2015 CRICO Directed BIDMC Siggal Bell The Opentrack Project: A Safety Initiative to Mitigate Error in Surgery Diagnosis

The project aims to develop and implement a novel system that uses computer vision technology to track and record the position of surgical instruments and tools in the surgical field. This system will help improve surgical outcomes by reducing the risk of instrument cross-contamination, surgical site errors, and instrument-related complications. The project will involve collaboration between surgeons, engineers, and computer scientists to develop a comprehensive solution that can be easily integrated into surgical workflows. The ultimate goal is to improve patient safety and minimize the risk of surgical complications.

2015 CRICO Directed BIDMC Madhi R. Patel Improving the Safety of Pediatric Emergency Care Trigger Tool

The project aims to improve the safety of pediatric emergency care by developing and implementing a new trigger tool. The tool will be designed to identify and address potential safety issues that may arise in the emergency department. The project will involve collaboration between emergency physicians, nurses, and other healthcare professionals to develop and test the new trigger tool. The ultimate goal is to improve patient safety and reduce the risk of errors in emergency care.

2015 CRICO Directed BIDMC Anjala Tess HMS CRICO Fellowship in Patient Safety

The project aims to develop and implement a new fellowship program in patient safety. The program will involve training and education for healthcare professionals on patient safety and risk management. The goal is to improve patient safety and reduce the risk of errors in healthcare delivery. The project will involve collaboration between healthcare organizations and experts in patient safety.

2015 CRICO Directed DFCI Kristen McNiff Improving Surgical Safety of Patients through Computerized Perioperative Screening

The project aims to improve surgical safety by developing and implementing a new perioperative screening tool. The tool will be designed to identify and address potential safety issues that may arise during surgery. The project will involve collaboration between surgeons, nurses, and other healthcare professionals to develop and test the new screening tool. The ultimate goal is to improve patient safety and reduce the risk of errors in surgical care.

2015 CRICO Directed BWH Deborah Culley Pre-operative Checklist and Intra-operative Huddle: A Multi-centre Study to Promote a Multi-faceted Patient Safety Strategy

The project aims to improve patient safety and reduce the risk of errors in healthcare delivery by developing and implementing a new multi-centre study. The study will involve collaboration between healthcare organizations and experts in patient safety.


The project aims to prevent hand transplantation in patients at risk for septic shock in the emergency department. The project will involve collaboration between emergency physicians, nurses, and other healthcare professionals to develop and test a new prevention strategy. The ultimate goal is to reduce the risk of errors in emergency care.

2015 CRICO Directed MGH William Lester Expansion of Surgical Safety in the Emergency Department

The project aims to expand surgical safety in the emergency department. The project will involve collaboration between emergency physicians, nurses, and other healthcare professionals to develop and test a new safety strategy. The ultimate goal is to improve patient safety and reduce the risk of errors in emergency care.

2015 CRICO Directed BIDMC Sigall Bell The OpenNotes Patient Safety Project

The project aims to improve patient safety and reduce the risk of errors in healthcare delivery by developing and implementing a new patient safety project. The project will involve collaboration between healthcare organizations and experts in patient safety.

2015 CRICO Directed BIDMC Anjala Tess HMS CRICO Fellowship in Patient Safety

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2015 CRICO Directed BIDMC Anjala Tess HMS CRICO Fellowship in Patient Safety

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CRICO Directed

BWH

2016

Lauge Sokol-Hessner

Implementation of Best Practices in Inter-hospital Patient Transfers

Year

2016

RFA

Closed

Barbra Rabson

Evaluation of Harm Associated with Medication-related Clinical Decision Support Overrides

Institution

Closed

Partners

Primary Care

Design of Ambulatory Clinical Surveillance Safety Net (CrICO Health Safety Net Program)

Project Title

Project Abstract

Publications

Open/Closed


<table>
<thead>
<tr>
<th>Year</th>
<th>BWH or CRICO-Directed</th>
<th>Institution</th>
<th>PI</th>
<th>Project Title</th>
<th>Focus Area</th>
<th>Project Abstract</th>
<th>Publications</th>
<th>Open/Closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>BWH</td>
<td>Gordon Schiff</td>
<td>Tools for Enhancing Primary Care Diagnosis Safety</td>
<td>Ambulatory Safety</td>
<td>For the diagnosis of the primary care provider and detection of conditions requiring referral, we evaluate and report how we perform these tasks. We develop tools to enhance primary care provider's ability to diagnose and report on conditions requiring referral. We evaluate the impact of these tools on patient outcomes.</td>
<td><a href="https://www.ajpmonline.org/article/S0749-3797(20)30211-9">Link</a></td>
<td>Closed</td>
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<tr>
<td>2017</td>
<td>BWH</td>
<td>Eric Schneier</td>
<td>Precision Diagnostics: Identifying Subtle Changes in Cognitive and Demental Function</td>
<td>Neurology</td>
<td>This protocol develops a rules-based medication renewal protocol incorporating patient's characteristics and EHR information to detect and prompt resolution of safety risks and improve patient outcomes. This protocol will be assessed for protocol practicality and functionality, determining if protocols and associated characteristics and EHR information are useful.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/31521775/">Link</a></td>
<td>Closed</td>
<td></td>
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<tr>
<td>2017</td>
<td>BWH</td>
<td>Emily Hahn</td>
<td>Precision Psychiatry: Consultation for Patients with Severe Mental Illness</td>
<td>Psychiatry</td>
<td>We hypothesize that these events are preventable and propose a Comprehensive Trigger and root cause analysis of audit data and patient charts to identify patterns and risk factors that lead to preventable adverse events. We will train and assess the ability of psychiatrists to perform I-PASS protocols in ambulatory settings. We will assess the impact of I-PASS on patient safety and clinical outcomes.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/31707264/">Link</a></td>
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<tr>
<td>2017</td>
<td>BWH</td>
<td>Amy Starmer</td>
<td>BCH</td>
<td>Atrius</td>
<td>David Bates</td>
<td>How Safe Is Care Today, and How Should We Improve It?</td>
<td>CRICO-Directed</td>
<td>BWH</td>
</tr>
<tr>
<td>2017</td>
<td>BWH</td>
<td>Patricia Dykes</td>
<td>Evaluation of a Multi-faceted Intervention to Prevent Preventable Cardiac Arrests</td>
<td>Cardiology</td>
<td>This protocol will be assessed for protocol practicality and functionality, determining if protocols and associated characteristics and EHR information are useful. We will train and assess the ability of providers to perform I-PASS protocols in ambulatory settings. We will assess the impact of I-PASS on patient safety and clinical outcomes.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/31521775/">Link</a></td>
<td>Closed</td>
<td></td>
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<tr>
<td>2017</td>
<td>BIDMC</td>
<td>Michael Donnino</td>
<td>Oral Chemotherapy Safety in the Ambulatory Setting</td>
<td>Oncology</td>
<td>This protocol will be assessed for protocol practicality and functionality, determining if protocols and associated characteristics and EHR information are useful. We will train and assess the ability of providers to perform I-PASS protocols in ambulatory settings. We will assess the impact of I-PASS on patient safety and clinical outcomes.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/31521775/">Link</a></td>
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<tr>
<td>2017</td>
<td>MGH</td>
<td>Kelly Irwin</td>
<td>Oral Chemotherapy Safety in the Ambulatory Setting</td>
<td>Oncology</td>
<td>This protocol will be assessed for protocol practicality and functionality, determining if protocols and associated characteristics and EHR information are useful. We will train and assess the ability of providers to perform I-PASS protocols in ambulatory settings. We will assess the impact of I-PASS on patient safety and clinical outcomes.</td>
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<tr>
<td>2017</td>
<td>BWH</td>
<td>Kumiko Schnick</td>
<td>Resilience in Clinical Deterioration Survival: Learning from Different Outcomes in Critical and Acute Care</td>
<td>Critical Care</td>
<td>This protocol will be assessed for protocol practicality and functionality, determining if protocols and associated characteristics and EHR information are useful. We will train and assess the ability of providers to perform I-PASS protocols in ambulatory settings. We will assess the impact of I-PASS on patient safety and clinical outcomes.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/31521775/">Link</a></td>
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</tr>
</tbody>
</table>

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**Communication**

- [Applying I-PASS to Ambulatory Settings: Improving Communication and Patient Safety during Hospital to Home Transitions](https://www.ajpmonline.org/article/S0749-3797(20)30211-9)
- [Improving Communication and Patient Safety during Hospital to Home Transitions](https://pubmed.ncbi.nlm.nih.gov/31521775/)
- [Improving Communication and Patient Safety during Hospital to Home Transitions](https://pubmed.ncbi.nlm.nih.gov/31521775/)
2018 87 A L Deep Learning for Predictive Medicine: A machine learning approach to personalized medicine among surgery patients. Surgery

2018 88 A L Reducing Peri-operative Adverse Events through In-situ Debriefing and Improved Facilitation of Spending-up Surgery

2018 89 A L Artificial Intelligence for Risk Prediction from Independent Events Diagnosis

2018 90 A L Improving Limited English-Preferring Patient Safety through Patient-Patient Accountability Surgery

2018 91 A L Creating a Hospital Network Resource for Optimal Preventing Errors in Surgical Specialties Surgery

2018 92 A L Compliant System for Malpractice Auditing & Coding Data Analytics

2018 93 A L Assuring Aligning Safety, During Elective Health Network Transitions Emerging Risk

2018 94 A L Artificial Intelligence to Enhance a Cognitive Aid for Identifying False-At-Risk of Manual Diagnostic Diagnosis

2018 95 A L Ensuring Laboratory Tests during Oncology Care: A Machine Learning Approach to Patient Safety Emerging Risk

2018 96 A L Artificial Intelligence for Risk Prediction from Independent Events Diagnosis

2018 97 A L Closing gaps in understanding surgical care integration: A machine learning approach to predict surgical complications Surgery


2018 99 A L Artificial Intelligence to Enhance a Cognitive Aid for Identifying False-At-Risk of Manual Diagnostic Diagnosis

2018 100 A L Improving limit English-preferring patient safety through patient-patient accountability Surgery

2018 101 A L Preventing Adverse Events in Operating Rooms Surgery
<table>
<thead>
<tr>
<th>Year</th>
<th>RFA or CRICO-Directed</th>
<th>Institution</th>
<th>PI</th>
<th>Project Title</th>
<th>Focus Area</th>
<th>Project Abstract</th>
<th>Publications</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>F31</td>
<td>BWH</td>
<td>Udo Boggerman</td>
<td>Using Artificial Intelligence to Improve Bedside Procedure Completion</td>
<td>Management and Performance of Medical Treatment</td>
<td>Observational studies for diagnosis and treatment, predictions of various outcomes using machine learning to identify adverse events for potential complications. The project will evaluate the performance and cost-effectiveness of the AI system in improving the efficiency and accuracy of bedside procedures.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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</tr>
<tr>
<td>2019</td>
<td>F31</td>
<td>BWH</td>
<td>Emily Hayden</td>
<td>Making Sure It's a Safe and Effective Procedure using Flare</td>
<td>Ambulatory Surgery</td>
<td>Our aim is to decrease the number of adverse events occurring during bedside procedures. The project will develop and implement an early warning system to identify patients at risk of adverse events.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
<td>Open</td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BWH</td>
<td>Ilona Goldfarb</td>
<td>Development of a Reporting Dashboard to Mitigate Risk during Pediatric Cardiac Procedures</td>
<td>Management and Performance of Medical Treatment</td>
<td>Our goal is to create a reporting dashboard that will improve the safety of patients undergoing cardiac procedures. The dashboard will provide real-time feedback to clinicians, allowing them to make informed decisions to prevent adverse events.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
<td>Open</td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BWH</td>
<td>Patricia Dykes</td>
<td>From Sepsis Prognosis Prediction to Tailored Risk Management</td>
<td>Management and Performance of Medical Treatment</td>
<td>Our objective is to develop a project that will advance sepsis prediction and risk management. The project will focus on developing a machine learning model that can predict sepsis risk and recommend tailored interventions.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BIDMC</td>
<td>Joshua Joseph</td>
<td>Can Telemedicine Examinations of the Abdomen Be Done?</td>
<td>Management and Performance of Medical Treatment</td>
<td>Our goal is to determine the feasibility of telemedicine examinations for abdominal imaging. The project will assess the diagnostic accuracy of telemedicine examinations compared to in-person examinations.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>Atrius Health</td>
<td>Alan Brush</td>
<td>Reducing Medication Mismanagement and Mitigating Their Consequences</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will focus on reducing medication mismanagement and mitigating the consequences. The project will develop a system to monitor medication administration and detect errors in real-time.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BCH</td>
<td>Lisa Bergersen</td>
<td>Mitigate the Risks of Lost Specimens Pathology and Laboratory Medicine</td>
<td>Pathology</td>
<td>The project will focus on mitigating the risks of lost specimens in pathology and laboratory settings. The project will develop a proactive system to track specimen collection and reduce丢失.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BIDMC</td>
<td>Neel Shah</td>
<td>Improving Teamwork to Decrease Errors and Mitigate Their Consequences</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will focus on improving teamwork and reducing errors in the medical setting. The project will develop a system to monitor and improve interprofessional communication.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BCH</td>
<td>Sarah E. Kowal</td>
<td>Establishing an Obstetric Critical Care Program to Mitigate Maternal Mortality</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will establish an obstetric critical care program to mitigate maternal mortality. The program will focus on identifying at-risk patients and providing timely interventions.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BIDMC</td>
<td>Rajesh Patel</td>
<td>Development of a Reporting Dashboard to Mitigate Risk of Unusual Events in Paediatric Care Pathology</td>
<td>Pathology</td>
<td>The project will focus on developing a reporting dashboard to mitigate risk of unusual events in pediatric care. The dashboard will provide real-time feedback to clinicians, allowing them to make informed decisions to prevent adverse events.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>SfH</td>
<td>Ana Goldfarb</td>
<td>Development of a Standardized Strategy for Pediatric Hypertension Improvement Quality of Pediatric Care</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will focus on developing a standardized strategy for pediatric hypertension improvement. The project will develop a system to monitor and improve hypertension management.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>BIDMC</td>
<td>Lewis H. Nelson</td>
<td>Building a Structural, Multidisciplinary Implementation Program for Communication, Engagement and Use of Electronic Health Records (EHR) Communications</td>
<td>Communications</td>
<td>The project will focus on building a multidisciplinary implementation program for communication, engagement, and use of electronic health records (EHR). The project will focus on improving primary care and emergency responses to EHR-related incidents and health care errors. The project will focus on measuring and improving the quality of communication and engagement in health care settings.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>SfH</td>
<td>Emily Hayden</td>
<td>CAN-Neonatal Intensive Care Unit Mortality and Morbidity Study Study</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will focus on reducing neonatal intensive care unit (NICU) mortality and morbidity. The project will focus on developing and implementing a comprehensive care plan for neonates.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>Atrius Health</td>
<td>Aniket Kini</td>
<td>Bedside Procedure Utilization: If At First You Don't Succeed...</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will focus on improving bedside procedure utilization. The project will focus on developing and implementing a comprehensive care plan for bedside procedures.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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<tr>
<td>2019</td>
<td>F31</td>
<td>Atrius Health</td>
<td>Aaron Aguiar</td>
<td>Early Warning System to Prevent Adverse Events in Hospitalized Patients After Cardiac Surgery</td>
<td>Management and Performance of Medical Treatment</td>
<td>The project will focus on developing an early warning system to prevent adverse events in hospitalized patients after cardiac surgery. The project will focus on developing and implementing a comprehensive care plan for patients after cardiac surgery.</td>
<td><a href="https://pubmed.ncbi.nlm.nih.gov/33145518/">PubMed</a></td>
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</table>
Improving and Validating Clinical Assessment of Neonatal Sepsis

Year: 2020
Institution: BCH
PI: Kenneth Sayon Dutta
Project Title: Implementing a Machine Learning Decision Tool to Improve Follow-up of Incidental Radiology Findings
Focus Area: Emergency Medicine
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study. This project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

SepsisWatch: Impact of a Novel Real-time Feedback System on Improving Early Intervention in Patients with Suspected Sepsis

Year: 2020
Institution: MGH
PI: Kyan Safavi
Project Title: Improving Follow-up of Incidental Radiology Findings
Focus Area: Emergency Medicine
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Optimization and Standardization of Care During Imaging Findings of Image-guided Biopsy

Year: 2020
Institution: MGH
PI: Sayon Dutta
Project Title: Delayed Diagnosis in Children Visiting HMS-Affiliated EDs
Focus Area: Emergency Medicine
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Experiences (CONcISE)

Year: 2020
Institution: MGH
PI: Sareh Parangi
Project Title: Detecting and Preventing Sepsis in Neonates
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Implementing a Machine Learning Decision Tool to Improve Follow-up of Incidental Radiology Findings

Year: 2020
Institution: MGH
PI: Sarah Parangi
Project Title: Detecting and Preventing Sepsis in Neonates
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Surgical Coaching for Operative Performance Evaluation (SCOPES) for Microsurgery

Year: 2020
Institution: MGH
PI: Douglas Jacob
Project Title: Surgical Coaching for Operative Performance Evaluation (SCOPES) for Microsurgery
Focus Area: Surgery
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Optimizing the Safety of Inter-Hospital Transfer

Year: 2020
Institution: MGH
PI: Michelle Moran
Project Title: Optimizing the Safety of Inter-Hospital Transfer
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Implementing a Machine Learning Decision Tool to Improve Follow-up of Incidental Radiology Findings

Year: 2020
Institution: MGH
PI: Sarah Parangi
Project Title: Optimizing the Safety of Inter-Hospital Transfer
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Improving and Validating Clinical Assessment of Neonatal Sepsis

Year: 2020
Institution: BCH
PI: Kenneth Sayon Dutta
Project Title: Optimizing the Safety of Inter-Hospital Transfer
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Optimizing the Safety of Inter-Hospital Transfer

Year: 2020
Institution: MGH
PI: Michelle Moran
Project Title: Optimizing the Safety of Inter-Hospital Transfer
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Conceal and Disguise: Does revealing the identity of the coach impact the coach's performance?

Year: 2020
Institution: MGH
PI: Joseph Jacobs
Project Title: Implementing a Machine Learning Decision Tool to Improve Follow-up of Incidental Radiology Findings
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Optimizing the Safety of Inter-Hospital Transfer

Year: 2020
Institution: MGH
PI: Michelle Moran
Project Title: Optimizing the Safety of Inter-Hospital Transfer
Focus Area: Pediatrics
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Surgical Coaching for Operative Performance Evaluation (SCOPES) for Microsurgery

Year: 2020
Institution: MGH
PI: Douglas Jacob
Project Title: Surgical Coaching for Operative Performance Evaluation (SCOPES) for Microsurgery
Focus Area: Surgery
Project Abstract: Using optimal classification trees to design and validate interpretable AI-based surgical risk calculators for non-oncologic cancers. The project will prospectively validate the AI-based POTTER Calculator 4 years after its pilot study.
Publications: Open

Optimizing the Safety of Inter-Hospital Transfer

Year: 2020
Institution: MGH
PI: Michelle Moran
Project Title: Optimizing the Safety of Inter-Hospital Transfer
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Implementing a Machine Learning Decision Tool to Improve Follow-up of Incidental Radiology Findings

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Publications: Open

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<tr>
<td>2021</td>
<td>BWH</td>
<td>Anuj Dalal</td>
<td>Real-time Equipoise Diagnostic Error Risk Prediction and Evaluation</td>
<td>Patient Assessment</td>
<td>Diagnostic errors (DE) in acute care are an emerging threat to patient safety. Early data suggest DE rates are about 62.7% in patients who explored the general medical service at BWH, and an estimated 22.4% in a 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 existing cohort of cases using covariates corresponding to data in the EHR.</td>
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<td>2021</td>
<td>MGH</td>
<td>Karin Zucherman</td>
<td>Standardization of Headache Management in the Emergency Department</td>
<td>Emergency Medicine</td>
<td>Headache is among the most common emergency department (ED) presentations. While most headache patients have primary, benign diagnoses, headache is also a presenting symptom of potentially life-threatening central nervous system disorders (e.g., brain tumor, meningitis). Yet in the context of increasingly crowded EDs, the pressure to decrease lengths of stay and admission of high-cost imaging presents potential for major threats to patient safety in the ED headache evaluation. In response, our multidisciplinary group seeks to develop and implement a headache management guideline and associated EHR Smart Alerts to guide and standardize ED management of headache patients.</td>
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<td>2021</td>
<td>BWH</td>
<td>Dinah Foer</td>
<td>Gender Identity in the Electronic Health Record as a Patient Safety Priority</td>
<td>Patient Assessment</td>
<td>Despite federal mandates collection of gender identity data in the electronic health record (EHR), heterogeneity in documentation and validation create a lack of reproducible outcomes. 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 peer health 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 incongruence in these fields.</td>
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<td>2021</td>
<td>BWH</td>
<td>Neela Kapoor</td>
<td>Health Disparities in Radiology: Evaluating Socioeconomic Predictors of Inadequate Follow-up Imaging</td>
<td>Patient Assessment</td>
<td>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 (CCP) 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.</td>
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<td>2021</td>
<td>BWH</td>
<td>Derick Daye</td>
<td>IR-Peer: A Peer Learning System in Interventional Radiology</td>
<td>Management and Performance of Medical Treatment</td>
<td>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.</td>
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<td>2021</td>
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<td>Zsazsa</td>
<td>Mitigating Patient Harm by Reducing the Use of Physical Restraints: A Standardized Strategy for Agitation Management in the Emergency Department</td>
<td>Emergency Medicine</td>
<td>Patient safety issues and complications risk are present 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 at 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.</td>
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<td>2021</td>
<td>BWH</td>
<td>Mark Dipp</td>
<td>Leveraging Electronic Health Record Data and Machine Learning for Neuronal Risk Stratification on Labor and Delivery</td>
<td>OB/GYN</td>
<td>Standardized clinical judgment, documentation, 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/B Brigham health system to reduce the risk of harm related to obstetric care.</td>
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<td>2021</td>
<td>BIDMC</td>
<td>Ribka Paris</td>
<td>Impact of a Novel Coaching Program on Medical Errors, Clinical Reasoning, and Well-being of Physicians</td>
<td>Patient Assessment</td>
<td>Cognitive errors 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 resilience and use of de-escalation strategies.</td>
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<td>2021</td>
<td>BIDMC</td>
<td>Joseph Feuerstein</td>
<td>Risk Reduction in Colon Cancer Surveillance Through Machine Learning Based Identification of Patients at High Risk of Interval Polyposis and Colon Cancer Development</td>
<td>Management and Performance of Medical Treatment</td>
<td>Leveraging advances in machine learning as well as BIDMC’s 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.</td>
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<td>2021</td>
<td>BIDMC</td>
<td>Jeffrey Weinstein</td>
<td>Hand-motion Assessment for Objective Evaluation of Central Line Placement: From Simulation to Real-world Application</td>
<td>Management and Performance of Medical Treatment</td>
<td>Education in central line placement (CLP) placement is heterogeneous without a defined endpoint to measure 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 objective than visual assessment. This project proposes creating a CLP training program that incorporates cognitive training and a simulator CLP component where electromagnetic hand motion can be used to assess progress by comparison to an expert reference standard.</td>
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<td>2021</td>
<td>BEA/BIDMC</td>
<td>Catherine DesRoches</td>
<td>Engaging Patients and Families in Care Transitions: A New Approach to Using Health Information Transparency to Improve the Safety of Hospital Discharges</td>
<td>Patient Assessment Transitions of care between hospital discharge and follow-up are prone to errors of communication, missing/incorrect 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.</td>
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<td>2021</td>
<td>BEA/BIDMC</td>
<td>Kelly Graham</td>
<td>Addressing Health Disparities between Resident and Faculty Patients at Academic Health Centers: A Patient Safety Opportunity through the Lens of Health Care Equity</td>
<td>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.</td>
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<td>2021</td>
<td>BEA/Altria</td>
<td>Jessica Wang</td>
<td>Automated Pap Smear Result Follow-up Safety Net Project</td>
<td>Patient Assessment Missed follow-up of abnormal Pap smear 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.</td>
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<td>2021</td>
<td>BEA/BCH</td>
<td>Brian Labow</td>
<td>Assessing and Addressing Implicit Racial, Ethnic, and Socioeconomic Bias</td>
<td>Surgery Our department seeks to delve into the uncomfortable and expose previously unexamined areas within our clinical practice impacted by our non-systemic racial, ethnic, and socioeconomic implicit bias. The core 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.</td>
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<td>2021</td>
<td>CHKO-Directed/ BCH</td>
<td>Dionne Graham</td>
<td>Identifying Safety Risks and Health Care Disparities in Pediatric Virtual Visits</td>
<td>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 aim to identify system-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.</td>
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<td>2021</td>
<td>CHKO-Directed/ MGH</td>
<td>Lee Schwamm</td>
<td>Advancing Digital and Virtual Opportunities for Care Across Translating to Equity (ADVOCATES)</td>
<td>Communication ADVOCATES will identify and overcome barriers to digital health participation via a multi-pronged solution including: (1) discover and capture real-world barriers during live patient support across MGH and Mount Auburn Hospital (MAH) diverse populations, (2) design better digital tools to address these observed barriers, (3) evaluate 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.</td>
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