

organizers and faculty were satisfied with the quality of the conference and would participate again. This suggests that the design-thinking process effectively enabled students to organize and manage the event. With the success of this conference-planning trial, a similar student-initiated conference will be included within the course curriculum.

4 A Novel Sustainable QI Residency Elective

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Introduction/ Background: While the climate crisis remains a serious public health emergency, the US healthcare sector produces >10% of its greenhouse gas emissions. Harm from these emissions is on par with harm from medical errors and thus a safety and quality of care issue. Currently no standardized GME interventions exist that address the relationship between climate change, sustainability, and quality improvement (QI)—nor the vital role of physicians in this space.

Objectives: Describe the healthcare sector’s climate impact Apply sustainable clinical practice principles Measure ‘sustainable value’ using a multi-dimensional approach.

Curricular Design: The University of Colorado launched a novel climate medicine residency elective in 2021. Competencies and learning objectives were outlined by faculty experts. Accepted residents meet virtually with the elective director to narrow scope, goals, and objectives. This method allows for flexibility, meeting residents at their level of expertise and accommodating residents’ clinical duties. This resident’s elective was focused on sustainable QI (SUSQI). Didactics, literature, conferences, networking, modules, and weekly meetings were used to teach, identify and define a capstone QI project. Collaborating with staff, the resident independently

Table 1. Resident-specific learning objective defined at beginning of elective with associated core competencies in climate change and health education published by the Global Consortium of Climate and Health Education.

Core Competency	Learning Objectives
Fundamentals of climate and health	Describe the climate impact of the health care sector and identify opportunities to create climate-smart health care tailored to local emergency department needs.
Sustainable quality improvement	Define a quality improvement problem and set a sustainability goal. Study the system using principles of quality improvement as set forth by the Institute for Health Care Improvement and assess resource use locally.
Climate change and clinical practice	Apply the principles of sustainable clinical practice (e.g. circular healthcare, sustainable waste management, low carbon pharmaceuticals, sustainable food in healthcare, health system effectiveness, energy supply in health systems, buildings and infrastructure, financing sustainable healthcare). Measure ‘sustainable value’ using a multi-dimensional approach of environmental, social, financial, and patient outcomes at the micro- and population-level.

Table 2. Resident learning resources: Example resources utilized by resident during elective to meet learning objectives and guide sustainable quality improvement project development.

READ	<ul style="list-style-type: none"> Global Climate Change and Human Health: From Science to Practice, 2nd Edition Health Care Without Harm Road Map for Health Care Decarbonization PubMed literature: articles on sustainable healthcare and climate medicine topics
WATCH	<ul style="list-style-type: none"> U.S. Department of Health & Human Services Webinar Series: Accelerating Healthcare Sector Action on Climate Change and Health Equity University of Colorado School of Medicine EMED 8010 Lectures
MEET	<ul style="list-style-type: none"> University of Colorado School of Medicine Climate & Health Science and Policy Fellowship weekly synchronous virtual didactics Weekly virtual meetings with elective director and Climate Health Fellow mentors NorCal Symposium on Climate, Health, and Equity 2022
DO	<ul style="list-style-type: none"> Institute for Healthcare Improvement QI Essentials Toolkit Practice Greenhealth Cost Of Ownership Toolkit M+WasteCare Calculator

designed and implemented an insulin waste reduction project in her ED with pre/post-intervention data.

Impact/Effectiveness: Despite the substantial contribution the healthcare sector makes to global emissions, hospital SUSQI measures are lacking. This curriculum provides innovative tools to support resident-driven healthcare sustainability while fulfilling ACGME requirements and can be utilized by other medical educators to increase awareness and support hospital sustainability initiatives of impact. The potential for SUSQI initiatives to drive institutional cost saving interventions while improving community health solidifies the importance of our innovative approach to climate medicine and applicability to GME.

5 A Simulation-Based Randomized Controlled Trial on Teaching Best Practices in Firearm Safety

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Introduction/ Background: Americans’ high rate of gun carriage correlates to the burden of firearm injury in the USA. Previous studies show that emergency providers (EPs) are at risk of encountering firearms in or around the emergency department (ED). Only a minority of EPs report familiarity with firearms, creating a safety risk if an EP is required to remove a firearm from the clinical care space. There is a clear need for firearm safety curricula directed at EPs.

Objectives: To train EPs in the principles of safely handling firearms with the goal of removing a firearm from the clinical care space.

Curricular Design: Using Kern’s 6-step approach, a critical action checklist was developed by emergency medicine faculty in collaboration with local police, validated in a pilot study, and an instructional video was created to teach these key concepts. Simulation was chosen to allow for hands-on training and skills assessment. The scenario was a patient with undifferentiated altered mental status. During their evaluation, participants discovered a firearm that they