NIH RePORTER Announcement:

A "No Cost Extension" indicator is now available on RePORTER! The indicator appears in the "Other Information" section on the "Project Details" page.

RePORT 〉 RePORTER

Project Details

Share

Bridge2AI: Patient-Focused Collaborative Hospital Repository Uniting Standards (CHoRUS) for Equitable AI

Project Number	Contact PI/Project Leader	Awardee Organization
1OT2OD032701-01	ROSENTHAL, ERIC S.	

Other PIs

Description

Abstract Text

Abstract Text There is an urgent need for infrastructure to support artificial intelligence and machine learning (AI/ML) in critical care. Developing high-resolution multi-center data sets is a critical first step towards actionable and trustworthy AI. As part of the NIH Common Fund's Bridge2AI program, the CPatient-Focused Collaborative Hospital Repository Uniting Standards (CHoRUS) for Clinical Care AI data generation project will meet the need of generating data for ML/AI applications aimed at characterizing acute and critical care illness, predictin complications, and measuring treatment response am

patients with acute or critical illness. Through 3 pillars, the CHoRUS data generation project will addresses multiple challenges relevant for acquiring an AI-ready data set from more than 100,000 critically ill patients: 1) Data (Standards, Tool Development and Optimization, and Data Acquistion) 2) Ethics (Ethical and Trustworthy AI) and 3) People (Team Science and Skill and Workforce Development). The project's overarching goal is to develop a publicly available, AI-ready critical care dataset, while ensuring the methods promote privacy, accountability, and clinical benefit, while promoting a new generation of AI clinicians and scientists. The dataset will also provision a holdout test set, accessible for model external validation to aid marketplace adoption of AI-developed models for implementation in acute and critical care. Drawing expertise from a comprehensive set of disciplines such as team science, law, ethics, health services, biomedical science, engineering, and scientific journal publications, this project will A) establish a legal framework for collecting data at scale, sampling to ensure comprehensive sets of patient conditions and clinical treatment strategies; B) perform community-facing ethics focus groups to determine what data is appropriate for public sharing; C) ensure that data elements feature appropriate contextual factors such as geographic distance to the nearest hospital; D) develop capabilities across a multi-center network to acquire, standardize, tokenize, store, visualize, and label data such as structured electronic health record data, tokenized unstructured electronic health record data, telemetry and EEG waveforms, imaging, and social determinants of health; E) acquire data, standardize data to the OMOP Common Data Model, transform data using approaches that limit re-identification, and label data for ; and F) cultivate expertise in the lay and scientific community to improve AI literacy nd utilization through multimodal educational approaches. To accomplish this, the project will involve extensive collaboration between centers as well as through the NIH Bridge2AI program, the NIH

Bridge2AI Bridge Center, external biomedical and clinical organizations, industry, and regulatory agencies.

Public Health Relevance Statement

The Patient-Focused Collaborative Hospital Repository Uniting Standards (CHoRUS) for Equitable AI will develop the necessary network, tools, standards, data, and education to build machine-learning (ML) and artificial intelligence (AI)-derived models to improve the care and outcomes of patients requiring critical care. By performing legal and ethical research, developing tools for data storage, labeling and analysis, acquiring and standardizing a dataset of unprecedented diversity and high resolution, sequestering holdout datasets for external validation, and enriching the community through education, this data generation project will catalyze the biomedical research and expertise necessary to promote the patient-focused deployment of AI in acute and critical care.

NIH Spending Category

Bioengineering **Clinical Research**

Data Science

Machine Learning and Artificial Intelligence

Networking and Information Technology R&D (NITRD)

Social Determinants of Health

Project Terms

Accountability **Acute** **Address**

Adoption **Artificial Intelligence**

Biomedical Research

Bridge to Artificial Intelligence **Clinical**

Collaborations Communities Critical Care
Critical Illness Data Data Element
Data Set Data Storage and Retrieval
Deterioration Diagnosis Discipline

Read More

Details

Contact PI/ Project Leader

Name
ROSENTHAL, ERIC S.

Title
DIRECTOR, MGH NEUROSCIENCES ICU

Contact

View Email

Other PIs

Name
BIHORAC, AZRA
CORDES, ASHLEY
CLERMONT, GILLES
CLIFFORD, GARI DAVID
EVANS, BARBARA J.
HU, XIAO
KAMALESWARAN, RISHIKESAN
LEVITES STREKALOVA, YULIA A.
RASHIDI, PARISA
RUDIN, CYNTHIA
WILLIAMS, ISHAN CANTY
WILLIAMS, ANDREW EWING

Program Official

Name
KUXHAUS, LAUREL CATHERINE

Contact

View Email

Organization

Name
MASSACHUSETTS GENERAL HOSPITAL

City

BOSTON

Country
UNITED STATES (US)

Department Type
Unavailable

Organization Type
Independent Hospitals

State Code
MA

Congressional District
08

Other Information

Opportunity Number
OTA-21-008

Study Section
Data Coordination, Mapping, and Modeling[DCMM]

Fiscal Year
2022

Award Notice Date
01-September-2022

Administering Institutes or Centers
NIH Office of the Director

Assistance Listing Number
93.310

DUNS Number
073130411

UEI
FLJ7DQKLL226

Project Start Date
01-September-2022

Project End Date
30-November-2026

Budget Start Date
01-September-2022

Budget End Date
30-November-2026

No Cost Extension
Y

Project Funding Information for 2022

Total Funding
$5,880,300

Direct Costs
$5,880,300

Indirect Costs

Year	Funding IC	
2022	NIH Office of the Director	$5,880,300

NIH Categorical Spending

Click here for more information on NIH Categorical Spending

Funding IC	FY Total Cost by IC	NIH Spending Category
RM	$5,880,300	101; 176; 4531; 4372; 329; 4793

Sub Projects

No Sub Projects information available for 1OT2OD032701-01

Publications

› Disclaimer

No Publications available for 1OT2OD032701-01

Patents

No Patents information available for 1OT2OD032701-01

Outcomes

The Project Outcomes shown here are displayed verbatim as submitted by the Principal Investigator (PI) for this award. Any opinions, findings, and conclusions or recommendations expressed are those of the PI and do not necessarily reflect the views of the National Institutes of Health. NIH has not endorsed the content below.

No Outcomes available for 1OT2OD032701-01

Clinical Studies

No Clinical Studies information available for 1OT2OD032701-01

News and More

Related News Releases

No news release information available for

1OT2OD032701-01

History

No Historical information available for 1OT2OD032701-01

Similar Projects

No Similar Projects information available for 1OT2OD032701-01