Year	RFA or CRICO-Directed	Institution	PI	Project Title	Focus Area	Project Abstract	Publications	Open/Closed
2015	CRICO Directed	BIDMC	Sigall Bell	The OpenNotes Patient Safety Initiative: A Multi-Site Expansion	Diagnosis	Safety experts struggle to develop effective ways to reduce error in ambulatory care. OpenNotes, an innovation that invites patients to review their physicians' visit notes online, may yield important patient safety benefits. With patients reporting several health care improvements, the movement has grown from 20,000 patients to 4.8M patients with access to notes nationwide over two years. We hypothesize that OpenNotes can enhance safety by linking clinicians and patients between visits, times when ambulatory vulnerabilities compound. Such a link may help detect and prevent errors by mitigating missed follow up appointments and referrals, uncompleted diagnostic tests, delayed notification of abnormal test results, and persistent but undiagnosed symptoms.	https://www.rmf.harvard.edu/About-CRICO/Media/In-the-News/News/2019/September/A-Patient-and-Family-Reporting-System-for-Perceived-Ambulatory-Note-Mistakes	Closed
2015	RFA	MGH	William Lester	The Effect of an Automated, Systematic Patient Post-visit Follow-up System	Health Information Technology	We propose to systematically solicit patient feedback after urgent and routine primary care visits in MGH's Internal Medical Associates to (1) inquire about untoward clinical outcomes after urgent care appointments and (2) inform our practice regarding factors related to patient satisfaction, both of which are related to malpractice risk. The first phase of this project will focus on the development of a sustainable automated post visit follow-up system. In phase II, we will implement this system and conduct a cross-sectional descriptive study to investigate factors related to patient satisfaction and assess the impact of this system on our practice.		Closed
2015	RFA	BWH	Joaquim Havens	Reducing Morbidity and Mortality of Emergency General Surgery with a Pre-operative Checklist and Intra-operative Huddle	Promoting Safety	Emergency surgery is defined as any surgery that is immediately necessary to prevent seriously morbid or imminently fatal health consequences. Patients undergoing emergency general surgery (EGS) face a disproportionate burden of medical errors, complications, and death. This project seeks to improve the overall care and outcomes of the EGS patient population and to reduce surgical errors and malpractice risk that may occur as a result of urgent/emergent surgeries. This project is designed to identify specific modifiable factors associated with excess morbidity and mortality associated with EGS and to address those factors by developing and pilot-testing a novel, multidisciplinary tool consisting of a brief pre-operative checklist and an intra-operative huddle.		Closed
2015	RFA	MGH	Michael Filbin	Prevention of Hemodynamic Decompensation in Patients At-risk for Septic Shock in the Emergency Department	Quality and Safety	Sepsis is dangerous, common, and costly, but current medical practice lacks standards about some of the most basic aspects of sepsis care. Patients are at-risk because this lack of standards frequently leads to delays in treatment. Moreover, poor outcomes are frequent even with excellent care -- mortality exceeds 20% -- and the lack of standards for judging whether clinical management met the standard-of-care or not creates uncertainty and medicolegal risk when patients do poorly. This project builds on a pilot project where we identified preventable delays in sepsis therapy within the MGH Emergency Department and developed a clear, simple identification rule for early sepsis that can be initiated at ED triage, triggering a team-coordinated countermeasure.		Closed
2015	RFA	BWH	Deborah Culley	Improving Surgical Safety of Seniors through Preoperative Cognitive Screening	Quality and Safety	Seniors (persons ≥ 65 years of age) have disproportionately poor surgical outcomes, and data suggest cognitive impairment is a risk factor for morbidity, mortality, and high cost. However, brain function is not routinely evaluated preoperatively. This work will build on an ongoing study at BWH that shows that depending on age 13-36% of seniors presenting for elective surgery have probable cognitive impairment. This proposal aims to determine whether (1) Preoperative cognitive screening of older patients is feasible and reliable in preadmission test centers of a community hospital and a different tertiary care center; and (2) The presence of preoperative cognitive impairment independently predicts adverse perioperative events.	https://www.rmf.harvard.edu/About-CRICO/Media/In-the-News/News/2019/October/Retrospective-Analysis-of-Perioperative-Variables	Closed
2015	CRICO Directed	BCH	Christopher Landrigan	I-PASS: Improved Handoffs for Safer Care at CRICO Hospitals	Communication	Miscommunications are the leading cause of sentinel events, the most serious of all adverse events. Communication errors are a major root cause of misdiagnoses, medication errors, surgical complications, and other malpractice claims across settings. Via a prior CRICO pilot grant, we developed and implemented a resident handoff bundle at Boston Children's Hospital to improve communication at change of shift. This led to a 40% reduction in medical errors unit. Adaptation of this bundle for nurses led to similar reductions in nursing handoff-related care failures. These pilot data supported development of I-PASS, a multi-center implementation study funded by the DHHS. I-PASS implementation led to a 30% reduction in preventable adverse events, i.e., injuries due to medical errors, in 9 North American hospitals. We now propose implementing I-PASS across CRICO-insured institutions using our rigorously developed and well-tested approach to improving handoffs.		Open
2015	CRICO Directed	BIDMC	Anjala Tess	HMS CRICO Fellowship in Patient Safety and Quality	Quality and Safety	We aim to train four classes with the goal of continuing to enhance the quality and safety work and future workforce within CRICO.		Open
2015	CRICO Directed	Ariadne Labs	Atul Gawande	Expansion of Surgical Safety Initiatives	Surgery	This work will continue to convene the Harvard Surgical Chiefs Safety Collaborative; drive the OR Team Training program; and refine the playbook of closed surgical malpractice cases and develop a risk management curriculum for surgeons.	https://journals.lww.com/annalsofsurgery/fulltext/2019/07000/multisource_evaluation_of_surgeon_behavior_is.15.aspx	Closed
2015	RFA	MGH	Sayon Dutta	Enhancing the Safety of Patient Discharge from the Emergency Department Using Clinical Decision Support	Quality and Safety	Patient discharge home from the ED is a high-risk care transition. Recent media reports highlight the fact that abnormal vital signs and laboratory values are often overlooked prior to a patient's discharge, often leading to fatal consequences and otherwise avoidable malpractice litigation. This project aims to (1) define the prevalence and characteristics of high-risk patient discharges from the ED, and (2) offer an electronic clinical decision support tool to help providers mitigate this patient safety and medico-legal risk.		Closed
2015	CRICO Directed	Ariadne Labs	Atul Gawande	Development of Surgery Pre-Acquisition Assessment Tool	System Expansion and Affiliation	The project deliverables include an initial surgery-specific roadmap for reducing risks that would be trialed in a merging institution, a survey of institutions and their systems' practices, and a report and national publication on the key issues involved.	https://www.ariadnelabs.org/wp-content/uploads/2018/03/SystemExpansion.Toolkit_PDF-4.2018.pdf	Closed
2015	RFA	DFCI	Kristen McNiff	Development of an Ambulatory Oncology Trigger Tool to Maximize Learning from Events at Dana-Farber Cancer Institute	Health Information Technology	Multiple studies have demonstrated under-reporting to voluntary reporting systems and concluded that a multifaceted strategy is required to understand and mitigate safety risks. The trigger tool is an approach that has been widely adopted in inpatient settings, and modified for ambulatory care, but we know of no tool for ambulatory oncology. This project seeks to (1) Develop and validate an ambulatory Oncology Trigger Tool (OTT); (2) Test OTT implementation, including EHR automation; and (3) Increase awareness, and drive improvements in voluntary event reporting and risk reduction initiatives, through dissemination of enhanced event reports.		Closed
2015	RFA	BIDMC	Richard Whyte	Best Practices for Perioperative Debriefing	Diagnosis	Lapses in communication have been demonstrated to be a major cause of medical errors and, as a result, contributors to decreases in both quality of care and patient safety. A post-operative debriefing session has been proposed as a method to improve perioperative communication. Yet this approach, unlike pre-operative checklists and "time-outs", has not been widely accepted. The focus of this grant is to (1) Examine the reasons why post-operative debriefing has not been widely accepted, (2) Create systems and strategies which will lower the barriers to implementing this strategy, (3) Formulate a set of implementable best practices, and (4) Pilot an immediate post-operative debriefing practice at the BIDMC		Closed
2015	CRICO Directed	BIDMC	Marc Garnick with Jane Sillman	Best Medical Practices Primary Care Course	Diagnosis	The CME course Best Medical Practices: Maximizing Skills, Minimizing Risk was created to improve the performance of Harvard primary care clinicians insured by CRICO and to decrease their risk of a malpractice suit. The major focus of the course provides information on the four most common cancers, screening recommendations and appropriate processes to prevent a failure of or delay in diagnosis. Attendees will learn about (1) Major reasons for malpractice claims in general internal medicine, (2) How to maximize best medical practice skills and minimize risk and 3) How to improve effective communication with patients to reduce potential malpractice suits.		Closed
2015	RFA	BWH	Li Zhou	Automated Knowledge Extraction from Free-text Malpractice Claims Data to Enhance Coding and Analytics	Health Information Technology	The claim coding process is often time, expertise, and labor intensive, and only about 15% of the coded claims are evaluated for quality. We propose to apply innovative health information technology, Natural Language Processing and Machine Learning, to enable faster, more accurate and better quality data coding and analytics. This study will help advance the science and practice of timely data analytics to provide better population health.		Closed
2015	RFA	BCH	Craig Lillehei	Aligning Family-Team Expectations During Surgical Consent	Patient Engagement	The pre-operative encounter represents a unique challenge for surgeons, who often have limited time to establish "instant trust" with patients. This often leads to surgeons and patients having misaligned expectations: a given outcome may be seen as a success by the doctor, but a failure from the perspective of the patient and family. Such mismatch stems from inadequate pre-operative communication, and can lead to frustration, anger, and potentially litigation. This project aims to develop, implement, and evaluate an innovative, experiential educational intervention that focuses on improving communication and relational skills during the informed consent process to better align surgical team and family expectations.		Closed

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2016	RFA	MGH	Raul Uppot	To Develop and Test Feasibility of CADI (Clinical Assist Decision Interface): A Verbal Electronic Surgical Safety Checklist for the Intensive Care Unit	System Expansion and Affiliation	Every time a medical procedure is performed on a patient, there is a risk for an adverse event. In 2009, the WHO published a 22-item surgical safety checklist. Though these checklists have reduced preventable complications, there are still significant limitations including: compliance, accuracy of the information delivered, reproducibility, and challenges in tailoring the checklist to the specific needs of a department/procedure. We developed CADI (Clinical Assist Decision Interface) - a software application that gives voice to the electronic surgical checklist. CADI pulls timely information from the electronic health record and verbalizes it in the format of a surgical checklist to the team. The purpose of this project is to design and develop CADI as a surgical safety checklist, specific for the needs of the ICU, and assess the impact of CADI on patient safety.	https://pubmed.ncbi.nlm.nih.gov/28551343/	Closed
2016	CRICO Directed	The Schwartz Center	Lisa Crane	The Schwartz Center for Compassionate Healthcare - Video Presentation 2016	Patient Engagement	This work will develop two videos: (1) a caregiver-patient relationship about compassionate care; and (2) the rising epidemic of clinician burnout.	https://www.theschwartzcenter.org/resources/videos/	Closed
2016	CRICO Directed	BIDMC	Ashley Yeats	PSO Peer-Protected Network-Level Evaluation of Clinical Practice	System Expansion and Affiliation	Organizations needs to understand how best to rapidly integrate services across a growing system, especially those with shared practice among the majority of academic departments. This project examined the challenges of network-level evaluation of clinical practice.		Closed
2016	CRICO Directed	BWH	Sonali Desai	Development of Ambulatory Clinical Surveillance Safety Net (BWH Safety Net Program)	Primary Care	Building off work developed by Kaiser Permanente Southern California Outpatient Safety Net Program—which leverages electronic health information to efficiently identify and address a variety of potential care gaps across different clinical conditions—we aim to convene an Ambulatory Patient Safety Task Force to identify a list of prioritized conditions that merit additional surveillance to mitigate the risk of missed/delayed diagnosis that may lead to potential malpractice action.	https://www.rmf.harvard.edu/About-CRICO/Media/In-the-News/News/2019/May/Adoption-of-a-Closed-Loop-Communication-Tool-to-Establish-and-Execute-a-Collaborative-Follow-Up-Plan	Closed
2016	CRICO Directed	Atrius	Thomas Isaac	Development of Ambulatory Clinical Surveillance Safety Net (Atrius Health Safety Net Program)	Primary Care	Building off work developed by Kaiser Permanente Southern California Outpatient Safety Net Program—which leverages electronic health information to efficiently identify and address a variety of potential care gaps across different clinical conditions—we aim to convene an Ambulatory Patient Safety Task Force to identify a list of prioritized conditions that merit additional surveillance to mitigate the risk of missed/delayed diagnosis that may lead to potential malpractice action.		Closed
2016	CRICO Directed	Massachusetts Health Quality Partners	Barbra Rabson	Understanding Patient Experience (Conduct a Baseline Survey to Better Understand Patient Engagement Activities in Primary Care Practices in Massachusetts)	Patient Engagement	Health care leaders around the country have begun to recognize that engaging patients through collaborative, personalized care is key to reducing costs and improving outcomes. However, our knowledge of what patient engagement efforts are taking place at the practice level is incomplete. We will convene stakeholders, including patients, to develop and vet a pilot survey to determine what patient experience activities primary care practices have implemented to date.	https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0070	Closed
2016	RFA	BCH	Karen Gruskin	Optimizing Safe and Standardized Patient Care Throughout a Regional Healthcare Network via 'Cascaded Team-training Simulation'	System Expansion and Affiliation	We see significant risks to patient safety during the early stages of hospital consolidation into affiliate networks—when affiliated organizations lack mechanisms to facilitate enculturation, standardization and safety. The BCH Simulator Program has already piloted one such mechanism—a "SIMNetwork" training program focused on building and standardizing team based clinical competencies within the BCH Community of Care Hospitals. This proposed project would build on our successful pilot work to develop and implement a sustainable team training program within SIMNetwork—aimed at reducing medical errors through improvement in team-based communication and collaboration under crisis conditions.		Closed
2016	RFA	BWH	Jennifer Haas	Informed Implementation of Breast Density Reporting	Primary Care (Diagnosis)	Breast cancer is a common and an important source of malpractice liability. Many states, including MA, have enacted breast density notification laws. While these laws have a goal of improving decision-making about screening, there are no data to support this assertion. These laws do not address other important risk factors for breast cancer, limiting a broader understanding/ discussion of risk, which may increase liability. Our objectives are to: (1) develop a brief, personalized informational video to provide this information; and (2) evaluate whether it improves knowledge of breast cancer risk and density, use of additional screening, satisfaction, and decisional conflict in a trial of 300 women undergoing mammography.	https://link.springer.com/article/10.1007/s11606-018-4754-6	Closed
2016	RFA	BIDMC	Lauge Sokol-Hessner	Implementing Best Practices in Inter-hospital Patient Transfers	System Expansion and Affiliation	Inter-hospital transfers (IHT) are critical times in patient care where errors in communication can lead to adverse events. Patients who undergo IHT have higher average lengths of stay, higher costs, and higher rates of mortality, even when adjusted for severity of illness. The number of patients undergoing IHT between the BIDMC and Beth Israel Deaconess (BID) network hospitals has increased rapidly, and internal data suggests that IHT patients disproportionately represent adverse outcomes at the BIDMC. Despite this, no standardized processes for IHT coordination of care or communication of patient information exist. IHTs within the BID network are treated identically to those involving out-of-network hospitals. This proposal seeks to improve the quality of IHT between BID network hospitals and BIDMC by creating and implementing best practice standards for IHT within the network.		Closed
2016	CRICO Directed	BCH	Shannon Manzi	Implementation of Patient Identification Enhancement in the Electronic Medical Record	Electronic Health Records	This project outlines the creation and implementation of a patient safety feature currently not available in the EMR at BCH. During the past four years we have tracked wrong patient ordering in the ED, noting that despite technology based interventions, such as provider patient lists and italicizing same/similar names, and non-technology based interventions, such as email reminders and posted signs, we have been unable to substantially decrease these types of errors. We propose to build a workflow that incorporates photographing and subsequently displaying the photograph in the banner bar of the EMR to assist the prescriber in active patient identification at the time of order placement.		Closed
2016	CRICO Directed	BWH	Terrie Inder	Implementation of Optimal Neuroprotection in the Term Born Infant with Encephalopathy	Neonatal Patient Safety	We propose to improve the recognition and treatment of term born infants with neonatal encephalopathy that may benefit from therapeutic hypothermia. The ultimate goal is to elevate the standard of care for recognition of infants who may benefit from therapeutic hypothermia to above that of national and international standards.		Open
2016	RFA	BWH	David Bates	Evaluation of Harm Associated with Medication-related Clinical Decision Support Overrides in the Intensive Care Unit	Primary Care (Diagnosis)	Clinical decision support systems have been identified as effective at reducing hospital length of stay and costs, and the incidence of adverse drug events. Despite these benefits, available literature has identified that overrides of these alerts are common and often, inappropriate. Inappropriate overrides may exacerbate malpractice risk, as medications are a common cause for malpractice cases. A particularly vulnerable population are patients in the intensive care unit. Studies have indicated an increase in adverse drug events in this population, given the critical nature of their illness influencing their exposure to medications and the body's corresponding response. By evaluating the association between alert overrides and the incidence of adverse drug events, we hope to identify this under-recognized patient care problem. This study aims to evaluate harms associated with medication-related clinical decision support overrides, with the intention to provide resources to improve patient care and mitigate malpractice risk.	https://pubmed.ncbi.nlm.nih.gov/29440481/	Closed
2016	RFA	Atrius	Myfanwy Callahan	Diagnostic Error in Ambulatory Urgent Care: Assessment of Incidence	Ambulatory Safety	In ambulatory care, accuracy of diagnosis is often assumed - if the patient doesn't come back, they must have been properly diagnosed. This is particularly true in the urgent care setting where care continuity and knowledge of the individual and their disease presentation are often unknown. This project will provide an initial assessment of the incidence of diagnostic error in the ambulatory urgent care setting at Atrius Health for myocardial infarction, pulmonary emboli and acute abdomen (the index conditions).		Closed
2016	RFA	MGH	Synho Do	Applying Medical Image Deep Machine Learning to Decrease Rate of Missed Critical Findings in Radiology	Primary Care (Diagnosis)	As radiology grows as a key role in the diagnosis of many diseases, recurrent misdiagnosis or delayed diagnosis of medical images must be addressed, especially for breast cancer. Current analysis of mammograms results far too often in false positives, resulting in immense unnecessary financial and mental burden on patients. In this proposal we introduce a novel deep-learning based image analysis platform that quickly analyzes mammograms and diagnoses for breast cancer.		Closed
2016	CRICO Directed	BWH	Adam Landman	Adding Patient Photos to the Electronic Health Record to Improve Patient Identification and Reduce Wrong Patient Order Errors	Diagnosis	Accurate and fast patient identification is critical to all components of medical evaluation and treatment. Health care providers must be in the correct patient's EHR when performing any actions, especially computerized provider order entry. Our primary goal is to test if passive patient identification photos displayed in the EHR header reduce wrong patient orders in the Emergency Department. We also seek to understand optimal workflows and technical solutions to capture patient photos in the EHR and their impact on efficiency.	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7658731/	Closed
2016	RFA	BWH	Adam Schaffer	A Novel Tool for Predicting Medical Malpractice Claims Risk	Data Analytics	We propose to develop a multivariable model to predict an individual physician's risk of facing a medical malpractice claim. We will use predictors in addition to physician specialty, in order to assess risk within a specialty. An innovative feature of our proposal is that we will use both physician-level and practice-level variables in our prediction model.		Closed
2016	RFA	NWH	Nicole LaRue	A Community Partnership to Expand and Technologically Advance Lung Cancer Screening and Nodule Management	System Expansion and Affiliation	NWH intends on collaborating with an existing program at North Shore Medical Center to refine established methodologies for pulmonary nodule identification and to ensure timely follow up of patients who are found to have pulmonary lesions from either lung cancer screening or that are incidentally found.		Closed

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2017	RFA	BWH	Gordon Schiff	Tools for Enhancing Primary Care Diagnosis Safety	Ambulatory Safety	We will develop, test and deploy five tools to improve primary care diagnosis safety: (1) Patient education tool for Diagnosis Uncertainty, Processes, and Follow-up; (2) PSA education/shared decision-making/documentation tool; (3) Colonoscopy ordering-performance process metric report; (4) Abnormal lab tests tracking/review tool; and (5) Instrument for evaluating clinical notes' assessments quality.		Closed
2017	RFA	BWH	Kumiko Schnock	Resilience in Clinical Deterioration Survival: Learning from Different Outcomes in Critical and Acute Care	Nursing	Greater resilience in health care is needed to keep patients safe by understanding activities that influence how failure is avoided and positive outcomes are obtained within complex and high risk organizations. This proposal will combine machine learning with nurse and physician expertise to identify statistically and clinically significant patterns of resilience care activities in the ICU setting that are ripe for clinical decision support interventions to make care safer in acute care.	https://pubmed.ncbi.nlm.nih.gov/31707264/	Closed
2017	RFA	MGH	Kelly Irwin	Proactive Psychiatry Consultation for Patients with Severe Mental Illness and Cancer: A Collaborative Care Intervention	Diagnosis	Delays in cancer diagnosis and treatment increase mortality and malpractice claims. Such delays disproportionately impact patients with severe mental illness who experience inequities in cancer treatment and survival. Within Partners, 50% of women with schizophrenia experienced cancer care disruptions; lack of psychiatric treatment independently predicted disruptions. We propose a pilot RCT of proactive psychiatry consultation to decrease disruptions and mitigate malpractice risk.		Closed
2017	RFA	DFCI	Michael Hassett	Oral Chemotherapy Safety in the Ambulatory Oncology Practice	Ambulatory Safety	Oral chemotherapy is a relatively new, rapidly growing, frequently effective, but complex and potentially toxic cancer treatment. The goals of this project are to make new discoveries regarding the nature of and risk factors for safety-related harm events among oral chemotherapy recipients, and to create new technical capabilities that decrease the risk of these events.		Open
2017	RFA	BWH	Terrie Inder	Optimizing the diagnoses of cerebral injury in newborn infants with mild neonatal encephalopathy	Diagnosis	Therapeutic hypothermia (TH) trials did not include infants with mild neonatal encephalopathy. This has lead to variation in practice among this population, and concern for patient safety. The AMC PSO facilitated development of consensus based criteria for TH eligibility among these infants. This application will validate and optimize these criteria, by performing MRI analysis of all infants screened for TH, including those that do not meet criteria.		Open
2017	CRICO-Directed	Harvard Medical School	Nancy Tarbell	Improving Faculty Recruitment at Harvard Medical School	Employment Practices Liability	CRICO and Harvard Medical School share an interest in appointing the world's best scientists and clinicians committed to leadership in alleviating human suffering caused by disease. As the HMS mission states, we seek "to create and nurture a diverse community". Our goal is to recruit diverse faculty leaders for our hospital departments with demonstrated ability to model scientific and clinical excellence along with leadership in behavioral skills that are critical for an inclusive medical community.		Open
2017	CRICO-Directed	BWH	David Bates	How Safe Is Care Today, and How Should We Measure the Safety of Care in the Future?	Incidence of Harm	Thirty years ago, the Harvard Medical Practice Study identified the frequency and types of harm in hospitalized patients which transformed medicine's view of patient safety. Today, the distribution of care is different, with much more being delivered in the outpatient setting. Care is also being delivered using electronic records, which should make it easier to identify instances in which harm has occurred. However, organizations still do not have routine approaches for assessing all-cause harm that are broadly used. We propose to conduct a study that will assess the frequency and types of harm in a representative sample of CRICO institutions today, covering both inpatients and outpatients.		Open
2017	RFA	BIDMC	Michael Donnino	Failure to Rescue in the Intensive Care Unit: A Multi-Disciplinary Approach to Reducing Preventable Cardiac Arrest	Nursing	Preventable cardiac arrest in the ICU represents the ultimate 'failure to rescue.' We hypothesize that these events are preventable and propose a Comprehensive Trigger and Response System (CTRS) targeted to reduce them. The CTRS will include signs of impending patient deterioration, actions to bring experienced clinicians to the bedside, and tools to assist providers in decision making.	https://pubmed.ncbi.nlm.nih.gov/31521775/	Closed
2017	RFA	BWH	Patricia Dykes	Evaluation of a Multi-faceted Intervention to Prevent Failure to Rescue Events	Nursing	For patients to benefit from continuous monitoring systems, clinical staff must be vigilant with checking patient status in response to alerts. The goal of this project is to evaluate the impact of the CMS program on unplanned ICU LOS (proxy for failure to rescue), cardiac arrests, and mortality at Newton-Wellesley Hospital. We will develop a best practices toolkit to promote successful implementation of the technology and calculate the return on investment.		Closed
2017	RFA	BIDMC	Sheila Barnett	Centralized Oversight of Interventional Procedure Safety	Ambulatory Safety	Adverse events related to an invasive procedure can lead to patient harm and litigation. Our goal is to establish a centralized governance structure to oversee AE review in procedure areas. We will: (1) perform an in depth multidisciplinary analysis of AEs in procedure areas; (2) Modify existing event reporting tools; (3) Create recommendations for a specialized root cause analysis; and (4) Design cross cutting best practices, guidelines and educational programs for broad distribution.		Closed
2017	RFA	BIDMC	Mara Schonberg	Breast Cancer Risk Assessment Among Women 40-49 in Primary Care	Diagnosis	Breast cancer is a leading cause of cancer death and missed breast cancer diagnoses are a leading source of malpractice claims. However, there are no standardized approaches for breast cancer risk assessment in primary care. We will test the effect of a novel strategy for breast cancer risk assessment and risk-based management of women in their 40s seen in primary care in a randomized controlled trial on women's use of mammography and on the identification and management of women at high-risk.	https://www.ajpmonline.org/article/S0749-3797(20)30211-7/abstract	Closed
2017	RFA	Atrius	Elizabeth Ross	Automated Protocol and Decision Support to Enhance Medication Prescription Renewal	Ambulatory Safety	This protocol develops a rules-based medication renewal protocol incorporating patient characteristics and EHR information to detect and prompt resolution of safety risks and anticipate future preventive care needs in patients. It will include specialized reporting tools assessing protocol practicality and functionality, determining if protocols and associated workflows save time and reduce effort for clinicians/staff, and detect and quantify improvements in patient safety and closing care gaps.		Closed
2017	RFA	BCH	Amy Starmer	Applying I-PASS to Ambulatory Settings: Improving Communication and Patient Safety during Hospital to Home Transitions	Communication	Miscommunications are the leading cause of sentinel events and a primary source of malpractice claims. Inpatient handoff improvement programs have been shown to reduce adverse event frequency. However, evidence-based interventions addressing the high frequency of miscommunications and adverse events in ambulatory settings are lacking. Filling this gap, we will assess the patient safety impact of a hospital to home transition program for adults and children with medical complexity.		Closed

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2018	RFA	BCH	Peter Weinstock	"REAL" (Real Event Analysis and Learning): A Transferable Live Audio-visual Program to Optimize Performance and Safety in Operating Rooms and Procedural Environments	Surgery	Despite clear mandates and regulations, errors continue to occur at significant rates due to a lack of research exploring relevant factors such as the role of team performance and adherence to standards. Simulation programs establish cultures of psychological safety on which to build a program of audio/visual recording and debriefing to help elucidate root causes of persistent errors as well as design and test effective interventions. The proposal defines a program – REAL (Real Event Analysis and Learning)- combining A/V recordings and coding of live events with debriefings and team performance measurements. Data gained through REAL will allow for design and testing of highly relevant interventions to enhance safety in pediatric operating rooms.		Open
2018	CRICO-Directed	BIDMC	Mary LaSalvia	Spread of Ambulatory Safety Net Program (BIDMC)	Ambulatory Safety	We propose an ambulatory safety net intervention to address the risk of missed or delayed diagnoses of cancer focused in the three key areas of colorectal, lung and prostate cancer. Through the development of a set of tools, registries and reports, we will develop high-reliability processes to ensure a systematic approach for (1) classification of risk/eligibility for cancer screening, (2) closing referral loops following initiation of a cancer screening process, (3) serial surveillance of potentially cancerous lesions, and (4) the reliable execution of patient-centered shared-decision making plans when the risks and benefits of screening must be weighed on an individual basis		Open
2018	RFA	BWH	Li Zhou	Similar-cAses Finder for Risk Reduction - the SAFRR System	Diagnosis	Diagnostic errors (DEs) are harmful (45.9% and 21.1% of inpatient and outpatients paid malpractice claims, respectively) and frequent (9% of deceased inpatients), but receive less attention compared to surgical and medication errors. Since DEs tend to recur, retrieval of similar cases and patients is important for decision making in a current case and for applying lessons learned from previous cases to new ones. Existing methods are resource-intensive and achieve variable success, and malpractice claim similarity calculation has been hindered by the inaccessible and unstructured information in case files. Building upon our previous collaboration with CRICO to develop automatic claim coding, we propose a study to develop automatic data-driven methods to (1) extract information from scanned documents in malpractice case files, (2) cluster similar cases and (3) develop an application to allow practitioners to freely search malpractice files and retrieve similar cases.		Closed
2018	RFA	MGH	Jenny Rudolph	Reducing Peri-and Post-operative Adverse Events through In-situ Debriefing and Spaced Practice of Speaking Up	Surgery	Using proven deliberate practice training principles of recurrent practice with feedback paired with strengthening speaking up through debriefing, this project seeks to build the psychological safety and speaking up skills to, in the long run, reduce the incidence of wrong site surgery and failure to rescue.	https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0240	Closed
2018	CRICO-Directed	BIDMC	Celeste Royce	Reducing Diagnostic Error: A Case Based Critical Thinking Curriculum	Diagnosis	Diagnostic error due to cognitive mistakes remains a major problem in healthcare and is a significant contributor to malpractice cases. Members of the Harvard Medical School Critical Thinking Interest Group will work with CRICO to identify 15 primary care cases from the CRICO/RMF database that illustrate how diagnostic errors can be linked to key principles in critical thinking and medical decision making. They will then develop these into case studies for use in a case-based, longitudinal, critical-thinking curriculum based within a framework of cognitive theory on how the brain approaches clinical problems and can be misled by pattern recognition and cognitive biases. . An evaluation of learners and faculty will be performed at the end of the curriculum to measure its impact.		Open
2018	RFA	CHA	Robert Marlin	Improving Limited English Proficient Patient Safety through Patient Portal Accessibility	Emerging Risks	This project will seek to demonstrate that limited English proficient (LEP) patient safety improves significantly when patients have access to a linguistically appropriate patient portal with which to communicate with their care teams.		Open
2018	RFA	BWH	Anuj Dalal	Impact of an Epic-integrated Safety Dashboard and Interactive Pre-discharge Checklist on Post-discharge Adverse Events	Diagnosis	Adverse events (AE) are common after discharge, and many are due to preventable errors during hospitalization. After transitioning to Epic, concerns for hospital-acquired conditions have escalated, in part due to increasing cognitive burden on clinicians to identify safety threats via "siloed" data entered by nurses and physicians in Epic. We designed, developed, and implemented an Epic-integrated safety dashboard as part of our Patient Safety Learning Laboratory. The safety dashboard is a real-time data visualization tool that identifies patients at risk for HACs and suggests corrective action. It also displays information from a checklist electronically administered to patients to self-assess discharge preparedness. We will (1) enhance our tools to include "smart" notifications to facilitate early identification of "at-risk" patients prior to discharge; (2) expand the intervention to general medicine at Brigham and Women's Faulkner Hospital; and (3) evaluate impact on post-discharge AEs.		Open
2018	RFA	MGH	Michael Barry	Does "Perfected Informed Consent" Improve Trust in the Physician and Reduce Regret Following Orthopedic Surgery?	Surgery	Shared decision making (SDM) using patient decision aids (pDAs) has been called "perfected informed consent." This strategy improves communication between clinicians and patients around treatment decisions. At Partners HealthCare, many patients receive pDAs prior to hip and knee arthroplasty and surgery for herniated disc and spinal stenosis, but many do not. This creates a "natural experiment" we will use to study whether prescription of a pDA prior to these operations increases trust in the clinician and reduces regret about the decision, which should result in lower malpractice risk.	https://journals.lww.com/annalsofsurgery/Abstract/9000/Validation_of_the_Trust_in_the_Surgical_Decision.93992.aspx	Open
2018	RFA	BIDMC	Gabriel Brat	Creating a Hospital Network Resource for Opioid Prescribing Across Surgical Specialties	Surgery	Opioid misuse is undermining our healthcare system. Surgeons, who prescribe opiates to the majority of their patients, are contributing by over prescribing and failing to recognize at-risk patients. A recent pilot study showed that education could reduce surgeon opioid prescribing by 50% without significant complications. Using phone surveys, we are now building a database of actual opioid use by procedure and patient characteristics. To make our efforts sustainable, we will: (1) build opioid requirement profiles from online surveys linked to a text message generated for follow-up visit reminders, and (2) train clinicians to use these profiles and provide automated digital feedback when they deviate from norms in their prescribing habits.		Closed
2018	CRICO-Directed	BWH	Li Zhou	Computerized Support for Malpractice Auditing & Coding	Data Analytics	Accurate and consistent coding of malpractice cases is a cornerstone of a multitude of analytic and operational activities for CRICO. Following a successful research project to automatically code CRICO cases for audit purposes, we propose a study to extend our coding engine to perform preliminary coding of malpractice cases from non-clinical description and to develop a method to focus the audit process on the cases with the highest risk for errors. Building upon the products of the previous project, we will use machine-learning and natural-language processing methods to extract information from non-clinical descriptions of CRICO and NPDB cases and assign each case to an appropriate Major Allegation, Severity, and Primary Responsible Service code. We will then use the coding engine to estimate the risk of a case to be found erroneous in audit, and generate a report of these cases so the auditor can focus on the highest-yield cases.		Closed
2018	RFA	MGH	Kimberly Blumenthal	Assessing Allergy Safety During Electronic Health Record Transitions	Emerging Risks	Although any patient may suffer an allergic reaction in the healthcare setting, the highest risk patients are those who report prior allergies. When allergy information systems transition with adoption of a new electronic health record, patient safety may be compromised. No studies have previously investigated healthcare setting hypersensitivity reactions (i.e., reactions that are allergic) or allergy risks associated with electronic health record conversion. With access to almost 300,000 safety reports from two academic medical centers and a team with multidisciplinary clinical and research experience, we propose to: (1) identify allergy-related safety reports using informatic techniques; characterize allergy-related safety risks, including risks attributable to electronic health record conversion; (2) investigate causes for allergy safety failures; and (3) disseminate actions for improved allergy safety.		Open
2018	RFA	MGH	Mitchell Feldman	Artificial Intelligence to Enhance a Cognitive Aid for Identifying Patients at Risk of Missed Diagnosis	Diagnosis	The objective of this project is to develop and evaluate a cognitive aid for clinicians to identify patients at risk of missed or delayed diagnosis, leveraging cutting edge artificial intelligence technology. This project builds on our effort at the MGH Lab of Computer Science to develop a knowledgebase for medical diagnosis and our research to identify patients at risk of missed diagnosis.		Closed
2018	RFA	MGH	Ozanan Meireles	Artificial Intelligence for Risk Prediction from Intraoperative Events	Surgery	Intraoperative adverse events such as accidental bowel or vascular injury are estimated to occur in 2% of operations and can exact a toll on patient quality of life and medical costs. Current methods of predicting complications do not utilize quantitative intraoperative data and rely on only pre- and post-operative information. We propose to utilize a previously developed computer vision-based analysis of intraoperative video to integrate quantitative intraoperative data with peri-operative data to improve the prediction of patient-specific complications and readmissions for patients undergoing laparoscopic cholecystectomy.		Open

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2019	RFA	BCH	Lisa Bergersen	Using Artificial Intelligence Advanced Analytics to Mitigate Hazard during Pediatric Cardiac Catheterization	Management and Performance of Medical Treatment	While essential for diagnosis and treatment, pediatric cardiac catheterizations remain among the highest risk procedures for potential complication. This project will utilize a comprehensive dataset of electronic health records, adverse events, and systems-wide metadata from BCH between 2011-2014. Patient, procedural, and system-level risk factors that influence the occurrence of an AE during a catheterization and the potential harm 48 hours post-catheterization will be identified using supervised machine learning in a tiered approached to develop a predictive model. A staged implementation of risk mitigation strategies will be conducted at 3 time points during the study period taking advantage of existing BCH workflow practices, and will follow the tiered prediction analysis methodology.		Open
2019	RFA	Ariadne Labs	Neel Shah	Understanding the Best Practices of Labor and Delivery Nurses to Improve Patient Safety	Patient Assessment	We will investigate best practices among nurses that promote safety in childbirth by analyzing the patterns of nurses whose patients most consistently have uncomplicated normal vaginal deliveries.		Open
2019	CRICO-Directed	Atrius Health	Karim Awad	Measuring Clinician Workload: Reducing Physician Burnout by Using an Efficiency Dashboard	Ambulatory Safety	Clinician well-being is critically important to the long term strategic success of a health care organization. Clinician burnout is recognized as a vast problem across the country and has been demonstrated to have many consequences, including: lower patient satisfaction scores, decreased productivity, increased medical errors, and higher turnover rate. This project will focus on developing and testing process measures related to physician burnout.		Open
2019	RFA	BWH	Gordon Schiff	Measuring Diagnosis: Safety or Stress	Patient Assessment	Clinician burnout and diagnostic errors have become one of the highest priority areas for safety and quality researchers. It is well documented that half of clinicians, especially primary care physicians, are burned out. Diagnostic errors occur in 5% of all outpatient encounters and diagnostic failures dominate primary care malpractice claims in Massachusetts. However, relatively little attention has been paid to the intersection between diagnostic errors and clinician burnout-related issues. This project will look at the relationship between diagnostic error and clinician burnout/stress, particularly in primary care. The researchers will apply a new conceptual model of failure modes in the diagnostic process based on three key constructs - "don't miss" diagnoses, "red flags", and diagnostic "pitfalls".		Open
2019	RFA	Atrius Health	Alan Brush	Management of DOACs by Centralized AMS to Reduce Medication Mismanagement and Safety Events	Management and Performance of Medical Treatment	Since 2017, there have been 34 documented safety events at Atrius Health related to a newer class of anticoagulants called direct oral anticoagulants. Clinician experience at Atrius Health suggests that DOAC dosing errors, incorrect prescribing, and inappropriate transitions to and from DOACs are not uncommon and may go unreported. These events can result in serious and costly outcomes such as thrombosis and hemorrhage for our fifty-two hundred Atrius Health patients prescribed DOACS. By reconfiguring our current anticoagulation tracking system to include DOACs, we can effectively improve patient safety through centralized medication management and enhanced medication monitoring.		Open
2019	RFA	BIDMC	Joshua Joseph	Machine-Learning Derived Triage Score for Emergency Department Workload and Error Risk	Clinician Mental Workload/Clinician Well-Being	Emergency department crowding and emergency physician burnout are closely linked to worse clinical outcomes, medical errors, and physician burnout. There are currently no validated, prospective means of determining the amount of work it will take to see a patient when they arrive in the ED, making it difficult to balance workloads prospectively before physicians become overtaxed. We propose to use multivariate regression and neural network analyses to create scores that can prospectively determine the amount of work needed to care for an individual patient at their time of arrival to ED triage, and quantify their risk of falling victim to a medical error.	https://pubmed.ncbi.nlm.nih.gov/33145518/	Open
2019	RFA	BWH	Charles Pozner/Maddy Pearson	Improved Teamwork to Decrease Errors and Mitigate Their Consequences	Management and Performance of Medical Treatment	Communication failures are implicated as a major contributor to clinical errors. We plan to decrease adverse events due to communication failures of interprofessional teams by performing a gap analysis to develop and implement a simulated, interprofessional, objective-based Crisis Resource Management training program as a component of on-boarding of new clinical hires at BWH.		Open
2019	RFA	BWH	Patricia Dykes	From Sepsis Prognosis Prediction to Tailored Clinical Practice	Patient Assessment	Sepsis is a life-threatening condition characterized by multiple organ dysfunction. As it involves diverse symptoms, complications, and presentations, improper sepsis management is common. This highlights the importance of clinical decision support for accurate identification of sepsis and expert management. The proposed research project will overcome these obstacles and develop a "smart" sepsis prognosis prediction algorithm that is linked to best clinical practice interventions to facilitate early detection of sepsis recurrence regardless of the stage and patient trajectory.		Open
2019	RFA	BWH	Sarah Rae Easter	Establishing an Obstetrics Critical Care Program to Mitigate Maternal Risk	Patient Assessment	Our strategy is to build a sepsis prognosis prediction algorithm by combining knowledge of sepsis prognosis learned from electronic health record data and clinician's perspective. Based on the developed algorithm, we will develop a CDS specification that can be implemented in any EHR system, specifically in critical and acute care settings.		Open
2019	CRICO-Directed	BWH	Rajesh Patel	Development of a Reporting Dashboard to Mitigate the Risks of Lost Specimens	Pathology	Misplaced and lost specimens are a universal problem in hospital systems across the nation. The majority of errors occur in the pre-analytic phase which includes testing ordering, specimen identification, specimen labeling, transport, specimen receipt and triage, accessioning, and communication/availability of clinical information. An institutional task force will convene to research and address this issue		Open
2019	RFA	MGH	Ilona Goldfarb	Development of a Standardized Strategy for Postpartum Hypertension: Improving Quality of Postpartum Care	Patient Assessment	Cardiovascular disease and hypertension are leading causes of maternal mortality. Risk factors for hypertension in the postpartum period are poorly understood. Postpartum women experience major cardiovascular and hemodynamic shifts amidst multiple transitions. Timely intervention for high-risk women is critical for preventing postpartum readmissions and ensuring high-quality care. To better understand who is at high risk of postpartum hypertension-related complications, we will undertake a systematic review of patients to identify risk factors associated with postpartum hypertension and readmission	https://www.rmf.harvard.edu/About-CRICO/Media/In-the-News/News/2020/September/Establishing-Better-Evidence-on-Remote-Monitoring-for-Postpartum-Hypertension	Open
2019	CRICO-Directed	BIDMC	Lauge Sokol-Hessner	Creating a Structure, Mentored Implementation Program for Communication, Apology and Early Resolution (CARe)	Communications	The goal of this project is to develop a mentored implementation program to support the application of Communication, Apology, and Resolution (CARe) as one of the primary responses to adverse events in CRICO-insured hospitals and/or healthcare groups. The project will use the knowledge base and implementation toolkit built and tested by the Massachusetts Alliance for Communication and Resolution following Medical Injury (MACRMI) to train and empower institutions to use CARe as part of their risk management strategy.		Open
2019	RFA	MGH	Emily Hayden	Can Telemedicine Examinations of the Abdomen Safely Determine the Need for Abdominal Imaging?	Patient Assessment	This will be a prospective, observational, blinded diagnostic concordance study of patients being seen for abdominal pain at MGH ED. We propose to study the correlation between in-person (standard of care) abdominal examinations and telemedicine (live video-streamed) abdominal examinations on the decision for urgent abdominal imaging.		Open
2019	RFA	BCH	Amir Kimia	Bedside Procedure Attempts: 'If at First We Don't Succeed…'	Management and Performance of Medical Treatment	We aim to make healthcare safer through surveillance of ED bedside procedures and will implement ongoing routine surveillance to improve available data sources on bedside procedures.		Open
2019	RFA	MGH	Aaron Aguirre	An Early-warning System to Prevent Adverse Events in Hospitalized Patients after Cardiac Surgery	Patient Assessment	Patients recovering from cardiac surgery remain at significant risk of in-hospital death due to unexpected post-operative complications, including cardiac arrest and respiratory failure. This proposal will bring together a team of physician-scientists with both clinical and computational expertise to utilize a unique clinical data collection platform available at the MGH for the development of advanced early-warning risk prediction metrics and bedside clinical analytics for the care of post-operative cardiac surgical patients.		Open

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2020	RFA	MGH	Haytham Kaafarani	Using Optimal Classification Trees to Design and Validate Interpretable AI-based Surgical Risk Calculators for Non-trauma and Trauma Emergency Surgery	Surgery	Predicting perioperative risk is critical for surgical decision-making, counseling of patients, resource allocation, and quality of care benchmarking. Artificial Intelligence methods, such as Optimal Classification Trees (OCT), use non-linear analyses and machine-learning methods to ensure accurate and interpretable perioperative risk prediction. This project will prospectively validate the AI-based POTTER Calculator 4 POTTER risk estimations will be calculated for 1000 patients undergoing EGS at the MGH and the BWH over a 2- year period.		Open
2020	RFA	BCH	Brian Labow	The Impact of Rotating Operating Room Staffing on Patient Safety and Surgical Outcomes	Surgery	In an effort to streamline staff scheduling and reduce operating room costs, institutions have adopted a rotating pool of OR personnel as opposed to using a team-based approach to staffing. In the rotating model, members of the operative team can vary daily or even by the case, and it is increasingly common for OR personnel to be unfamiliar with each other and the procedure. The goal of this project is to measure the effect of a rotating approach to OR staffing on patient safety and staff satisfaction.		Open
2020	CRICO-Directed	BWH	Douglas Smink	Surgical Coaching for Operative Performance Enhancement (SCOPE)	Surgery	Surgical Coaching for Operative Performance Enhancement (SCOPE) is a non-hierarchical, peer coaching program where surgeons are assigned into pairs, undergo coach training, and conduct coaching sessions that involve preoperative goal-setting, intraoperative observation, and postoperative debriefing to improve the coachee's performance.		Open
2020	RFA	MGH	Sareh Parangi	SmART training- Smart Appropriate Response Training- A Role Play Training Toolkit for Surgical Residents to Help Address Sexual Harassment	Surgery	Since the #MeToo movement went viral, there has been a laser focus on sexual harassment in the media and in workplaces. Recent data from the National Academies of Science, Engineering, and Medicine (NASEM) show that sexual harassment and gender discrimination affect up to 50% of women medical students and more than 50% of women faculty in medicine. We will develop video-based educational role play modules, meant to be used in person, which will include specific scenarios, prompts for discussion, and potential responses.		Open
2020	RFA	MGH	Kyan Safavi	SepsisWatch: Impact of a Novel Real-time Feedback System for Improving Sepsis Care	Emergency Medicine	Sepsis is the leading cause of death in US hospitals. A preponderance of evidence exists on the content and timing of appropriate sepsis care. For clinicians, tracking and administering care in a timely manner can be challenging given their chaotic environments. SepsisWatch is a novel platform that provides real-time alerts when elements of life-saving care are missing, thus providing patients an electronic safety net. We will conduct a randomized trial to measure the impact of SepsisWatch on compliance with life-saving sepsis care and patient outcomes.		Open
2020	RFA	BIDMC	Olga Brook	Radiology Review of Pathology Results Discordant with Imaging Findings of Image-guided Biopsy	Patient Assessment	A biopsy is usually performed to confirm radiological suspicion for cancer. However, when the pathology result of the biopsy is discordant with imaging presentation, which occurs in up to 10% of the cases, it could be because the lesion is truly benign or malignancy was missed. If radiology-pathology correlation review is not performed or performed without in-depth knowledge of imaging and biopsy technique, then the patient may potentially suffer due to the risk of missed diagnosis or delay in diagnosis. Our goal is to incorporate the practice of radiology-pathology concordance review by radiologist performing the biopsy into the standard workflow of all radiologists performing biopsies.		Open
2020	RFA	BWH	Stephanie Mueller	Optimizing the Safety of Inter-Hospital Transfer	Patient Assessment	Inter-hospital transfer (IHT) is commonly performed to provide patients with specialized care. However, IHT involves transfer of patients between providers, settings and systems of care, leaving patients vulnerable to the risks of discontinuity of care. Standardized communication tools have been successful at reducing patient harm during other hospital-based care transitions, but have been under-utilized during IHT, leaving the process largely non-standardized and variable. The goal of this proposal is to optimize patient safety during IHT to high-volume medical, cardiology and oncology services at a tertiary medical center.		Open
2020	CRICO-Directed	BWH	Mohamed El-Dib	Optimization and Standardization of Care During Therapeutic Hypothermia in the Term Born Infant with Encephalopathy	Pediatrics	Neonatal Encephalopathy (NE) continues to be associated with significant risk of death and disability, even after the introduction of therapeutic hypothermia (TH). This project continues the initiative to educate providers across 14 different CRICO centers and established a unique data repository to monitor the screening and application of TH for at risk infants in the CRICO network.		Open
2020	RFA	NSMC	Mitchell Rein	Interventional Radiology Oncology Navigator (IRON)	Patient Assessment	Inadequate patient handoffs are a well-recognized patient safety issue and the source of a significant number of legal claims. When failed communication between inpatient and outpatient care leads to delays in diagnosis and management of patients with newly diagnosed cancer, patient health outcomes can be irreparably damaged. The creation of an Interventional Radiology Oncology Navigator would bridge the gap between inpatients identified with a lesion, to outpatient biopsy, and referral to pathologic tissue-based Oncology specialists.		Open
2020	CRICO-Directed	BCH	Janet Soul	Improving and Validating Clinical Assessment of Neonatal Encephalopathy	Pediatrics	The aim of this study is address this need to improve identification and grading of NE and to explore the association of such scoring with brain injury. Once the scoring system has been validated, an app will be created to help clinicians identify which newborns should be treated with therapeutic hypothermia, and will incorporate this scoring system. In particular, video clips of the exam findings will be included in the app to illustrate how to perform each element of the exam and the appearance of the exam findings.		Open
2020	RFA	MGH	Sayon Dutta	Implementing a Machine Learning Decision Tool to Improve Follow-up of Incidental Radiology Findings	Emergency Medicine	Incidental radiology findings are common and the recommendations for additional outpatient imaging poses a unique patient safety challenge in the emergency department. Failure to act on an early finding can result in delayed treatment of potential malignancies, leading to worse patient outcomes, and significant legal liability. Yet in a prior study, we found that emergency providers communicated these findings to patients only 41% of the time. As any workflow that requires manual and discrete tagging of these findings by radiologists is vulnerable to variable compliance, we propose the design, implementation, and evaluation of clinical decision support within the Epic EHR that leverages a deep learning algorithm trained to detect these findings from the free-text of radiology reports.		Open
2020	RFA	BIDMC	Swapna Reddy	Efficacy of an Electronic Biopsy Tracker in Minimizing Errors in the Dermatology Biopsy Pathway	Management and Performance of Medical Treatment	Our study is aimed at determining if an electronic biopsy tracker can be used to minimize errors in the biopsy pathway by creating an easy to access, central electronic record of skin biopsy orders, results, and outcomes. Specifically, we hope to determine if the implementation of an electronic biopsy tracker can decrease the risk of lost specimens and the time it takes to identify a lost specimen, decrease the time it takes to report skin malignancy biopsy results to patients, and increase provider satisfaction.		Open
2020	RFA	BWH	Michaela Farber	Development of an Integrated, Technology-Based Approach to Postpartum Hemorrhage Risk Assessment and Management to Optimize Maternal Safety	Patient Assessment	This project will integrate and refine PPH management by harnessing technology-driven decision tools at every stage: pre-delivery, delivery, and post-delivery. Impacted patients are healthy, young women at substantial risk of severe maternal morbidity, as our recent analysis has demonstrated. This project provides state-of-the-art technology directly to front-line providers who manage PPH: obstetric anesthesiologists, labor and delivery nurses, and obstetricians.		Open
2020	CRICO-Directed	Ariadne Labs	Evan Benjamin	Development of an Adoption Framework to Achieve Deployment of Patient Safety Initiatives	Patient Safety	As part of CRICO's 2020-2022 Strategic Plan, Ariadne, in coordination with a Task Force comprised of CRICO member organization will: (1) expand our core patient safety improvement initiatives; and (2) create an adoption framework to achieve 50 percent implementation of these initiatives by our member institutions.		Open
2020	RFA	BCH	Kenneth Michelson	Delayed Diagnosis in Children Visiting HMS-Affiliated EDs	Emergency Medicine	Delays in diagnosis of emergency conditions often leads to serious harm. Children in the ED are at special risk of delayed diagnosis. Delays in diagnosis of appendicitis, bacterial meningitis, and sepsis place children at risk of injury and are each one of the most common causes of malpractice claims in children. Using large database analysis for screening possible cases of delayed diagnosis, we will identify numerous cases across four CRICO-associated institutions where a serious diagnosis was delayed. We will measure rates of delayed diagnosis, and will discern patient- and clinician-associated risk factors for delay.		Open
2020	RFA	BIDMC	Satya Ramachandran	Concise Out of Operating Room Interprofessional In-Situ Exercises (CONcISE)	Management and Performance of Medical Treatment	In consideration of the increasing patient safety and malpractice risks posed by procedural care out-of-the-operating room, we propose a novel 30-minute in-situ team training method that utilizes the strengths of in-situ brief simulation drills, focused debriefing and active identification of latent hazards.		Open
2020	RFA	DFCI	Joseph Jacobson	A Program to Collect, Share and Characterize Systemic Anticancer Therapy-related Incidents across Multiple Locations of Care	Management and Performance of Medical Treatment	The effectiveness of systemic anticancer therapies has grown rapidly in the last decade resulting in substantial improvement in survival and quality of life, especially for patients with advanced cancer. At the same time, the complexity of care has increased, often in a setting in which resources are more constrained, increasing the risk for errors and patient harm. The types and patterns of incidents which affect patients receiving systemic anticancer therapies have not been systematically evaluated. We propose to rigorously evaluate incidents related to these agents across three different CRICO-insured hospitals with the goal of creating an evidenced-based safety incident taxonomy.		Open

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2021	RFA	BWH	Anuj Dalal	Real-time Inpatient Diagnostic Error Risk Prediction and Evaluation	Patient Assessment	Diagnostic errors (DE) in acute care are an emerging threat to patient safety. Our early data suggest DE rates of up to 62.7% in patients who expired on the general medicine service at BWH, and an unbiased estimate of 22.4% in stratified cohort of cases identified via certain "e-trigger" events in the electronic health record (EHR). In this project, we aim to develop a predictive model of DE in acute care by conducting a secondary analysis of an existing cohort of cases using covariates corresponding to data in the EHR.		Open
2021	RFA	MGH	Korilyn Zachrison	Standardization of Headache Management in the Emergency Department	Emergency Medicine	Headache is among the most common emergency department (ED) presentations. While most headache patients have primary, benign diagnoses, headache is also a presenting symptoms of potentially life-threatening 'cannot miss' diagnoses (e.g., brain tumor, meningitis). Yet in the context of increasingly crowded EDs, the pressures to decrease length of stay and utilization of high-cost imaging presents potential for major threats to patient safety in the ED headache evaluation. In response, our multi-disciplinary group seeks to develop and implement a Headache Management Guideline and associated Epic Smartphrases to guide and standardize ED management of headache patients.		Open
2021	RFA	BWH	Dinah Foer	Gender Identity in the Electronic Health Record as a Patient Safety Priority	Patient Assessment	Despite federally mandated collection of gender identity data in the electronic health record (EHR), heterogeneity in implementation and collection processes persist. In a pilot study we found significant discrepancies in the accuracy of the Mass General Brigham EHR gender identity fields for transgender patients. Failures or inaccuracies in gender identity data collection may directly contribute to provider inability to identify and synthesize relevant clinical information related to trans patient assessment, diagnostic testing, laboratory interpretation and subsequent care. We propose to address this patient safety need using innovative yet feasible tools such as informatics and natural language processing to generate quantitative and qualitative characterization of gender identity fields use and build technical capability to overcome current inaccuracies in these fields.		Open
2021	RFA	BWH	Neena Kapoor	Health Disparities in Radiology: Evaluating Socioeconomic Predictors of Inequitable Follow-up Imaging	Patient Assessment	Radiology findings often require additional follow-up imaging, yet over one-third of follow-up recommendations go unmet, creating substantial risk. The extent to which disparities exist in follow-up imaging is unknown. Brigham Health has launched the ARRC (Addressing Radiology Recommendations Collaboratively) program, enabled by a closed-loop communication tool in which radiologists communicate follow-up recommendations to referring providers and establish Collaborative Care Plans (CCPs) when the referring provider agrees with the recommendation. ARRC uses automated notification, escalation and data analytics components to ensure timely performance of CCPs. Using ARRC, we will analyze patient and provider factors contributing to disparities in performance of follow-up imaging.		Open
2021	RFA	MGH	Dania Daye	IR-Peer: A Peer Learning System in Interventional Radiology	Management and Performance of Medical Treatment	In recent years, there has been a transition from peer review models to peer learning models emphasizing identification of learning opportunities with continuous analysis, feedback, and improvement. This new model is based on an Institute of Medicine report calling for embracing medical errors as opportunities to learn. While peer learning models are becoming more prevalent in medicine, these models have not yet been widely implemented in interventional radiology (IR). This proposal focuses on the implementation of a peer learning system in IR (IR-Peer) to improve the management and performance of medical treatment and procedural safety.		Open
2021	RFA	BWH	Dana Im	Mitigating Patient Harm by Reducing the Use of Physical Restraints: A Standardized Strategy for Agitation Management in the Emergency Department	Emergency Medicine	Patient safety issues and malpractice risk are paramount when caring for agitated patients in the emergency department (ED). Management of agitated patients in the ED often leads to unnecessary, premature use of physical restraints, which can result in serious adverse patient outcomes. More recently, racial disparities in the use of physical restraint has been reported at the institutional level across Mass General Brigham. We aim to create and implement a multidisciplinary, standardized approach to managing agitated patients with the goal of reducing the use of restraints in the Brigham Health EDs.		Open
2021	RFA	MGH	Mark Clapp	Leveraging Electronic Health Record Data and Machine-learning for Neonatal Risk Stratification on Labor and Delivery	OB/GYN	Substandard clinical judgement, miscommunication, and technical errors are the primary contributors to obstetric malpractice claims. The objective of this project is to leverage the power of machine-learning and EHR data within the Mass General Brigham health system to reduce the risk of harm related to fetal distress.		Open
2021	RFA	BIDMC	Ritika Parris	Impact of a Novel Coaching Program on Medical Errors, Clinical Reasoning, and Well-being of Physicians	Patient Assessment	Cognitive biases and physician burnout are individual factors that lead to missed or delayed diagnoses. We propose using coaching as a construct to improve critical thinking and problem solving, both in personal and clinical domains. We hypothesize that our novel program will lead to decreased self-perceived medical errors in trainees and faculty by fostering resiliency and use of debiasing strategies.		Open
2021	RFA	BIDMC	Joseph Feuerstein	Risk Reduction in Colon Cancer Surveillance through Machine-learning Based Identification of Patients at High Risk of Interval Polyp and Colon Cancer Development	Management and Performance of Medical Treatment	Leveraging advances in machine learning as well as BIDMC IS support, we will explore an approach to improving care for these high risk patients in three phases: (1) careful measurement of the actual risk exposure due to lapsed recall, (2) assessment of the risk exposure due to underestimation of risk from historic guidelines, and (3) effectiveness of incorporating these missed patients into our prospective recall management program.		Open
2021	RFA	BIDMC	Jeffrey Weinstein	Hand-motion Assessment for Objective Evaluation of Central Line Placement: From Simulation to Real-world Application	Management and Performance of Medical Treatment	Education in central venous line (CVL) placement is heterogeneous without a defined endpoint to determine proficiency. Hand motion analysis has been tested in various medical specialties as a potential objective measurement of technical skill that is less susceptible to potential bias and is more reproducible than visual assessment. This project involves creating a CVL training program that incorporates cognitive training and a simulation skills component where electromagnetic hand motion analysis can be used to assess progress by comparison to an expert reference standard.		Open

2021	RFA	BIDMC	Catherine DesRoches	Engaging Patients and Families in Care Transitions: A New Approach to Using Health Information Transparency to Improve the Safety of Hospital Discharges	Patient Assessment	Transitions of care between hospital discharge and follow-up are prone to errors of communication, missing test/referral follow up, and poor information transfer. Patients and families can play an important role as safety partners when given access to their information, a relatively untapped resource. We propose to create MyDS, an intervention inviting recently discharged patients to read their discharge summaries and provide feedback on problems or misunderstandings around diagnosis, follow-up care, and medications.		Open
2021	RFA	BIDMC	Kelly Graham	Addressing Health Disparities between Resident and Faculty Patients at Academic Health Centers: A Patient Safety Opportunity through the Lens of Health Care Equity	Patient Assessment	We will evaluate the scope and cause of health outcome disparities between resident and faculty primary care populations at Academic Medical Centers. This work is essential to uphold the mission of academic medical centers: to train the next generation of physicians while providing outstanding medical care to the most vulnerable and medically complex patients in the US healthcare system		Open
2021	RFA	Atrius	Jessica Wang	Automated Pap Smear Result Follow-up Safety Net Project	Patient Assessment	Missed follow-up of abnormal Pap smears is a common malpractice risk. Incomplete follow-up stems from increasingly complex management algorithms, large Pap smear volume, inconsistent patient notification, and inconsistent patient education and results access. We plan to leverage automation to address patient assessment malpractice risk associated with abnormal Pap smears. Our project expands on the traditional "safety net" concept by marrying it to our laboratory information system, allowing for a maximally automated clinician and patient notification process.		Open
2021	RFA	BCH	Brian Labow	Assessing and Addressing Implicit Racial, Ethnic, and Socioeconomic Bias	Surgery	Our department seeks to delve into the uncomfortable, and expose previously unexamined areas within our clinical practice impacted by our own systemic racial, ethnic, and socioeconomic implicit bias. The crux and novelty of this project will be developing and implementing an intervention for our department aimed at (1) identifying, acknowledging, and reflecting on our specific implicit biases, and (2) mapping out actions to reduce the deleterious effects of our implicit biases.		Open
2021	CRICO-Directed	BCH	Dionne Graham	Identifying Safety Risks and Health Care Disparities in Pediatric Virtual Visits	Emerging Risks	The goal of this project is to use a multi-modal approach to assess the quality and safety of virtual visits in selected pediatric care settings. We will identify telehealth-related adverse events, near misses, and safety risks by using the complementary methods of patient/provider reporting, systematic chart review, and automated surveillance facilitated by structured data triggers and natural language processing.		Open
2021	CRICO-Directed	MGH	Lee Schwamm	Advancing Digital and Virtual Opportunities for Care Access Translates to Equity (ADVOCATE)	Communication	ADVOCATE will identify and overcome barriers to digital health participation via a multipronged solution including: (1) discover and capture real-world barriers during live patient support across MGB and Mount Auburn Hospital (MAH) diverse populations, (2) design better digital tools to address these observed barriers, (3) validate the utility of comprehensive, multi-lingual educational resources (e.g., videos, tip sheets) promoting equitable access to virtual services, and (4) measure adoption of the resources in our actual patient populations.		Open