

MGH Department of Emergency Medicine

Research Project Inventory

EM Physician / Faculty Member	Role	Title of Research Project	Brief Description of Research
Aaronson, Emily	Principal Investigator	Listening to our patients: A systematic analysis of patient experience in the Emergency Department	Qualitative analysis of one year of open ended patient experience data responses
Aaronson, Emily	Co-Principal Investigator	Communication in Emergency Medicine: Decreasing Risk through Communication Skills Training	This proposal seeks to improve the quality of communication between providers and patients through the identification and dissemination of communication best practices and training for physicians, physician assistants and nursing staff in the ED
Aaronson, Emily	Co-Principal Investigator	Characteristics of patients CHF patient with palliative care needs in the Emergency Department	To determine the characteristics of patients with CHF and palliative care needs presenting to the Emergency Department
Aaronson, Emily	Co-Principal Investigator	Efficacy of the Surprise Question in Emergency Medicine	To determine the efficacy of the surprise question for determining palliative care needs in Emergency Department patients.
Aaronson, Emily	Co-Principal Investigator	Incident Reporting in Emergency Medicine: A Thematic Analysis of Events	To systematically analyze and thematically code one year of incident reports.
Aaronson, Emily	Co-Investigator	72 Hour Returns with Admission: A Trigger Tool for Diagnostic Error	To identify the prevalence of error deficient care in patients who return within 72 hours and require admission, as well as the types and severity of harm in these patients
Aaronson, Emily; Borczuk, Pierre	Co-Investigator	30 Day Returns with ICU Admission: Examining a Trigger Tool for error	To identify the prevalence of error deficient care in patients who return within 30 days and require ICU admission, as well as the types and severity of harm in these patients
Biddinger, Paul	Principal Investigator	Statewide Hospital Emergency Exercise and Training Program MA Department of Public Health/US Assistant Secretary for Preparedness and Response	Developed and led a program to further improve and evaluate the emergency response capabilities of all public health and health sector entities in MA through emergency response exercises and development of tools and educational programs.
Biddinger, Paul	Principal Investigator	Ebola and Other Special Pathogen Treatment Centers US Assistant Secretary for Preparedness and Response	Received funding from the US DHHS ASPR/MA DPH for MGH to serve as an Ebola Treatment Center for Massachusetts
Biddinger, Paul	Principal Investigator	Biosafety and Infectious Disease Training Initiative (BIDTI)	Delivered a variety of courses ranging from awareness to operations level to non-medical audiences regarding infection control practices and appropriate use of personal protective equipment for both routine and emerging infectious disease scenarios.
Biddinger, Paul	Principal Investigator	Hospital Preparedness Program Boston Public Health Commission/US Assistant Secretary for Preparedness and Response	Grant funding for hospital preparedness activities originating from the Federal government to individual hospitals
Biddinger, Paul	Principal Investigator	Ebola and Other Special Pathogen Treatment Centers US Assistant Secretary for Preparedness and Response	Received funding from the US DHHS ASPR to establish one of 10 Regional Ebola and other Special Pathogens Programs in the United States at Massachusetts General Hospital
Biddinger, Paul	Principal Investigator	Regional Disaster Health Response System (RDHRS) Pilot US Assistant Secretary for Preparedness and Response	This is one of two funded projects in the nation to develop a model of an RDHRS within Massachusetts and New England that can be used as a model for other states and Regions. The project assembles all eight trauma centers in Massachusetts, along with state government agencies, national organizations, and others to create the Massachusetts/Region 1 Partnership for Disaster Health Response.
Borczuk, Pierre	Principal Investigator	TRANCE	Do patients with traumatic mild ICH all need transfer to a tertiary medical center for neurosurgical evaluation? This project will define low risk lesions. Retrospective analysis and spin off projects are being created.
Brown, David	Co-Investigator	Pro-B type natriuretic peptide investigations of dyspnea in ED patients	Multiple studies examining the use and test characteristics of NT-ProBNP assay in undifferentiated ED patients with dyspnea.
Brown, David	Mentor / Principal Investigator	Japanese Airway Emergency Airway Network	I am supervising and mentoring an EM fellow performing this prospective study creating a database of emergency intubations in 15 medical centers in Japan.
Brown, David	Mentor / Principal Investigator	Utilization of Antibiotics by Emergency Physicians in Patients with Sepsis	A retrospective analysis of patients admitting to the ICU with sepsis, analyzing antibiotic selection by treating emergency physicians.
Brown, David	Principal Investigator	Supplemented Triage and Rapid Treatment in the ED	Before-and-after study analyzing the impact on length of stay and other ED overcrowding metrics of the addition of an attending physician to the triage and early screening process of ED patients.
Brown, David	Co-Investigator	Bronchiolitis Hospitalizations in the US	Cross-sectional analysis of bronchiolitis hospitalizations in the US using the Kids' Inpatient Database, compiled by AHRQ.

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Brown, David	Mentor / Principal Investigator	The Effect of Music-induced Relaxation on Stress Levels and Staff Interactions in Relatives in the Emergency Department and its Correlation to Prior Musical Experience.	Questionnaire-based study investigating how playing music in the hospital environment affects staff, patients and patients' visitors.
Brown, David	Co-Investigator	Sensitivity of CTA and CSF RBCs for Subarachnoid Hemorrhage	Retrospective review of test characteristics of CT- angiography and CSF red blood cells in subarachnoid hemorrhage.
Brown, David	Co-Investigator	Rule Out Myocardial Infarction Using Computer Assisted Tomography (ROMICAT)	Single center trial to determine usefulness of coronary CTA in ED patients with acute chest pain
Brown, David	Principal Investigator	Population Trends in Neurological Survival in Out-of-Hospital Cardiac Arrest	Secondary analysis of a publicly available dataset of adult and children with out-of-hospital cardiac arrest in Japan from 2005-2010. We are studying the impact of prehospital airway management on survival as well as regional variations in care and survival.
Burke, Thomas	Principal Investigator	Qualitative analysis of ESM-NIRB Providers	Qualitative analysis of interviews with providers who have used the ESM-NIRB package (including bCPAP) in India
Burke, Thomas	Principal Investigator	Survival After Use of a Condom UBT Package in Women with Uncontrolled Postpartum Hemorrhage in India	To examine the outcomes of women who had ESM-UBT devices placed for uncontrolled PPH across 10 medical colleges in Maharashtra and Madhya Pradesh, India.
Burke, Thomas	Principal Investigator	Behavioral and contextual barriers to optimal UBT use among skilled birth attendants in Kenya	Multiple projects are being undertaken related to behavioral barriers to optimal UBT use and PPH care in Kenya.
Burke, Thomas	Principal Investigator	Safety of a condom uterine balloon tamponade (ESM-UBT) device for use in uncontrolled postpartum hemorrhage	Detailed review of UBT safety data in Kenya and SL
Burke, Thomas	Principal Investigator	Cost-effectiveness of condom uterine balloon tamponade for control of severe postpartum hemorrhage in Kenya	Evaluate the cost-effectiveness of condom uterine balloon tamponade (UBT) for control of severe postpartum hemorrhage (PPH) due to uterine atony compared to standard care for PPH in Kenya.
Burke, Thomas	Principal Investigator	First 12 months of emergency care in rural Western Kenya	To define the demographics and the accompanying illnesses and injuries of patients that presented to a rural community hospital emergency department, in western Kenya, over the 12 months following opening.
Burke, Thomas	Principal Investigator	A low-cost uterine balloon tamponade for management of postpartum hemorrhage: modeling the potential impact on maternal mortality and morbidity in sub-Saharan Africa	This study aimed to quantify, through modeling, the potential health impact (morbidity and mortality reductions) that a low-cost UBT could have on women suffering from uncontrolled PPH in SSA in the year 2018.
Burke, Thomas	Principal Investigator	Shock progression and survival after use of a condom uterine balloon tamponade package in women with uncontrolled postpartum hemorrhage	The objective was to examine the outcomes of women in advanced shock from uncontrolled postpartum hemorrhage (PPH) who underwent placement of an Every Second Matters for Mothers and Babies Uterine Balloon Tamponade (ESM-UBT) device.
Burke, Thomas	Principal Investigator	Safety and Feasibility of a Ketamine Package to Support Emergency and Essential Surgery in Kenya when No Anesthetist is Available: An Analysis of 1216 Consecutive Operative Procedures	The aim of this study was to evaluate the safety and feasibility of the Every Second Matters for Emergency and Essential Surgery-Ketamine (ESM-Ketamine) package for emergency and essential procedures when no anesthetist was available.
Burke, Thomas	Principal Investigator	Time for global scale-up, not randomized trials, of uterine balloon tamponade for postpartum hemorrhage	Implementation Science Research to assess impact of uterine balloon for PPH
Burke, Thomas	Principal Investigator	The role of ketamine in addressing the anesthesia gap in low-resource settings	An opinion paper on the role of ketamine use in low resource settings when no anesthetist is available
Burke, Thomas	Principal Investigator	Intraoperative awareness and experience with a ketamine-based anesthesia package to support emergency and essential surgery when no anesthetist is available	The objective of this study was to assess intraoperative awareness and experiences of patients with ketamine in support of surgery.

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Burke, Thomas	Principal Investigator	Feasibility of a Ketamine Anesthesia Package in Support of Obstetric and Gynecologic Procedures in Kenya When No Anesthetist is Available	Sub-analysis on the feasibility of a Ketamine Anesthesia Package in Support of Obstetric and Gynecologic Procedures in Kenya When No Anesthetist is Available
Burke, Thomas	Principal Investigator	WHO Postpartum Hemorrhage Care Bundles to Improve Adherence to Guidelines: A Technical Consultation	Dr. Burke is one of two senior authors on this manuscript which reported on a rigorous multi-step approach that defined postpartum hemorrhage care Bundles. This was led by WHO and supported by the Bill and Melinda Gates Foundation.
Burke, Thomas	Principal Investigator	Tanzania Qualitative Study on UBT	A qualitative study of ESM-UBT providers in Tanzania
Burke, Thomas	Principal Investigator	Operating under ketamine in resource limited settings: a survey of surgeons' perceptions and recommendations	Tips and recommendations from surgeons who have operated patients under ketamine when no anesthetist was available
Burke, Thomas	Principal Investigator	India Help Line Study	An analysis of knowledge and self-efficacy scores of Indian providers related to uptake of a 24-hour PPH Helpline among care providers at primary and secondary levels of health care
Burke, Thomas	Principal Investigator	UBT Simulation	A comparison of different UBT devices used by medical students in a simulation
Burke, Thomas	Principal Investigator	Ethical analysis of the ESM-Ketamine package for cesarean sections, procedural sedations, and other major procedures	Ethical analyses to argue for the use of ketamine when no anesthetist is available
Burke, Thomas	Principal Investigator	Analysis of the first 100 cases where our low-cost bCPAP was used in India	Analysis of the first 100 cases where bCPAP was used.
Burke, Thomas	Principal Investigator	Blender technical paper	Technical paper on the characteristics of the ESM-NIRB innovative bCPAP oxygen blender.
Burke, Thomas	Principal Investigator	Postpartum Hemorrhage: a Systematic Review and Meta-Analysis	A systematic review and meta-analysis of the current evidence on UBT regarding its efficacy, effectiveness, and safety for the treatment of PPH.
Burke, Thomas	Principal Investigator	A Low-Cost Uterine Balloon Tamponade Program for Uncontrolled PPH in India: A Two-Group Interrupted Time Series Evaluation	A two-group, time-series evaluation to assess the effect of introducing the ESM-UBT program was conducted in India.
Burke, Thomas	Principal Investigator	Mechanical UBT study	A mechanical study of the ESM-UBT properties
Burke, Thomas	Principal Investigator	Barriers, facilitators and perceptions of UBT use in primary healthcare centers in Kenya	A qualitative study with the objective to assess the barriers, facilitators, and perceptions on the ESM-UBT use in PHCs in Kenya
Burke, Thomas	Principal Investigator	Feasibility of a rapid response team in a rural hospital in Kenya	A mixed-methods study on the feasibility of an RRT in a rural hospital in Kenya
Burke, Thomas	Principal Investigator	Value creation model of the ESM-Ketamine Package	A value creation model to determine the value of ketamine as an anesthetic when no anesthetist is available
Burke, Thomas	Principal Investigator	Assessment of a competency-based training to support emergency and essential surgery in Kenya when no anesthetist is available	The objective of this study was to assess competency of trained ESM-Ketamine providers in support of emergency and essential surgery when no anesthetist was available in Kenya.
Burke, Thomas	Principal Investigator	Cost-effectiveness of the PPH Emergency Care package in Kenya and India	A cost-effectiveness study on the Postpartum hemorrhage emergency care package approach in both India and Kenya

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Camargo, Carlos	Principal Investigator	Comparative effectiveness research on hospital readmissions for COPD	The major goals are to examine national trends in 30-day readmission rates after hospitalization for COPD, to develop and validate risk adjustment models for this same outcome, and to compare the effectiveness of five interventions in reducing rehospitalization at 30 days and 1 year.
Camargo, Carlos	Co-Investigator	Effects of Antarctic environment on vitamin D status and health of its inhabitants	The major goals are to determine the best vitamin D supplementation regimen for inhabitants of Chilean Antarctica.
Camargo, Carlos	Principal Investigator	National Emergency Department Inventories (NEDI) – International	Describe emergency departments worldwide, including cities (e.g., Abuja, Beijing) and countries (e.g., Denmark, Singapore, Slovenia).
Camargo, Carlos	Co-Investigator	Urine Antimicrobial Proteins in Older Adults: Aging, Infection, & Innate Immunity	The major goal of this study is to identify the role that urinary antimicrobial peptides play in diagnosing urinary tract infection (UTI) in older adults.
Camargo, Carlos	Principal Investigator	Nasal microRNA during bronchiolitis and age 6y phenotypes: MARC-35 cohort	The major goal is to determine, among children with severe bronchiolitis, the relation between nasal microRNA during bronchiolitis and asthma at age 6 years
Camargo, Carlos	Co-Investigator	The Mass-SIREN Group	The major goal is to serve as a Network Clinical Center for the Strategies to Innovate EmeRgEncy Care Clinical Trials Network (SIREN); the proposed hub-and-spoke team would support trials in emergency neurology, cardiology, pulmonology, hematology, and trauma.
Camargo, Carlos	Co-Investigator	Airway metagenome & metabolome in bronchiolitis and risk of asthma: MARC-35 cohort	The major goal is to determine the inter-relations between airway microbiome (metagenome) and metabolome and how they contribute to both acute (bronchiolitis severity) and chronic (incident asthma) respiratory outcomes in childhood.
Camargo, Carlos	Co-Investigator	Airway dual-transcriptomics in bronchiolitis and risk of asthma: MARC-35 cohort	The major goal is to determine the inter-relations between airway microbiome and host transcriptome and how they contribute to both acute (bronchiolitis severity) and chronic (incident asthma) respiratory outcomes in childhood.
Camargo, Carlos	Principal Investigator	Infant Specific-IgE, Rhinovirus-C Bronchiolitis, and Incident Asthma in MARC-35	The major goals are to determine, among children with severe bronchiolitis, the relations of infant specific IgE, rhinovirus C bronchiolitis, and their interaction to the development of incident asthma by age 5 years.
Camargo, Carlos	Co-Investigator	Viral Persistence & the Microbiome in Bronchiolitis and Risk of Recurrent Wheeze	The major goals are to determine, among children with severe bronchiolitis, the relations between viral persistence, nasal microbiota, and recurrent wheezing by age 3 years.
Camargo, Carlos	Principal Investigator	Workforce issues in US emergency departments	Describe workforce issues in US emergency departments (e.g., availability of emergency medicine board-certified physicians, role of physician assistants and nurse practitioners in emergency care).
Camargo, Carlos	Principal Investigator	National Emergency Department Inventories (NEDI) – USA	Describe US emergency departments (e.g., national trends in ED visit volume, special types of EDs, access to care), with state-specific substudies to examine selected issues in more detail (e.g., ED categorization, crowding solutions).
Camargo, Carlos	Principal Investigator	Enhancing the EMNet findER app with national data on pediatric emergency care	Annual national surveys of all US emergency departments to collect key information about pediatric emergency care; post information on free smart phone app: findERnow (available for iPhone & Android)
Camargo, Carlos	Principal Investigator	Airway Microbiome and Age 6y Asthma Phenotypes in 2 Diverse Multicenter Cohorts	The major goal is, in two diverse multicenter cohorts – MARC-35 with 921 infants originally hospitalized with bronchiolitis, and MARC-43 with 720 healthy infants – to examine the relation of nasal airway microbiome in early infancy to risk of developing childhood asthma.
Camargo, Carlos	Co-Principal Investigator	Vitamin D, childhood wheeze, and eczema in Chile	Determine the association between vitamin D status and risk of respiratory/allergy diseases of childhood.
Cohen, Ari	Principal Investigator	Screening for Occult Suicidality Among General Medical/Surgical Adolescents in the Emergency Department	One question screening tool to assess for occult suicidality in adolescents
Filbin, Michael	Principal Investigator	F-actin in sepsis, establishing a new causative link to organ failure and shock	Multi-center biomarker study analyzing the use of actin, actin-binding proteins, and other biomarkers in risk-stratifying patients at-risk for sepsis.
Filbin, Michael	Co-Principal Investigator	The Future of Patient Monitoring	Collaborative effort between MGH & MIT stimulated by industry (Nihon Kohden, Japan) & institutional (MIT-MGH Grand Challenge) funding to develop predictive models to detect sepsis and other critical diseases prior to hemodynamic decompensation with the goal of integrating devices, data, algorithms, and reasoning to assist in clinical decision making.
Filbin, Michael	Site Principal Investigator	Prevention and Early Treatment of Acute Lung Injury (PETAL) Clinical Trials Network	Multicenter clinical trials network to conduct collaborative studies between ED & ICU focused on preventing adult respiratory distress syndrome (ARDS) in critically-ill patients.
Filbin, Michael	Site Principal Investigator	CLOVERS: Crystalloid Liberal or Vasopressors Early Resuscitation in Sepsis	Multicenter RCT investigating the effect on mortality of a liberal fluids approach versus early vasopressor approach for the resuscitation of septic shock. PETAL Network study.

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Filbin, Michael	Co-Principal Investigator	Novel Diagnostics in Early Sepsis: Neutrophil Migration	Observational study investigating the discriminatory value of neutrophil migration in the early detection of sepsis.
Filbin, Michael	Co-Principal Investigator	Multicenter Study of Early Detection of Inflammatory Biomarkers in Infection	Observational study quantifying the burden of microbial fragments in the bloodstream of patients with sepsis and study its relationship to organ dysfunction.
Filbin, Michael	Co-Principal Investigator	Human Signatures that Discriminate Bacterial Infection from Non-Infection	Observational study using single-cell technology to characterize immune response to infection in order to explore unique signatures that can guide future diagnostics or targeted therapies in sepsis.
Filbin, Michael	Site Principal Investigator	A Phase 3 Randomized, Double-blind, Placebo-controlled, Multi-center Study to Evaluate the Efficacy and Safety of Pimodivir in Combination With the Standard-of-care Treatment in Adolescent, Adult, and Elderly Non-hospitalized Subjects With Influenza A Infection who Are at Risk of Developing Complications	Multicenter, placebo-controlled RCT investigating the effect of Pimodivir, in combination with SOC treatment, on the time to resolution of influenza-related symptoms in discharged patients.
Filbin, Michael	Site Principal Investigator	Clinical performance of FebriDx in subjects being evaluated for acute community acquired febrile upper respiratory infection	Multicenter RCT investigating the test characteristics of a point-of-care device to differentiate bacterial from viral respiratory infection.
Filbin, Michael	Site Principal Investigator	A Phase 3 Randomized, Double-blind, Placebo-controlled, Multicenter Study to Evaluate the Efficacy and Safety of Pimodivir in Combination With the Standard-of-care Treatment in Adolescent, Adult, and Elderly Hospitalized Patients With Influenza A Infection	Multicenter, placebo-controlled RCT investigating the effect of Pimodivir, in combination with SOC treatment, on the time to resolution of influenza-related symptoms in hospitalized patients.
Filbin, Michael	Co-Principal Investigator	Point-of-Care Sepsis Diagnostics	Application of a novel point-of-care technology that can assay serum protein levels, particularly IL-3, at the bedside in order to aid early diagnosis of sepsis. Funded by the Wellman foundation.
Filbin, Michael	Co-Principal Investigator	Transforming sepsis diagnostics through rapid bacterial identification and antibiotic susceptibility testing	Validation of two complementary approaches to accelerate prompt identification of a causal pathogen and antibiotic susceptibility testing (AST) using genomic technology, one based on an accelerated phenotypic readout of antibiotic susceptibility and the other based on genotypic prediction of susceptibility.
Filbin, Michael	Site Principal Investigator	Protocolized Goal-Directed Resuscitation of Septic Shock to prevent Acute Kidney Injury (ProGRESS-AKI)	Multicenter trial investigating long-term consequences of septic shock as they relate to kidney and cardiovascular injury.
Filbin, Michael	Site Principal Investigator	Procalcitonin antibiotic consensus trial (ProACT)	Multicenter RCT investigating the effect of a procalcitonin-guided algorithm on antibiotic utilization and outcomes for patients with lower respiratory tract infections.
Filbin, Michael	Site Principal Investigator	Rapid Administration of Carnitine in Sepsis (RACE)	Multicenter RCT investigating the effect of L-carnitine in patients with septic shock on reduction of organ dysfunction and mortality.
Filbin, Michael	Principal Investigator	Shock Precautions on Triage (SPoT) Sepsis	Quality initiative that involves early identification & early diagnostics and treatments for patients at-risk for sepsis. Funding provided by a grant from CRICO Risk Management.
Filbin, Michael	Site Principal Investigator	VIOLET: Vitamin D to Improve Outcomes by Leveraging Early Treatment	Multicenter RCT investigating the effect of high-dose vitamin D in critical illness on the development of ARDS and mortality. PETAL Network study.
Goldstein, Joshua	Site Principal Investigator	Acute Video-oculography for Vertigo in Emergency Rooms for Rapid Triage (AVERT)	To measure impact of video-oculography (VOG) device to guide rapid triage (VRT) in the diagnosis and initial management of patients who present to the ED with vertigo & dizziness.
Goldstein, Joshua	Co-Investigator	Biorepository for Neurological Injury (BNI)	Ongoing prospective cohort study of risk factors, epidemiology, acute care management, and long term outcomes of patients with acute intracerebral hemorrhage
Goldstein, Joshua	Co-Investigator	Multi-arm Optimization of Stroke Thrombolysis: a blinded, randomized controlled adaptive, multi-arm, adjunctive-thrombolysis efficacy trial in ischemic stroke (MOST)	Randomized controlled trial of acute stroke testing adjunctive therapies in addition to tPA
Hasegawa, Kohei	Principal Investigator	MARC-35 Study (TSLP, cytokines, and transcriptomics in infants with rhinovirus)	NIH-funded study of TSLP, cytokines, and transcriptomics in infants with rhinovirus
Hasegawa, Kohei	Principal Investigator	MARC-30 Milton	Study of airway microbiota and metagenomics in children with severe bronchiolitis

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Hasegawa, Kohei	Co-Investigator	MARC-42 Study	AHRQ-funded analysis of state/nationwide databases to examine the changes in 30-day readmissions after COPD hospitalization
Hasegawa, Kohei	Co-Investigator	NEDI New England	Inventory of EDs in New England
Hasegawa, Kohei	Co-Investigator	NEDI Indian Health Service	Inventory of EDs within the Indian Health System
Hasegawa, Kohei	Principal Investigator	Development of childhood asthma after bronchiolitis in infancy: A Population-based Cohort Study	A population-based study using Nebraska ED and inpatient datasets to identify the prevalence of childhood asthma development by age 6 among infants with severe bronchiolitis.
Hasegawa, Kohei	Principal Investigator	JEAN-II	Multicenter prospective observational study of ED airway management in Japan
Hasegawa, Kohei	Principal Investigator	MARC-39 Study	Multicenter prospective observational study of ED adult patients with asthma exacerbation at MGH, BWH, and BIDMC
Hasegawa, Kohei	Co-Investigator	MARC-35 Study (rhinovirus subtype and IgE)	Prospective cohort study of infants with severe bronchiolitis to examine the relationship between rhinovirus subtypes, specific IgE, and incident asthma in childhood.
Hasegawa, Kohei	Principal Investigator	Analyses of All-Japan Utstein Registry	Analyses of a population-based prospective cohort of out-of hospital cardiac arrest patients in Japan. The focus is pediatric OHCA epidemiology and comparative effectiveness of airway management.
Hasegawa, Kohei	Co-Investigator	The 35th Multicenter Airway Research Collaboration (MARC-35; PI, Carlos Camargo) Study	Determine, among children with severe bronchiolitis, the relation of clinical and laboratory factors to the development of recurrent wheezing by age 3 years, and then to create a wheezing index (WIND) to identify high-risk children.
Hasegawa, Kohei	Co-Investigator	MARC-38 Study	Multicenter chart review study of ED patients with acute allergic reaction
Kabrhel, Christopher	Principal Investigator	Outpatient VTE Treatment Study	Study of all ED patients diagnosed with VTE (DVT and PE) and effectiveness of Outpatient Treatment Protocol
Kabrhel, Christopher	Global Principal Investigator	Siemens D-dimer Study	International Multicenter Study of patients evaluated for PE or DVT with D-dimer
Kabrhel, Christopher	Principal Investigator	VTE Metabolomics	High throughput metabolomics to evaluate high vs. low risk PE
Kabrhel, Christopher	Principal Investigator	VTE in the Nurses Health Study and Health Professionals Follow Up study.	Ongoing analyses of environmental, genetic and metabolomic risk factors for VTE in the NHS and HPFS cohorts.
Kabrhel, Christopher	Global Principal Investigator	TRUST Study	Prospective multicenter international study of a new D-dimer assay to rule out DVT and PE
Kabrhel, Christopher	Principal Investigator	PE Biorepository	Biobank of blood samples from PE patients tracing changes in blood metabolites over time after PE
Kabrhel, Christopher	Principal Investigator	PERT Consortium Registry	Prospective registry of all patients evaluated by 11 PERTs around the United States.
Kabrhel, Christopher	Co-Principal Investigator	Dual Energy CT Scanning of PE	Study to use dual energy CT markers of pulmonary perfusion to risk stratify patients with PE
Kabrhel, Christopher	Principal Investigator	PERT Registry	Prospective registry of all patients evaluated by MGH PERT.
Kharasch, Sig	Principal Investigator	Asthma-Pulsus Paradoxus and Lung Evaluation with Sonography (APPLES)	To evaluate the echo cardiac pulses paradoxus on pediatric asthma patients. Additionally, to evaluate ultrasound changes in the lungs in asthma.
Klig, Jean	Principal Investigator	Feasibility of Modified "Quick Brain" MRI in Acute Pediatric Head Trauma	Retrospective medical review to assess the feasibility of "Quick Brain" MRI for the acute evaluation of children with closed head injuries.
Klig, Jean	Principal Investigator	Unscheduled Patient Revisits to Pediatric Emergency Department	Retrospective medical review to determine the frequency and characteristics of avoidable and "unavoidable" repeat visits to the Pediatric ED for the purposes of identifying strategies to reduce "avoidable" repeat visits.
Lee, Jarone	Principal Investigator	ICU Resource Utilization Studies	Secondary analysis of an ICU database of all encounters at MGH and BWH over 5 years
Lee, Jarone	Principal Investigator	Streamlined ICU Admissions	Evaluation of process improvement projects to reduce ED length-of-stay among critically-ill patients
Lee, Jarone	Co-Principal Investigator	Developing Quality Metrics for ICUs	Delphi Process, Creation, and Validation of new ICU-based National Quality Metrics

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Lee, Jarone	Co-Principal Investigator	Injury Prevention	Evaluation of the Impact of Injury Prevention and Public Health Regulations in the Commonwealth
Lee, Jarone	Site Principal Investigator	LUNG-SAFE Network	Epidemiologic Study of ARDS Incidence, Prevalence, and Treatment across the Globe
Lee, Jarone	Co-Investigator	Low-Level Light Therapy	RCT on how low-level-light therapy affects patients with mild Traumatic Brain Injury
Lee, Jarone	Principal Investigator	Population Health Management - Variation in Practice	Variation in Practice for: (1) Emergency Department Use and (2) Procedural-Based Metrics
Lee, Jarone	Co-Investigator	New Sepsis Diagnostics	Assessing how Neutrophil Migration Patterns can predict Sepsis vs. Inflammatory States
Liteplo, Andrew	Principal Investigator	LEARN-US: Longitudinal Educational Assessment of Residents as Novice UltraSonographers	Studying trends in scanning by PGY years
Liteplo, Andrew	Principal Investigator	PERT: Analysis of RV and TAPSE on bedside echo in patients with PE	Retrospective review of bedside echos and PERT database
Liteplo, Andrew	Principal Investigator	CUSH: Carotid Ultrasound in Hypotension	Assessing ability of carotid doppler flow measurements to predict volume responsiveness in hypotensive ED patients.
Liteplo, Andrew	Principal Investigator	CUCUMVER: Carotid US Changes Undergone by Mechanical Ventilation	Assessing carotid flow pre and post intubation in patients in the OR
Liteplo, Andrew	Principal Investigator	CHOLE: Prospective validation of Acute Cholecystitis score	Validation a retrospectively derived cholecystitis prediction score based on bedside US
Liteplo, Andrew	Principal Investigator	REAL: Real-time Educational Assessment of Learners	Mixed methods analysis of resident use of US
Liteplo, Andrew	Principal Investigator	APPLES: Asthma-- Pulsus Paradoxus and Lung Evaluation with Sonography	Looking at lung US and pulsus findings in asthmatics compared to controls
Liteplo, Andrew	Principal Investigator	AWESOME: Analysis of What Effect Sonography has on Outcomes in M&M in the ED	Retrospective review of M&M cases
Liteplo, Andrew	Principal Investigator	B-Lines	Assessing the effect of depth and gain on presence or absence of B-lines
Liteplo, Andrew	Principal Investigator	PFTUS: Comparing US of the diaphragm and PFT	Looking at diaphragmatic movement along the Schleifer line and comparing with parameters on PFTs
Liteplo, Andrew	Principal Investigator	SHARP: Sonography or Hurtful Abdomen in RLQ Patients	Assessing effect of US on correct image decisions in females with RLQ pain
Liteplo, Andrew	Principal Investigator	TICS: Transabdominal Imaging of the Colon with Sonography	Assessing utility of US in diagnosing diverticulitis
Liteplo, Andrew	Principal Investigator	IV Box	Assessing effect of a peripheral IV kit on ease and time of US-guided lvs
Liteplo, Andrew	Principal Investigator	HABITUS: How Anatomy and BMI Influence Technique and Usefulness of Sonography	Comparing quality of images based on BMI
Liteplo, Andrew	Principal Investigator	PAUSE: PA Ultrasound Education	Survey and description of the PA Ultrasound Program
Liteplo, Andrew	Principal Investigator	TRUE: Trauma Resident Ultrasound Education	Assessing the effectiveness of an educational initiative on surgery resident experience with ultrasound
Liteplo, Andrew	Principal Investigator	FOCUS: Faculty Opinions Concerning US	Survey of faculty use and perception of US
Liteplo, Andrew	Principal Investigator	CURSED: Carotid US in Risk Stratification in the ED	Carotid plaque vs cardiac CT and stress tests
Liteplo, Andrew	Principal Investigator	SCUM; Survey on Cleanliness of US Machines	Assessing perceptions about maintenance of US machines
Liu, Shan	Principal Investigator	Ultrasound assessment of muscle mass as a predictor for falls and frailty	Will conduct pilot study of geriatric patients and measure their muscle mass and frailty levels and conduct follow up calls to determine rate of post ED falls
Marill, Keith	Co-Investigator	An Evaluation of Likelihood Ratio Confidence Interval Methods and Results in ED Reports of Diagnostic Tests with 100% Sensitivity	This investigation is designed to assess how often studies of diagnostic tests in EM obtain samples with 100% sensitivity, and how often investigators report negative likelihood ratio confidence intervals and methods used.

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Marill, Keith	Principal Investigator	Energy Conserving Chemical Cardioversion of Ventricular Fibrillation: A Randomized Controlled Blinded Trial	This is an experimental investigation of potassium cardioplegia with calcium reversal to conserve myocardial energy and chemically defibrillate VF in a swine model. We are currently investigating various protocols to treat circulatory phase VF (downtime 6-12 minutes). Funding: Zoll Foundation.
Marill, Keith	Principal Investigator	Ventricular fibrillation: electrophysiology and recurrence	Analysis of the electrophysiology involved in recurrent ventricular fibrillation.
Marill, Keith	Principal Investigator	The Association of Static and Dynamic Electrocardiographic Heterogeneity with Ventricular Tachydysrhythmias	A prospective case series of patients at high risk for ventricular tachydysrhythmias is performed to assess the short-term association and potential predictive value of static and dynamic electrocardiographic heterogeneity.
Marill, Keith	Principal Investigator	Torsades de Pointes: Repolarization Characteristics and Clinical Associations	This is a retrospective cohort study of patients with Torsades de Pointes (TdP) to assess clinical and electrocardiographic characteristics associated with TdP. We are particularly interested in the variability and architecture of myocardial repolarization as represented by the ECG T wave, and the JT interval.
Marill, Keith	Principal Investigator	Is QT Prolongation Associated with QT Dispersion?	This study is designed to test whether QT prolongation is associated with dispersion of repolarization as measured by the Tpeak to Tend interval and QT dispersion.
Milne, Leslie	Co-Investigator	A retrospective evaluation of dermatologic diagnoses and consultations in the Emergency Department	A retrospective evaluation of dermatologic diagnoses and consultations in the Emergency Department
Milne, Leslie	Co-Investigator	A clinical process improvement program to enhance care of intoxicated patients in the emergency department	A clinical process improvement program to enhance care of intoxicated patients in the emergency department
Nadeau, Nicole	Co-Principal Investigator	Decreasing Prescription Errors in an Academic Pediatric Emergency Department: a Quality Improvement Study.	To quantify prescription errors in an academic pediatric emergency room and study the effects of a multi-pronged quality improvement initiative designed to reduce their rate.
Nadeau, Nicole	Principal Investigator	Effect of Viral Symptoms on the Yield of Strep Testing in a Pediatric Emergency Room	To identify the effect that the presence of viral symptoms has on the yield of strep testing by Centor score category among pediatric patients presenting to the ED with sore throat.
Nadeau, Nicole	Principal Investigator	Does Timing Matter?: Clinical Characteristics and Outcomes of Pediatric Patients Transferred 016, 6-12, and 12-24 Hours from ED Admission.	To ascertain if there is a difference in clinical outcomes between subgroups of the early ICU transfer population that might allow a better informed metric for what constitutes "early transfer" on which to focus patient safety and quality improvement efforts.
Nadeau, Nicole	Principal Investigator	Characteristics of Children Transferred to the ICU within 24 hours of Admission from the ED	To better understand the pediatric early ICU transfer population in their initial presentation and their conditions at transfer, with the goal of working towards earlier identification of these patients.
Nagurney, John T.	Site Principal Investigator	Multi-Markers In the Diagnosis of Acute Coronary Syndrome - Sample Procurement Cohort 3 (MIDAS 3)	Multicenter test examining the use of serum proteins to determine which patients presenting with chest pain have potentially significant cardiac problems.
Nagurney, John T.	Site Principal Investigator	Rule Out Myocardial Ischemia/Infarction by Computer Assisted Tomography (ROMICAT II)	Multicenter trial to determine the best way to evaluate ED patients presenting with chest pain with attention to accuracy, safety, and cost.
Nagurney, John T.	Site Principal Investigator	IMARC Roche: Clinical Performance of Elecsys Troponin T Gen 5 in Subjects with Symptoms of Acute Coronary Syndrome (ACS): ACS Collection Study for Serum Claim	This is a multi-center prospective sample procurement study of patients with suspected ACS.
Nagurney, John T.	Site Principal Investigator	Validation Study of N-Terminal Pro-B Type Natriuretic Peptide in Diagnostic Evaluation of Acute Heart Failure The ICON-RELOADED Study: International Collaborative of NT-proBNP Re-evaluation of Acute Diagnostic Cut-Offs in the Emergency Department	A multi-center clinical trial looking to enroll subjects presenting to EDs with complaints including acute dyspnea in order to externally validate the use of Elecsys pro BNP II concentrations to aid in the diagnosis of ADHF through the use of the International Collaborative of NT pro BNP (ICON) cut-point strategy
Nagurney, John T.	Co-Investigator	EchoSense: Non-invasive assessment of lung Doppler signals among patients with dyspnea	Non-invasive evaluation of cardiopulmonary diseases using transthoracic parametric Doppler based assessment of lung Doppler signals

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EM Physician / Faculty Member	Role	Title of Research Project	Brief Description of Research
Nagurney, John T.	Site Principal Investigator	The Alere Triage® Cardiac Panel Whole Blood and Plasma Equivalence Study (CARMEN study)	multi-center study of patients with a standard of care elevated troponin result available to assess the equivalence of Alere Triage® Cardiac Panel results obtained between matched EDTA whole blood and plasma samples in terms of correlation and bias for the Troponin I (Tnl), d-dimer, and BNP assays.
Peak, David	Co-Investigator	Predictive Characteristics of Medical School Applicants for Success During Residency and an Academic Career in Emergency Medicine	Chart review of Emergency Medicine residency applicants to create a prediction tool to determine success during residency and beyond.
Peak, David	Site Principal Investigator	Longitudinal Assessment of Post-Traumatic Syndromes (AURORA)	National research initiative to improve the understanding, prevention and recovery of individuals who have experienced a traumatic event and presented to the ED. Participation includes intensive multimodal follow-up over a 1-year period, and the data from which will be used to develop predictive/ diagnostic biomarkers and urgently needed preventative / treatment interventions for civilian trauma survivors and military veterans.
Pitman, Justin	Co-Investigator	Injury and Illness in the Backcountry: A Retrospective Review of NOLS Field Data	Retrospective review of 25 yrs from National Outdoor Leadership School (NOLS), looking at changing incident frequency of backcountry illness / injury.
Pitman, Justin	Co-Investigator	Optic Nerve Sheath Diameter and Acute Mountain Sickness on Kilimanjaro	Blinded analysis of changing optic nerve sheath diameter with altitude ascent and relationship to symptoms of Acute Mountain Sickness (AMS).
Pitman, Justin	Co-Investigator	Effectiveness of Oxygen Concentrators at Altitude	Comparison of portable oxygen concentrators to 100% Oxygen on effects of oxygen saturation at altitude.
Pitman, Justin	Co-Investigator	Evaluation of Volume Status in Acute Mountain Sickness	Using Ultrasonographic measurements of IVC collapsibility and LVOT VTI echocardiography of intravascular volume to compare patients with symptoms of Acute Mountain Sickness to those who are asymptomatic.
Reisner, Andrew	Principal Investigator	Artificial intelligence system for tight blood pressure control and neuro-protection in patients with shock	Completing the development of a pilot decision-support system to be tested in a clinical trial in 2019, pending FDA approval for investigational use
Reisner, Andrew	Principal Investigator	Artificial intelligence system for tight blood pressure control and neuro-protection in patients with acute spinal cord injury	Completing the development of a pilot decision-support system to be tested in a clinical trial in 2019, pending FDA approval for investigational use
Reisner, Andrew	Principal Investigator	Artificial intelligence system for trauma patient management	Completing the development of a pilot decision-support system to be tested in a clinical trial in 2019.
Reisner, Andrew	Principal Investigator	"Big data" analytics to develop decision-support tools for sepsis management	Data analysis to understand the pathophysiology of sepsis; management challenges; and automated tools for decision-support
Salas, Renee N	Principal Investigator	Impacts of Climate Change Exposure Pathways on Health and Healthcare	Utilizing large databases, mainly Medicare, to systematically and comprehensively analyze the impact of climate change exposure pathways on health and the healthcare system.
Samuels-Kalow, Margaret	Principal Investigator	Medication Education for Dosing Safety	An RCT of an intervention to improve understanding and implementation of ED discharge instructions
Samuels-Kalow, Margaret	Principal Investigator	Individual and neighborhood factors associated with potentially preventable ED visits	A geographic analysis of potentially preventable ED visits and their association with individual and neighborhood socioeconomic status
Samuels-Kalow, Margaret	Site Principal Investigator	Neonatal mastitis and omphalitis	PEMCRC (research network) project examining management strategies for mastitis and omphalitis
Samuels-Kalow, Margaret	Principal Investigator	Health Related Social Needs in the ED: Linkage strategies	A qualitative study examining patient and community organization recommendations for optimal linkage strategies for ED patients
Samuels-Kalow, Margaret	Principal Investigator	Health Related Social Needs in the ED	A cohort study examining the prevalence of health related social needs in the ED
Samuels-Kalow, Margaret	Principal Investigator	Predicting high-frequency emergency department utilization for asthma	Secondary analysis of single-center and state-wide (HCUP) data to create a predictive model for early identification of patients at risk of high frequency ED utilization for asthma
Samuels-Kalow, Margaret	Principal Investigator	Adult patients in pediatric EDs	PHIS (research network) project examining diagnostic test utilization for adults presenting to pediatric centers
Samuels-Kalow, Margaret	Mentor / Principal Investigator	Healthcare access of newly arrived refugees	Qualitative interviews with refugees, community and service organization to understand barriers and facilitators to healthcare access
Slutzman, Jonathan	Principal Investigator	Environmental impacts of emergency care	Assessment of the environmental impacts of providing emergency medical care.
Slutzman, Jonathan	Principal Investigator	Environmental life cycle assessment of disposable vs reusable suture kits	Comparative environmental LCA of reusable and disposable suture kits with associated cost comparison

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Slutzman, Jonathan	Principal Investigator	Waste audit of the emergency department	Detailed audit of all waste generated in the emergency department in a 24-hour period
Slutzman, Jonathan	Principal Investigator	Answering the problem of system-wide healthcare costing: Patient Encounter Costing (PEC)	Developing and implementing a novel method of assigning costs of care in a full health care system, based on a simplification of time-driven activity-based costing
Slutzman, Jonathan	Co-Investigator	Understanding patterns of cost and care utilization for CHF	Analysis of healthcare utilization and associated costs of care for patients with CHF in Region Halland, Sweden, with specific assessment of costs and outcomes comparing patients with guideline-recommended medication regimens vs patients not on guideline-recommended therapy.
Slutzman, Jonathan	Principal Investigator	Applying Patient Encounter Costing to emergency department, ambulance service, inpatient, outpatient specialty, and primary care	Application and description of operational optimizations possible following implementation of PEC in a Swedish county health system
White, Benjamin	Principal Investigator	Analysis of the Effect of Inpatient Boarder Radiology Studies	Conducting a review of resource utilization regarding ED radiology studies on boarding inpatients
White, Benjamin	Principal Investigator	Triggered Communication in the ED	Conducting a systematic review and multiple projects aimed at determining the value of event triggered communication in the ED.
White, Benjamin	Principal Investigator	Patient Experience in the ED: A Systematic Review	Conducting a systematic review of literature regarding the most important contributors to patient experience in the ED, with a focus on compassionate care.
White, Benjamin	Principal Investigator	Patient Experience in the ED: Identifying Important Factors	Conducting a multivariate analysis of most important contributors to patient experience in the ED.
Yun, Brian	Principal Investigator	The cost of an Emergency Department Access Center	Performing Time-Driven Activity-Based Costing on an Access Center, which serves to follow-up on pending lab results and field phone calls from outside hospitals looking to transfer patients to MGH
Yun, Brian	Principal Investigator	Attending documentation contribution to billing at an academic ED with an electronic health record	We sought to determine the value of additional attending documentation, and how often the attending documentation prevented a downcoding event.
Yun, Brian	Principal Investigator	Opportunity to reduce transfer of patients with mild traumatic brain injury and intracranial hemorrhage to a Level 1 trauma center.	The purpose of this study was to identify risk factors for admission among patients with mild TBI and ICH who were transferred from a community hospital to the emergency department (ED) of a Level 1 trauma center.
Yun, Brian	Principal Investigator	Evaluation of a Low Risk Mild Traumatic Brain Injury and Intracranial Hemorrhage Emergency Department Observation Protocol	The purpose of this study was to evaluate the effects of implementing a protocol in the emergency department (ED) observation unit for patients with mild TBI and ICH.
Yun, Brian	Principal Investigator	Expedited Discharge from an Academic Emergency Department: A Pilot Program	To investigate a novel approach to expediting discharges from the ED with multi-disciplinary discharge services, in order to prevent an avoidable admission into the hospital.
Yun, Brian	Principal Investigator	ED utilization of medical clearance testing for psychiatric admission: National Hospital Ambulatory Medical Care Survey analysis	We aimed to address this knowledge gap by determining the percentage of ED visits ending with an admission to a psychiatric facility that had a medical clearance test ordered, and whether geographic region or other variables are associated with use of such tests.
Yun, Brian	Principal Investigator	Utilization of head CT and chest CT for injured patients during visits to US EDs: 2012-2015	Evaluated NHAMCS database to evaluate utilization of advanced imaging in trauma
Yun, Brian	Principal Investigator	Impact of urgent care openings on academic medical center emergency department visits within an affiliated healthcare system	We performed a geospatial analysis to assess the impact of affiliated UC openings on ED utilization patterns at two academic medical centers (AMCs) within an integrated healthcare system.
Zachrison, Kori Sauser	Principal Investigator	Identifying novel system-level factors associated with the quality of acute stroke care delivery (AHRQ K08)	Using clinical data registry linked with Medicare data to map the flow of patient transfers in the US, to determine how quality and best practices are shared between connected hospitals, and how innovation diffuses through the network of connected hospitals.
Zachrison, Kori Sauser	Co-Investigator	Evaluation of TeleEM program	An implementation study of the MGH ED's telemedicine roll-out, aimed to determine whether the program led to improved ED metrics (decreased transfers, decreased LOS, etc), improved admission rates to OSH, without a rise in adverse events.
Zachrison, Kori Sauser	Principal Investigator	InTouch Telemedicine Project	Using data from a large commercial telemedicine provider, we are analyzing trends in telemedicine over time as well as comparing stroke care delivery between different types of provider models

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Zachrisson, Kori Sauser	Co-Principal Investigator	Disparities in Stroke Incidence and Outcomes	Using all-payer inpatient discharge databases for 14 states (accounting for 85% of Hispanics nationally) to describe incidence of stroke and stroke subtypes as well as post-stroke inpatient mortality and 30-day readmissions for blacks, Hispanics, and Asians.
Zachrisson, Kori Sauser	Co-Principal Investigator	Evaluating a Statewide Stroke Quality Improvement Intervention	In partnership with the MA DPH, using state registry data linked with vital records data to evaluate the effect of a statewide stroke quality improvement intervention on patient-centered outcomes of mortality and readmission for stroke patients.
Zachrisson, Kori Sauser	Principal Investigator	Pre-hospital triage decisions for patients with suspected stroke due to large vessel occlusion (NECC grant)	A decision analytic modeling cost-effectiveness study in which we are developing, analyzing, and verifying a decision model including repeated triage simulations of a patient with suspected stroke due to large-vessel occlusion in order to determine the effectiveness and cost-effectiveness of various pre-hospital triage approaches
Zachrisson, Kori Sauser	Principal Investigator	First 10k Telestroke Consults	A descriptive analysis of the 1st 10,000 consults in the Partners Telestroke Network
Zachrisson, Kori Sauser	Principal Investigator	A national study of telemedicine use in US EDs (EMF health policy grant)	A national survey-based study to determine the prevalence of telemedicine use in US EDs, and to understand barriers and facilitators of ED telemedicine adoptions; we will also examine state policy environments and the relationship between policy environment and telemedicine use
Zachrisson, Kori Sauser	Principal Investigator	Mapping the Stroke Transfer Network in the Northeast (AHA grant)	Using clinical data registry linked with Medicare data to map the flow of patient transfers in the Northeast region and to determine how performance and high-quality care are shared between connected hospitals.
Zachrisson, Kori Sauser	Principal Investigator	Does ED crowding impact performance on time-sensitive stroke care?	Using MGH data on crowding and on stroke performance (door-to-imaging and door-to-needle for tPA times) to examine for whether there is an association between crowding in the ED and care/treatment delays.