416,344 PI: Berenholtz Role: Co-I: 10% effort
09/01/2011-08/31/2015	Development and Demonstration of a Surgical Unit-based Safety Program (SUSP) to Reduce Surgical Site Infection (SSI) and Other Surgical Complications HHSA2902010000271/HHSA29032001T Agency for Healthcare Research and Quality (AHRQ) \$6,162,833 PI: Pronovost Role: Co-I: 20%
09/01/2011 – 10/31/2013	Comprehensive Unit-Based Safety Program (CUSP) for Ventilator Associated Pneumonia (VAP) Preventions HHSA2902010000271/HHSA29032002T Agency for Healthcare Research and Quality (AHRQ) \$431,038 PI: Berenholtz Role: Co-I: 15% effort
09/23/2011 – 12/31/2014	Universal Anesthesia Machine Evaluation Study UAM Global LLC No ID Number \$1,414,834 PI: Jackson Role: Co-I: 10% effort
07/01/2012-12/31/2016	Pathway for Organizational Change, Accountability, and Activation of Executive Leadership for Patient Safety HHSM-500-2012-007C CMS subcontract through Vizient, Inc. (formerly VHA) \$673,572 PI: Rosen 20% effort
08/01/2012-10/31/2013	Maryland Dialysis CUSP/Clabsi Maryland Patient Safety Center \$110,294 PI: Lubomski Role: Co-Investigator, 10% effort
10/1/2012 – 12/31/2015	ICU/Acute Care Multi-site Demonstration Project 3186.01 Gordon and Betty Moore Foundation \$8,384,349 PI: Pronovost Role: Co-I, 10% effort

11/01/2013-10/31/2016	<p>An Integrative Multilevel Study for Improving Patient-Centered Care Delivery Among Patients with Chronic Obstructive Pulmonary Disease IH-1304-7118 PCORI \$1,519,882 PI: Aboumatar Role: Co-I, 2% effort</p>
9/30/2014-9/29/2018	<p>Simulation for Building Leadership Capacity for Patient Safety R18HS23159 Agency for Healthcare Research and Quality (AHRQ) \$498,466 PI: Rosen: 1.8 calendar</p>
09/30/2014-09/29/2018	<p>Transdisciplinary Learning Lab to eliminate patient harm and reduce waste 5P30HS023553-02 Agency for Healthcare Research and Quality \$2,557,998 PI: Pronovost Role: Co-I, 15% effort</p>
07/01/2015-4/30/2020	<p>Care Transitions and Teamwork in Pediatric Trauma: Implications for HIT Design R01HS023837-02 Agency for Healthcare Research and Quality \$1,892,951 PI: Gurses Role: Co-I, 7% effort</p>
09/30/2015-09/29/2018	<p>Applying Human Factors and Mathematical Modeling Approaches to Prevent Transmission of High-Consequence Pathogens 1U54CK000447-001 Centers for Disease Control \$1,946,150 PI: Pronovost Role: Co-I, 3% effort</p>
10/01/2015 – 09/27/2016	<p>BITS ADVISOR TOPR 0001 (Task Order # 7001-JMU-001) 7001-000-000 \$174,010.00 BITS subcontract Role: PI, 20% effort</p>
10/01/2015 – 04/30/2017	<p>SIDRA Clinical Commissioning Gap Analysis 20152983 00520209 \$82,645.00 Ernst & Young subcontract Role: PI, 10% effort</p>
01/01/2016-06/30/2017	<p>Comprehensive Unit-based Safety Program, CUSP III N00024-13-D-6400 \$312,108 Applied Physics Laboratory (APL), prime NAVSEA PI: Thompson Role: Co-I, 10% effort</p>

05/01/2016-10/31/2018	Developing Peer to Peer Learning Tools for Critical Care Physicians: Peer- and Competency-based Ongoing Approach for Critical Healthcare Evaluation of Skills (P-COACHES) R03HS024591 \$61,491.00 Agency for Healthcare Research and Quality (AHRQ) PI: Rosen: 3% effort
08/01/2016 – 04/30/2017	Patient Safety - PS3 138829 \$152,015.00 Applied Physics Laboratory (APL) subcontract Role: PI, 5% effort
09/11/2016- 12/31/2020	Developing and evaluating a peer-to -peer learning system for patient safety and quality of health technology: A pilot program. No ID Number \$24,508.00 Reading Health Systems PI: Rosen, 4% effort
09/29/2016-03/28/2021	Quality Safety Review System (QSRS) Pilot Test in Hospitals HHSP233201500020I/HHSP23337005 Agency for Healthcare Research and Quality \$2,794,932 PI: Winters Role: Co-I, 10%
04/01/2017-03/31/2020	Development of a Clinical Decision Support Tool for Facilitating Decision-Making and Improving Blood Culture Utilization 1R21HS025238 Agency for Healthcare Research and Quality \$180,396 PI: Xie Role: Co-I, 5% effort
9/25/2017-7/31/2018	Safety Project with HRSA: AHRQ Safety Program in Perinatal Care (SPPC) –II Project Planning Phase HHSP 233201500020 I Agency for Healthcare Research and Quality \$280,335 PI: Gurewitsch-Allen Role: Co-I, 10% effort
12/14/2018 – 06/13/2019	STTR-DARPA-VANESSA VANESSA-JHU-01 Army Research Lab subcontract through SIFT \$42,748 Role: PI, 25% effort
01/02/2020 – 08/31/2020	Building Open Source Tool Digital Health Architecture for Interoperability 160498 \$9,291.00 APL Role, PI 0% in kind
Educational Extramural Funding	None
Clinical Extramural Funding	None

System Innovation or Quality Improvement Extramural Funding	None
Other Extramural Funding	None

INTRAMURAL FUNDING

Research Intramural Funding	None
Educational Intramural Funding	None
Clinical Intramural Funding	None
System Innovation or Quality Improvement Intramural Funding	None
Other Intramural Funding	None

CLINICAL ACTIVITIES

None.

EDUCATIONAL ACTIVITIES

Educational Focus

- Teamwork, communication and coordination
- Leadership and change management
- Human Factors theory and methods
- Safety and quality in healthcare

Teaching

Classroom instruction

JHMI/Regional

2012-present	Instructor Communication Skills Lab. TIME Patient Safety Course, Johns Hopkins University School of Medicine. Offered yearly.
2012-present	Lecturer on Teamwork and Communication in Healthcare. TIME Patient Safety Course, Johns Hopkins University School of Medicine. Offered yearly.
2012-present	Lecturer on High Performance Teams for Fuld Fellowship Students in the School of Nursing. Talk given yearly.
2012-present	Lecturer on Teamwork, Leadership and Accountability in Introduction to Healthcare Quality and Patient Safety—A Management Perspective. Department of Health Policy and Management, Johns Hopkins University Bloomberg School of Public Health. Talk given yearly.
2012-2015	Lecturer for Johns Hopkins Medicine Leadership Development Program on Leadership and Team Building Strategies. Talk given yearly.
2013-present	Lecturer on Introduction to Human Factors and Ergonomics. Healthcare Epidemiology, Department of Health Policy and Management, Johns Hopkins University Bloomberg School of Public Health. Talk given yearly.
2015-present	Co-Instructor for 309.732.01 Organizational and Human Factors in Patient Safety, Bloomberg School of Public Health. Offered yearly.
2015-present	Lecturer in Managing Teams and Multi-team Systems for Patient Safety & Quality. Leading Transformation for Value-based Healthcare: An Experiential Inter-professional Executive Education Program. JH Bloomberg SPH. Talk given yearly.
2016-2018	Lecturer in Conflict on the Wards Session 2- Identifying and Addressing Task Conflict within Teams. JHSOM elective. Offered yearly.
2017-present	Course designer and lead instructor for 603.721.86 Leadership for Change and Patient Safety and Quality Improvement, Bloomberg School of Public Health. Offered yearly.
2017-present	Instructor for Managing conflict (using Friday Night at the ER simulation). TRIPLE—transition to residency and internship and preparation for life. JH SOM. Offered yearly.

<i>National</i>	None
<i>International</i>	None

Clinical instruction	None
CME instruction	None

Workshops / seminars

JHMI/Regional

2011 – present	Human Factors Workshop, Armstrong Institute, offered to internal JHMI employees and external participants, twice yearly
2012-2014	Lecturer in the CUSP Workshop, Armstrong Institute, Teamwork Improvement Tools: A Deep Dive Module, done three times yearly.
2012 – present	Lecturer in Patient Safety Certificate Program, Armstrong Institute, Teamwork Modules, done three times yearly
2012 – present	TeamSTEPPS® Master Trainer's Course, offered to JHMI employees and external participants twice yearly.
April-Nov 2014	Hybrid TeamSTEPPS® and CUSP program designed for and implemented at All Children's Hospital
May 11 th , 2015	Enabling Change Summit and Workshop (co-taught with Peter Pronovost, Kathleen Sutcliffe, and Sallie Weaver), Audience: JHMI Clinical Leadership
2017 – present	Leadership and Change, session conducted yearly in the Armstrong Institute Patient Safety Leadership Academy
2019 – present	Conflict Management, session conducted yearly in the Armstrong Institute Patient Safety Leadership Academy
Jan-Feb 2019	Custom TeamSTEPPS® program offered for the Perioperative Leadership at JHH.
Feb 20 th , 2020	Creating the Conditions for Effective Team Science: Strategies to Leverage in your Management Plan; Workshop conducted in the K-to-R Program at the Institute for Clinical and Translational Research.
July 20 th , 27 th , 2020	Teamwork Reboot after COVID-19, Organized and facilitated a two part workshop for team science strategies through the Institute for Clinical and Translational Research.
Feb 25 th , 2021	Creating the Conditions for Effective Team Science: Strategies to Leverage in your Management Plan; Workshop conducted in the K-to-R Program at the Institute for Clinical and Translational Research.

National

March 2 nd , 2007	Beyond the basics: Brining simulation theory & technology together. Council of Emergency Medicine Residency Directors (CORD) Academic Assembly, Co-Leader, Orlando, FL
March 2 nd , 2007	So you want to start a simulation program? Tips, Tricks, & Potential Pitfalls. Council of Emergency Medicine Residency Directors (CORD) Academic Assembly. Workshop, Co-Leader, Orlando, FL
January 1 st , 2010	Designing Event-based Measurement Tools for Teamwork Skills Training. International Meeting on Simulation in Healthcare, Workshop Co-Leader, Phoenix, AZ
May 1 st , 2010	Measuring Teamwork: Strategies and Tools for Assessment in Simulation and On-the-Job. 14th Ottawa Conference on the Assessment of Competence in Medicine and the Healthcare Professions, Workshop Co-Leader, Miami, FL
November 1 st , 2010	Building Expert Healthcare Teams: Designing Scenarios and Measurement Tools. Interservice / Industry Training, Simulation, and Education Conference (I/ITSEC), Workshop Co-Leader, Orlando, FL
May 17-19, 2010	Handoffs and Critical Communication. Interactive Simulation Session, National Patient Safety Congress Learning and Simulation Center, Workshop Co-Leader, Orlando, FL.
January 12 th , 2011	Developing observers and tools to reliably assess teamwork skills in simulation-based environments. International Meeting on Simulation in Healthcare, Workshop Co-Leader, New Orleans, LA

January 12 th , 2011	Systems Approach to Team Debriefing: Improving Team Performance. Workshop presented at the International Meeting on Simulation in Healthcare, New Orleans, LA.
January 10 th , 2012	Implementing observational rating systems in simulation-based training curriculum. International Meeting on Simulation in Healthcare, Workshop Co-Leader San Diego, CA
January 20 th , 2013	Making it Stick: pairing Team Training and Organizational Change to Optimize Transfer of Training. International Meeting on Simulation in Healthcare, Workshop Co-Leader San Diego, CA.
January 20 th , 2014	Collaborating to Make it Stick: Working in Interdisciplinary Teams to Optimize Transfer of Training. International Meeting on Simulation in Healthcare, Workshop Co-Leader San Francisco, CA.

International

February 15-19, 2015	TeamSTEPPS® Master Trainer's Course at SEHA (Abu Dhabi Health services Company), UAE
April 15-16, 2015	TeamSTEPPS® Master Trainer's Course at JH Aramco Hospital, Saudi Arabia
October 20-21, 2015	TeamSTEPPS® Master Trainer's Course at JH Aramco Hospital, Saudi Arabia
November 4-5, 2015	TeamSTEPPS® Master Trainer's Course at Kiwoko Hospital, Uganda

Mentoring

Pre-doctoral advisees / Mentees

2011 - 2012	Laura Wood, DNP, mentored in DNP program, currently Senior Vice President, Patient Care Services and Chief Nursing Officer, Boston Children's Hospital, Boston, MA
2013	Kari Benson, MS, currently PhD candidate in clinical psychology, Ohio University. Co-authored OR 31
2013 – 2015	Xinxuan (Alice) Che, PhD, currently assistant professor at Florida Tech. Co-authored OR 36; BC 30, 34, 41.
2015	Ian Coffman, PhD, currently Data Scientist at Thomson Reuters. Co-authored BC 32.
2017 – 2020	Salar Khaleghzadegan, MPP, currently Senior Research Program Coordinator, JHU SOM. Received full scholarship to 2018 one week HCEO summer school at University of Chicago Department of Economics; full scholarship to two week summer institute in computational social science, City University of New York; full scholarship to 2020 summer program in Quantitative Methods of Social Research- Data to Build a Culture of Health, University of Michigan. Co-authored OR 66, 67; RA 9; ED 13; BC 38, 39, 40.
2016 – 2018	Jenny Lee, BA, currently Research Assistant at Friends Research Institute, Baltimore, MD.
2017 – 2020	Zoe Demko MPH, currently student at Bloomberg School of Public Health. Received STAR best abstract award. Co-authored OR 63, 65, 69.
2019 – 2020	Katherine Heinemann, MPH, practicum and capstone mentor. Currently human performance engineer at NASA.
2019 – 2021	Uhuru Kamau, BS, currently Master's student in Quantitative Biomedical Sciences Program at Dartmouth College
2019 – 2021	Brandon Park, currently undergraduate student at JHU.
2019	Catherine Downey, currently Perinatal Safety Office, mentored through the Armstrong Institute Patient Safety and Leadership Academy Program.
2020 – 2021	Morgan Wu, currently undergraduate student at JHU.
2020	Ben Johnson. Currently medical student at JHU SOM.

Post-doctoral Advisees / Mentees

2014—2018	Aaron Dietz, PhD, mentored first as a post-doc then as assistant professor at JHU SOM. Currently at the Department of Veterans Affairs, Office of Health Informatics, Informatics Patient Safety. Received R03 grant from AHRQ. Co-authored OR 30, 31, 34, 51, 52, 57, 63, 66, 68; RA 5, 8; BC 31, 32, 33, 34, 40.
2017 – 2018	Nam Lee, PhD, currently senior data scientist Expedia, Inc. Co-authored OR 39, 51, 66.

- 2017 – 2019 Sadaf Kazi, PhD, currently assistant professor Georgetown University. Received 2018 ASTRO best abstract award. Co-authored OR 68, RA 9, BC 34, 37, 38, 39.
- 2017 – present Christina Yuan, PhD, currently assistant professor at Johns Hopkins School of Medicine. Co-authored OR 42, 54; ED 15
- 2019 – 2020 Victoria Wong, MD, John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI. The Queen's Medical Center Neuroscience Institute, Honolulu, HI. Mentored in Armstrong / Queen's research mentorship program. OR 73
- 2019 – 2020 Dustin Hansen, MD, currently pediatric critical care fellow, JHU SOM. Mentored in PICU unit level stress research project.
- 2020 – present Victoria Kennel, PhD, currently assistant professor, University of Nebraska School of Allied Health. Co-authored ED 16

Thesis committees

- 2012 Laura Wood, DNP, Mitigation of Intravenous Medication Administration Infusion Pump-related Obstacles: A Comprehensive Unit-based Safety Program Quality Improvement Initiative
- 2014 Aaron Dietz, PhD, Department of Psychology, University of Central Florida. Measuring ICU Teamwork: Validation of a Behavioral Marker System.
- 2015 Mohd Nasir Mohd Ismail. PhD Bloomberg School of Public Health, Department of Health Policy and Management. Stress and burnout amongst physicians.
- 2015 Anselmo Chung, DrPH Bloomberg School of Public Health, Barriers to Adopting Lean Six Sigma in Healthcare
- 2018 Paula Kent, DrPH Bloomberg School of Public Health. Evaluation of the CUSP Essential Team Behaviors Passport: A Tool for the Comprehensive Unit-based Safety Program (CUSP)
- 2018 Sarah Mossburg, PhD School of Nursing Making care safer: Exploring predictors and impact of nurse burnout and engagement.
- 2018 Julie Storr, PhD Bloomberg School of Public Health. An exploratory comparative case analysis of leadership capacity and capability influencing implementation of Integrated People Centered Health Services in Low and Middle Income Countries
- 2018 Tien-Hui Chu, PhD Bloomberg School of Public Health, Examining the Relationships among Patient Satisfaction, Nurse Satisfaction, Physician Satisfaction, and Perceived Management Support
- 2019 Marietta Squire, PhD Whiting School of Engineering. Cost-Effectiveness of Multifaceted Built Environment Interventions for the Reduction of Transmission of Pathogenic Bacteria in Hospitals.
- 2021 Elizabeth Woodcock, DrPH Bloomberg School of Public Health. Barriers and Facilitators to Automated Patient Self-Scheduling for Health Care Organizations: Scoping Review, Consensus from a Delphi Panel of Key Stakeholders, and Exploratory Case Study.

Educational Program Building/Leadership

- 2013-present Team Training Master Trainer's Course, lead the development of this program hosted in the Armstrong Institute for Patient Safety and Quality.
- 2018-present Co-Director, Master of Applied Science in Patient Safety and Healthcare Quality, Bloomberg School of Public Health

RESEARCH ACTIVITIES

Research focus

I am a Human Factors Psychologist with expertise in teamwork, performance measurement, device and information system evaluation, and socio-technical system improvement strategies including simulation and training, work system design, and information system design. In my work, I apply a broad range of methods including cognitive task analysis, team task analysis, proactive risk analysis methods, rigorous development and psychometric evaluation of observational measurement tools, sensor-based measurement of technical and teamwork aspects of performance, natural language processing techniques (i.e., topic modeling and

lexical analysis), usability analysis and contextual inquiry. I have extensive experience in applied and research settings evaluating and improving the safety of work systems ranging in scope from display design, work system evaluation, and leadership and management practices for safety. This includes improving communication between providers, patients, and family members. Interventions I work with include traditional and simulation-based training, structured communication tools, and innovative technologies to bridge the gap between people with different backgrounds, levels and types of expertise, and cultural orientations towards communication. I have developed numerous performance measurement systems for individuals and teams, and have extensive experience designing simulation- and demonstration-based training systems for procedural and non-technical skills.

Research Program Building / Leadership

2019-present Associate Director for Team Science, Institute for Clinical and Translational Research, Johns Hopkins University; 10% effort; lead the development of a roadmap for individual and team learning offerings, consultative services, and research efforts on the effectiveness of science teams and methods for improving research capabilities with team strategies.

Research Demonstration Activities	None
Inventions, Patents, Copyrights	None
Technology Transfer Activities	None

SYSTEM INNOVATION AND QUALITY IMPROVEMENT ACTIVITIES

System Innovation and Quality Improvement efforts within JHMI

2011	Consultant to PACU Clinical Community Handoff project
2015 – present	Innovations in event reporting, lead efforts to apply natural language processing and other analytic approaches to improving event reporting analytics, [OR 66]
2016 – 2018	Operating Room Crisis Management Simulations, Sibley Hospital: 2016 (Oct 15), 2017 (Mar 18, Sep 16, Oct 14, Nov 3, Nov 20, Dec 9), 2018 (Jan 20, Feb 3, March 17, April 14, May 19, Sep 15, Nov 3)
2017-present	CUSP Executive Champion, Inpatient Pediatric Oncology (Bloomberg 11S)

System Innovation and Quality Improvement efforts outside of JHMI None

System Innovation and Quality Improvement Program Building / Leadership

2011 – present	Co-lead the development and ongoing running of the Human Factors workshop.
2012 – present	Lead the development and ongoing running of the TeamSTEPPS® Master Trainer's program at JHMI through the Armstrong Institute.

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

2017 – present	Member of the admissions committee for Bloomberg School of Public Health's Master's Program for Patient Safety and Quality
2021—present	Member of the Armstrong Institute Faculty Review Committee

Editorial Activities

Editorial Board appointments

2019-present	Associate Editor, BMJ Quality and Safety
2020-present	Associate Editor, Simulation & Gaming: An International Journal of Theory, Practice and Research
2021	Consulting Editor, American Psychologist

Special Issue Editing

- 2013 Co-editor of Special Issue for BMJ Quality and Safety (2013, Volume 22, Issue 5) on Teamwork.
- 2013 Co-editor of Special Issue for BMJ Quality and Safety (2013, Volume 22, Issue 6) on Simulation.
- 2019 Co-editor of Special Issue for Frontiers in Psychology: The Evolution and Maturation of Teams in Organizations: Theories, Methodologies, Discoveries & Interventions.
- 2020 Co-editor of Special Issue for Human Factors: Human Factors and Ergonomics Theories, Methods and Applications in Healthcare (submissions closed August 2020)

Journal peer review activities

- 2010-2011 Applied Psychology: An International Review
- 2010-2012 Journal of Applied Psychology
- 2010-present Simulation in Healthcare
- 2011-present Human Factors
- 2013-present BMJ Quality and Safety
- 2013-present Small Group Research
- 2013-present IEEE Transactions on Healthcare Systems Engineering
- 2014-present Joint Commission Journal on Quality and Patient Safety
- 2014-2016 Military Psychology
- 2014-present Human Resource Management Review
- 2015-present Journal of Critical Care
- 2015-present Critical Care Medicine
- 2015-present Journal of Behavioral Decision Making
- 2016-present Applied Ergonomics
- 2016-present PLOS ONE
- 2017-present Journal of the American Medical Informatics Association
- 2017-present Implementation Science
- 2017 Medical Care
- 2017-present International Journal of Nursing Studies
- 2018-present BMJ Open
- 2018 Philosophical Transactions B
- 2018-present International Journal for Quality in Healthcare
- 2018-present Sport, Exercise, and Performance Psychology
- 2018-present Journal of Patient Safety and Risk Management
- 2018-present Group & Organization Management
- 2019-present American Journal of Respiratory and Critical Care Medicine
- 2020-present Journal of Cognitive Engineering and Decision Making
- 2020 Journal of Health Services Research and Policy
- 2020 New England Journal of Medicine (NEJM) Catalyst Innovations in Care Delivery
- 2020-present Human Factors and Ergonomics in Manufacturing & Service Industries
- 2121 Journal for Clinical and Translational Research

Advisory Committees, Review Groups/Study Sections

- 2012-2014 Member, National Cancer Institute, Science of Team Science Toolkit Editorial Board
- 2013-present NASA / NSBRI Peer Review Panel for Behavior and Human Performance funding, panel member
- 2013 NASA Non-Advocate Review Panel for internal research projects, panel member
- 2014 ICTR Behavioral, Social, and Systems Science Translational Research Community Advisory Board, Johns Hopkins
- 2015-2018 Veteran's Administration, Health Services Research & Development, review panel member (Health Informatics)

2018	Reviewer, PRESTIGE Marie Curie post-doc fellowships programme, co-financed by the European Commission and coordinated by Campus France, the French National Agency for international student and researcher mobility.
2018	Member of American Heart Association Resuscitation Education Science working group [GL 1]
2019	Grant Reviewer, Research Collaborative in Quality and Patient Safety, Royal College of Physicians of Ireland
2021	Grant Reviewer, PSI Foundation, Ontario, Canada
2021	Grant Reviewer, Israel Science Foundation
2021-2023	Expert panel member expert panel for the 2023 Research Summit Topic Area: Team training / Non-technical Skills Training, Society for Simulation in Healthcare.

Professional Societies

2004-present	Human Factors and Ergonomics Society (HFES)
2004-present	Member
2013-2014	Vice Program Chair, Healthcare Special Interest Group
2004-present	Society for Industrial and Organizational Psychology (SIOP)
2004-Present	Member
2018-Present	Committee member: Scientific Affairs Committee
2018-Present	Committee member: Government Relations Advocacy Team (GREAT)
2006-present	Member, Society for Simulation in Healthcare (SSiH)
2006-present	Member
2013-2014	Vice Chair, Healthcare Systems Modeling and Simulation Affinity Group

Conference organizer

JHMI/Regional None

National

2014	Vice Program Chair, Human Factors and Ergonomics Society Annual Meeting, Healthcare Technical Group, Chicago, IL
2014	Co-chair, Human Factors and Ergonomics Society Healthcare Symposium Patient and Provider Safety Track, Baltimore, MD

International None

Consultantships

2012-2013	Group for Organizational Effectiveness (GOE); I consulted on the development of a broad audit of safety practices in commercial cruise lines sponsored by Carnival Corp in response to the Costa Concordia maritime accident.
2019-present	University of Nebraska, I consult on the development of a Division of Team and Improvement Science within the School of Allied Health, including structuring of and recruitment for the Division.
2020- present	AHRQ (via MedStar). Consulted on the development of teamwork training program for diagnostic safety and develop white papers on leadership practices to support improvement of diagnostic safety.

RECOGNITION

Awards, Honors

2004	Graduate Studies Merit Fellowship, University of Central Florida (UCF)
2006	Student Researcher of the Year, Institute for Simulation and Training, UCF
2008	Student Member with Honors Award, Human Factors and Ergonomics Society (HFES)
2009	M. Scott Myers Award for Applied Research in the Workplace, Society for Industrial and Organizational Psychology (SIOP)

- 2014 The William C. Howell Young Investigator Award, Human Factors and Ergonomics Society (HFES)
- 2015 Editor's Pick article for June 2015; International Journal for Quality in Healthcare [OR35]
- 2018 Editor's Choice article for December 2018; Critical Care Medicine [OR52]
- 2018 Best of ASTRO (American Society for Radiation Oncology) Abstract Award (Kazi S, Dietz A, **Rosen MA**, DeWeese T, & Song D; Use of Relational Coordination Scale to Assess Physician Teamwork Skills by Clinical and Administrative Staff).
- 2019 Society for Critical Care Medicine Star Research Achievement Award for Best Abstract (Demko Z, Barasch N, Dwyer C, Romig M, Sapirstein A, & **Rosen MA**; "Engineering Interoperability Between EHRs and Infusion Pumps: A Human Factors Evaluation Study")

Invited Talks, Panels

JHMI/Regional

- | | |
|-----------------------------------|---|
| June, 21 st 2011 | Team Training in Healthcare: The 'State of Practice' and Evidence for Behavior Change and Safety, Lecturer, Patient Safety Summit, Johns Hopkins. |
| September 6 th , 2011 | Improving the Quality of Handoffs, Lecturer, Patient Safety Grand Rounds, Johns Hopkins School of Medicine |
| November 10 th , 2011 | Improving the Quality of Handoffs, Lecturer, Department of Otolaryngology Grand Rounds, Johns Hopkins School of Medicine |
| December 15 th , 2011 | Improving the Quality of Handoffs, Lecturer, Department of Orthopedic Surgery Grand Rounds, Johns Hopkins |
| May 17 th , 2012 | A Culture of Safety: The Science and Practical Strategies for Improvement, Lecturer, Louisiana Hospital Association Hospital Engagement Network Kickoff Meeting, Baton Rouge, LA |
| July 12-13 th , 2012 | Enhancing your Leadership Skill Set, Lecturer, Kentucky Hospital Association, Patient Safety Champion Training, Lexington, KY |
| July 12-13 th , 2012 | Building a training model for clinicians in your workplace, Lecturer, Kentucky Hospital Association, Patient Safety Champion Training, Lexington, KY |
| September 28 th , 2012 | Evidence-based Strategies for Building and Maintaining High Performance Teams, Lecturer, Joint Grand Rounds York Hospital, York, PA |
| October 3 rd , 2012 | Improving the Quality of Handoffs, Lecturer, Department of Pediatrics Grand Rounds, Johns Hopkins |
| October 17 th , 2012 | Building Expert Teams: An Integrative Review of Evidence-Based Methods. Lecturer, Neurology and Psychiatry Safety Work Shop, Johns Hopkins |
| January 8 th , 2013 | Improving team structure. Lecturer. Kentucky Hospital Association Hospital Engagement Network. |
| October 15 th , 2013 | Surgical Unit Safety Program Project, Lecturer, Michigan Hospital Association, Keystone Surgery Project, Lansing, MI |
| January 11 th , 2014 | Developing Leadership Qualities in the Workplace, Lecturer, Sparta Outpatient Surgery Center, Sparta, NJ |
| January 22 nd , 2014 | Teamwork and Patient Safety: The Evidence and Strategies for Improvement. Lecturer, All Children's Hospital, St. Petersburg, FL |
| November 7 th , 2014 | Unobtrusive Measurement and Organizational Learning in Healthcare: A Latent Dirichlet Allocation Approach. University of South Florida, Department of Psychology, Tampa, FL. |
| January 28 th , 2015 | Improving Teamwork & Communication to Reduce Harm. Grand Rounds talk at Prince George's Hospital Center, Cheverly, MD. |
| November 23 rd , 2015 | Patient Safety through Social Science: Applied Organizational Research Contributions to Improving Healthcare Delivery. Social, Decision, and Organizational Sciences Program at the University of Maryland, College Park, MD. |

March 2 nd , 2016	Managing teams and multi-team systems for patient safety: The state of the science and road ahead. Systems for Safety: Teams and Technology, The 27 th Health Care Risk Management Conference, New York, NY.
June 26 th , 2017	Managing Teams and Multi-Team Systems: The State of the Science and Road Ahead. Christiana Care Value Institute.
June 14 th , 2018	Human Factors and Ergonomics: An approach to drive safety and quality improvement. Penn State Health System Unit-based Accountable Care Team Summit. Milton S. Hershey Medical Center, Hershey, PA.
November 6 th , 2018	Teams in Healthcare. Dept. of Psychology, Georgia Institute of Technology.
January 10 th , 2019	High Performance Teams in Healthcare and Spaceflight: Evidence and Strategies. Armstrong Institute for Patient Safety and Quality Grand Rounds.
January 28 th , 2019	Measuring and managing 'non-rate-based harm' in healthcare delivery. MedStar National Center for Human Factors in Healthcare Human Factors Grand Rounds. Washington, DC.
May 24 th , 2019	High Performance Teams in Healthcare and Spaceflight: Evidence and Strategies. Space Medicine Interest Group, Johns Hopkins University School of Medicine.
May 29 th , 2019	Simulation and Human Factors: Improving Safety and Quality across Levels of the Organization. University of Nebraska Medical Center, Omaha NE.
June 17 th , 2019	Challenges and strategies for managing change in an enhanced recovery after surgery collaborative. Armstrong Institute Johns Hopkins Bayview, Baltimore, MD
March 24 th , 2020	Science of team training in healthcare. Department of Psychology, University of Central Florida, Orlando, FL (done virtually)
October 22 nd , 2020	Towards a Data Science of Organizational Safety: New Approaches to Workload, Teamwork and Safety Climate Measurement. Discovery Rounds Presentation, Department of Anesthesiology and Critical Care Medicine, JHU SOM
December 11 th , 2020	Queen's Medical Center, Department of Internal Medicine Grand Rounds, Honolulu, HI (done virtually)
Feb 24 th , 2021	Team Physiological Dynamics and Communication Measurement Strategies for LDSE Competencies. Bioastronautics@hopkins Virtual Symposium on Human Spaceflight.
October 12 th , 2021	Science of Teams and Community-Based Participatory Research: Practical strategies for managing teams towards engaged research. University of Maryland Institute for Clinical and Translational Science.
October 14 th , 2021	Industrial and Organizational Psychology and Human Factors in Healthcare. George Mason University Department of Psychology.
<i>National</i>	
February 23 rd , 2011	Human Factors as a Cause of Patient Harm, Lecturer, Department of Defense Patient Safety Program, Learning Action Network Webinar
October 21 st , 2011	Safety Culture and Outcomes in the ICU, Lecturer, American College of Chest Physicians, Honolulu, HI
September 26 th , 2012	Partnership for Patients Leadership Network: An Essential Forum for Executive Leaders, Panelist, A live broadcast, VHA, Inc. TV.
November 16 th , 2012	Tools for Enhanced Accountability and Safety Outcomes, Panelist, A live broadcast, VHA, Inc. TV.
Dec. 12-13 th , 2012	War Games: Linking Fiction, Science, and Gaming Strategy for Safety Leadership Skill-building, facilitator/lecturer, VHA Partnership for Patients Leadership Network, VHA, Inc., Orlando, FL
May 1 st , 2013	Linking fiction, science, and gaming strategy for safety leadership skill building, Lecturer, Navigating to Excellence Forum, VHA, Inc., Las Vegas, NV

November 6 th , 2013	Developing Methods to Measure Healthcare Team Performance in Acute and Chronic Care Settings, Lecturer, National Cancer Institute Cyber Discussion, Bethesda, MD
December 11 th , 2013	Team Training in Healthcare, and TeamSTEPPS at Johns Hopkins, Co-presenter, Webinar for the Agency for Healthcare Research and Quality National Implementation of TeamSTEPPS Program
February 28 th , 2014	Cultural Change and Team Leadership, Lecturer, American Academy of Asthma, Allergy, and Immunology Leadership Institute Annual Workshop, San Diego, CA
March 13 th , 2014	Partnership for Patients Educational Series Part 1: Leadership Model of Accountability for Patient Safety and Quality, Panelist, A live broadcast, VHA, Inc. TV.
June 24 th , 2014	Leadership Accountability for Patient Safety. Lecturer. Health Care Quality Improvement and Cost Containment Summit, C-Suite Invitational Forum Workshop. World Congress, Philadelphia, PA.
March 28 th , 2015	Teamwork and Patient Safety: Evidence and Interventions. 2015 Annual Meeting of the American College of Medical Quality, Alexandria, VA.
December 1 st , 2015	Army Science Planning and Strategy Meetings: Individualizing Technology for Effective Teaming. Army Research Lab, Adelphi, MD.
June 4 th , 2016	Building Expert Teams: The Role of Inter-professional Debriefing and Communication Skills. Society for Education in Anesthesia, Baltimore, MD.
October 16 th , 2017	CMS Partnership for Patients Webinar on Simulation to Improve Patient Safety.
May 4 th , 2018	Unobtrusive Team Performance Measurement. The Rice University Team Science Summit, Houston, TX.
July 21 st , 2018	Teamwork and Culture. American College of Surgeons Quality and Safety Conference, Orlando FL.
October 9 th , 2019	Towards a Social Data Science for Safety and Quality: Emerging Methods of Exploring the Team Microenvironment in Cancer Care, National Cancer Institute's Division of Cancer Control and Population Sciences "Geospatial Approaches to Cancer Control and Prevention" webinar series.
January 29 th , 2020	Cross-analog validity evidence for unobtrusive measurement strategies for individual and team competencies. NASA's Human Research Program Investigators' Workshop, Galveston, TX.
Feb 4 th , 2021	Team Physiological Dynamics and Communication Measurement Strategies for LDSE Competencies. NASA's Human Research Program Investigators' Workshop, Galveston, TX.
July 16 th , 2021	Teamwork and Team Training in Healthcare. Invited Panel Discussion, Alliance for Continuing Professional Education in the Health Professions Annual Conference, Orlando FL
<i>International</i>	
April 10 th , 2013	Managing Team Dynamics in Routine and Crisis Situations: Evidence-based Strategies, Lecturer, Human Factors in Control Meeting, SINTEF, Bergen, Norway
May 3 rd , 2015	Measuring and improving team performance in simulation: Emerging trends. INSPIRE Annual Meeting, Vancouver, Canada.
May 4 th , 2015	Expanding the role of simulation 'up and out': New learner audiences, methods, and competencies. Plenary presentation at 7th International Pediatric Simulation Symposia and Workshops (IPSSW), Vancouver, Canada.
May 6 th , 2015	Simulation-based Assessment. Plenary panel presentation at 7th International Pediatric Simulation Symposia and Workshops (IPSSW), Vancouver, Canada.
October 9 th , 2015	Challenges and opportunities of sensor-based measurement for patient safety: Some notes from the field. 9th International Meeting on Behavioural Sciences Applied to Surgery and Acute Care Settings, Bonn, Germany.

November 8th, 2021

Human Factors, Teamwork, and Simulation in Healthcare. Keynote at the Association for Simulated Practice in Healthcare Conference, UK (virtual).