I. OVERVIEW OF THE FUNDING OPPORTUNITY

Program Announcement for the Department of Defense

Defense Health Program

Congressionally Directed Medical Research Programs

Combat Readiness – Medical Research Program

Translational Research Award

Announcement Type: Initial

Funding Opportunity Number: HT9425-23-CRRP-TRA

Assistance Listing Number: 12.420 Military Medical Research and Development

SUBMISSION AND REVIEW DATES AND TIMES

- **Pre-Application Submission Deadline:** 5:00 p.m. Eastern time (ET), July 7, 2023
- **Application Submission Deadline:** 11:59 p.m. ET, July 20, 2023
- **End of Application Verification Period:** 5:00 p.m. ET, July 25, 2023
- **Peer Review:** September 2023
- **Programmatic Review:** December 2023

TABLE OF CONTENTS

II. DETAILED INFORMATION ABOUT THE FUNDING OPPORTUNITY

This funding opportunity is intended for intramural applicants only.

- An ***intramural applicant organization*** is defined as a Department of Defense (DOD) laboratory, DOD military treatment facility, and/or DOD activity embedded within a civilian medical center. ***Intramural Submission: An application submitted by a DOD organization for an intramural investigator working within a DOD laboratory or military treatment facility or in a DOD activity embedded within a civilian medical center.***

- An ***extramural applicant organization*** is defined as all those not included in the definition of intramural investigators, above. Examples of extramural organizations include academic institutions, biotechnology companies, foundations, federal government organizations other than the DOD, and research institutes (e.g., intramural investigators submitting through a research foundation). Submissions from extramural investigators to this funding opportunity announcement will be withdrawn. ***Extramural Submission: An application submitted by a non-DOD organization to Grants.gov.***

Extramural applicants applying through extramural organizations should use the separate funding opportunity announcement that is available through the electronic Biomedical Research Application Portal (eBRAP) at https://eBRAP.org/ under funding opportunity number HT9425-23-CRRP-TRA.

II.A. Program Description

Applications to the Fiscal Year 2023 (FY23) Combat Readiness – Medical Research Program (CRRP) are being solicited by the U.S. Army Medical Research Acquisition Activity (USAMRAA) using delegated authority provided by United States Code, Title 10, Section 4001 (10 USC 4001). The execution management agent for this program announcement is the Congressionally Directed Medical Research Programs (CDMRP) at the U.S. Army Medical Research and Development Command (USAMRDC).

The CRRP was initiated by Congress in FY19 with an appropriation of $15 million (M) to pursue solutions related to the medical needs of the Warfighter. Specifically, the CRRP focuses on forward-deployable solutions that can promptly address life-threatening injuries, medical threats, and treatments for Warfighters in deployed and battlefield settings. Appropriations for the CRRP from FY19 through FY22 totaled $45M. The FY23 appropriation is $5M.

The CRRP vision is to increase survivability and readiness of the Warfighter. The program seeks to develop innovative high-impact solutions to increase medical readiness, diagnose and treat life-threatening injuries, reduce morbidity and mortality, and promote positive long-term outcomes for the Warfighter. While the CRRP focuses on priorities related to frontline care, the program also considers how chronic disorders typically associated with pre-deployment readiness (e.g., sleep, gastrointestinal conditions, post-traumatic arthritis) may influence the delivery of care in deployed environments and contribute to injury susceptibility and recovery.

Innovations developed by CRRP-supported research may be applied proactively to enhance medical readiness ahead of deployment, in operational settings at the point of injury, during periods of prolonged care, or during transport/en route between roles of care. These solutions will not only help to minimize the morbidity and mortality of combat-related injuries sustained by the Warfighter but will often translate to civilian care.

Force strength and lethality is a primary mission of the Armed Forces; therefore, operational readiness must include the ability of health care providers to render medical treatment to allow maximal return to duty among military Service Members. In the wars in Iraq and Afghanistan, the U.S. military achieved the highest rate of survival from battlefield injuries in history. The wounded-to-killed ratio more than doubled, from 4:1 during last century's world wars, to 10:1 today.[1] Substantial credit for this achievement is due to a 2009 congressional mandate that stated wounded Warfighters should be provided with life-saving care within 60 minutes of injury, a time span that is referred to as the "golden hour." At the time, numerous multi-Service medevac assets, forward surgical teams (Role of Care, Role 2), and combat support hospitals (Role 3) were made available across the battlefield environment. The available infrastructure mitigated the need for prolonged field care and enabled rapid transportation of casualties to Role 2 or 3 where medical assets and damage control capabilities allowed for life-saving treatment within the golden hour.

The time-specific window of the golden hour may not accurately reflect current trauma care considerations and may not be feasible for Warfighters in some battlefield environments. Therefore, there is a need to bring effective and efficient life-saving capabilities closer to the point of injury and with the ability to provide prolonged care (greater than 72 hours) where necessary. Future combat scenarios may involve peer or near-peer adversaries in large-scale combat operations (i.e., multi-domain operations [MDO]) where evacuation capabilities are delayed or unavailable. The military must be prepared to conduct operations in all potential contested domains (land, air, sea, cyber, and space) with potential adversaries that may hinder or deter access to those domains. Combat operations may involve maneuvers in varied environments where medical and casualty care support for the Force is dispersed and sometimes isolated under difficult conditions (e.g., dense urban, subterranean, maritime, high-altitude, dust storm, and extreme environments). Access to highly skilled providers under such conditions may be limited. Utilization of clinical decision support tools, to include those integrated with biological sensors capable of physiological monitoring, and other automated technologies may inform continued Force readiness and availability in combat environments and assist Warfighters in providing additional life-saving care where clinical capabilities are limited or non-existent. Casualty care must address not only the scope of these challenges, but also the scale of casualties projected. Mass casualty events that overwhelm immediately available medical capabilities, to include personnel, supplies, and/or equipment, present a significant obstacle to providing damage control interventions closer to the point of need.

[1]Kotwal RS, Howard JT, Orman JA, et al. 2016. The effect of a golden hour policy on the morbidity and mortality of combat casualties. *JAMA Surgery* 151(1):15-24.

Trauma care in complex and austere environments is not unique military contexts. Civilian emergency medical care provided in rural settings or during natural disasters, public health crises, and mass-casualty events draws on lessons learned in battlefield medicine. Solutions addressing medical challenges during combat operations can be integrated into civilian-based practice to minimize the morbidity and mortality of traumatic injuries in any environment to achieve a goal of zero preventable deaths, regardless of environment. The CRRP expects the innovative approaches and technologies developed with CRRP funding to improve survivability of injuries sustained in both combat and civilian settings.

II.A.1. FY23 CRRP Focus Areas

The priorities and specific research topics described in the FY23 congressional language for the CRRP were organized into distinct Focus Areas. These Focus Areas broadly describe current priorities to improve readiness for delivering frontline care in combat situations. This includes delivering medical damage control capability, assets, and life-saving interventions during prolonged and en route care in austere and combat environments, including the acute and early management of combat-related trauma at the point of injury. **Proposals/applications submitted to the FY23 CRRP Translational Research Award (TRA) *must* *address at least one of the FY23 CRRP Focus Areas* listed below**. Selection of the appropriate FY23 CRRP Focus Area is the responsibility of the applicant.

Funding should be used for the research and development of one of the following Focus Areas:

- Solutions to enhance combat care delivery throughout the far-forward environment, such as:
    - Telemedicine solutions that enable medical capabilities at far-forward battlespace locations worldwide
    - Medical simulation technologies that support the sustainment of critical skills and medical decision-making
    - Blood products, including freeze-dried plasma and platelets
    - Ruggedized oxygen generation systems for medical use
    - Solutions for the assessment of mild traumatic brain injury, to include portable and hand-held detection devices
    - Initial treatment and transport of patients with highly transmissible infectious diseases
- Wound care solutions for complex trauma and tissue regeneration that span the operational medical care continuum or roles of care (e.g., acute through chronic care), such as:
    - Multi-modal wound care solutions that provide a combination of hemostasis, wound healing, infection prevention, and/or analgesia

- Solutions to enhance Warfighter readiness, such as solutions to address:
    - Sleep disorders
    - Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS)
    - Service-related post-traumatic arthritis
    - Eating disorders
    - Sarcoidosis
    - Valley fever
    - Complementary health measures to accelerate return to duty
    - Regenerative medicine

Areas of Encouragement related to the FY23 CRRP Focus Areas have been identified by the DOD and the FY23 CRRP Programmatic Panel as capabilities and knowledge gaps that are of high priority and programmatic relevance. Applicants are urged to read and consider these Areas of Encouragement (Appendix II) before preparing their applications. ***The information provided is not exhaustive. Applicants are not required to address an Area of Encouragement from this list; all submitted proposals/applications must demonstrate relevance to the program mission, vision, and FY23 CRRP Focus Areas.***

The proposed research must be relevant to active-duty Service Members, Veterans, military beneficiaries, and/or the American public.

II.A.2. Award History

The CRRP TRA mechanism is being offered for the first time in FY23.

II.B. Award Information

The CRRP seeks to increase pre-hospital survivability of the Warfighter by enabling individuals, of varying expertise, to address casualties of the battlespace and closer to the point of injury. The intent of the FY23 CRRP TRA is to support high-impact translational research that will accelerate innovative ideas into clinical applications, including health care products, technologies, and/or practice guidelines. Research funded under this award mechanism will be hypothesis-driven, high-impact applied research that are relevant to active-duty Service Members, Veterans, other military beneficiaries, and the American public.

Applicants may leverage existing resources in translational research to address high-impact research ideas or unmet needs to enable the delivery of life-saving care to the Warfighter during prolonged and en route care in austere and combat environments. ***For this award mechanism, the definition of "leveraging" is as follows: An investigator basing a research project on existing resources in order to amplify potential gains in knowledge or accelerate technical***

***maturity*.** Research of interest may include knowledge products, "knowledge resulting from research with the potential to improve individual or public health,"[2] and solutions that can accelerate the introduction of military-relevant health products or technologies into clinical and/or operational use. Projects should take into consideration the varied expertise levels of targeted medical providers, available resources, and the possible diverse environmental conditions in combat situations. Proposal/application submissions are encouraged to include characteristics relevant to military use in the pre-hospital, combat operational setting. Submissions that propose solutions to advance civilian trauma care are not precluded, since civilian trauma and trauma care in the military are mutually influential and may be co-occurring in certain situations.

Impact is a key component of this award mechanism. The potential impact of the research, both short term and long term, in addressing the FY23 CRRP Focus Area(s) should be clearly described. Successful high-impact research should lead to the rapid development and translation of applicable advances for improving medical readiness, mitigating fatalities, optimally treating life-threatening injuries, and promoting positive long-term outcomes for military health and medicine, as well as the general public.

Key aspects of the CRRP Translational Research Award Mechanism:

- **This PA may be used to support applied, preclinical, and/or clinical research.**
- ***Clinical trials for U.S. Food and Drug Administration (FDA) licensure of drugs and definitive/pivotal testing for device clearance by the FDA will NOT be permitted under this PA*.**
- **Preliminary data are required:** Inclusion of preliminary data relevant to the proposed study is required.
- **Statistical Analysis and Data Management Plans:** The application should include a clearly articulated statistical analysis plan, a power analysis reflecting sample size projections that will answer the objectives of the study and a data management plan and use of an appropriate database to safeguard and maintain the integrity of the data.

Applications in response to this PA may *not* be used to support fundamental basic research. For this PA, basic research is defined as research directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward process or products in mind. Applied and preclinical research, including animal studies, that is already supported by substantial preliminary or published data, and is designed to validate clinical translation, is appropriate for this award mechanism.

Funding from this PA may *not* be used to support studies requiring an exception from informed consent (EFIC).

[2]Engel CC, Silberglitt R, Chow BG, et al. 2019. Development of a knowledge readiness level framework for medical research. Santa Monica, CA: RAND Corporation, RR-2127-OSD. https://www.rand.org/pubs/research_reports/RR2127.html.

Clinical research encompasses research with patient samples, data, and interaction with patients that may or may not be considered a clinical trial. ***For the purposes of this funding opportunity, research that meets the definition of a clinical trial is distinct from clinical research.*** Clinical research is observational in nature and includes: (1) Research that does not seek to evaluate the effects of interventions. Research conducted with human subjects (or on material of human origin such as data, tissues, specimens, and cognitive phenomena) for which an investigator (or colleague) directly interacts with human subjects, but does not seek to assess the effects of an intervention, qualifies as clinical research. Patient-oriented research may include but is not limited to: (a) mechanisms of human disease, (b) diagnostic or detection studies (e.g., biomarker or imaging), (c) health disparity studies, and (d) development of new technologies. (2) Epidemiologic and behavioral studies that do not seek to study the safety, effectiveness, and/or efficacy outcomes of an intervention. (3) Outcomes research and health services research that do not fit under the definition of clinical trial. Excluded from the definition of clinical research are in vitro studies that utilize human tissues that cannot be linked to a living individual. ***Note:*** Studies that meet the requirements for exemption under §46.104(d)(4) of the Common Rule are not considered clinical research as defined by CDMRP. Exemption category 4 refers to secondary research for which consent is not required.

A clinical trial is defined as a research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include a placebo or another control) to evaluate the effects of the interventions on biomedical or behavioral health-related outcomes.

Studies that do not seek to measure safety, effectiveness, and/or efficacy outcome(s) of an intervention are not considered clinical trials.

Awards made under this intramural program announcement will managed through a direct funds transfer to the intramural organization. The award start date will be determined during the negotiation process.

The anticipated total costs budgeted for the entire period of performance for an FY23 CRRP Translational Research Award should not exceed **$1.1M**. Refer to Section II.D.5, Funding Restrictions, for detailed funding information.

Awards will be made no later than September 30, 2024. For additional information refer to Section II.F.1, Federal Award Notices.

The CDMRP expects to allot approximately $4.4M to fund approximately four CRRP Translational Research Award applications. Funding of applications received is contingent upon the availability of federal funds for this program as well as the number of applications received, the quality and merit of the applications as evaluated by scientific and programmatic review, and the requirements of the government. Funds to be obligated on any award resulting from this funding opportunity will be available for use for a limited time period based on the fiscal year of the funds. It is anticipated that awards made from this FY23 funding opportunity will be funded with FY23 funds, which will expire for use on September 30, 2029.

Proposals/applications received in response to both the extramural FY23 CRRP TRA broad agency announcement and the intramural program announcement will be evaluated and considered for funding together. The government reserves the right to fund any combination of extramural and/or intramural proposals/applications.

Research Involving Human Data, Human Anatomical Substances, Human Subjects, or Human Cadavers: All DOD-funded research involving new and ongoing research with human data, human anatomical substances, human subjects, or human cadavers must be reviewed and approved by the USAMRDC Office of Human and Animal Research Oversight (OHARO), Office of Human Research Oversight (OHRO), prior to research implementation. This administrative review requirement is in addition to the local Institutional Review Board (IRB) or Ethics Committee (EC) review. Local IRB/EC approval at the time of application submission is ***not*** required; however, local IRB/EC approval is necessary prior to OHRO review. Allow up to 3 months to complete the OHRO regulatory review and approval process following submission of ***all required and complete*** documents to the OHRO. Refer to Appendix VI, and the OHARO web page https://mrdc.health.mil/index.cfm/collaborate/research_protections/hrpo for additional information.

As of January 20, 2020, U.S. institutions engaged in non-exempt cooperative research ***must*** rely on a single IRB to review and approve the portion of the research conducted at domestic sites in accordance with Code of Federal Regulations, Title 45, Part 46.114(b) (45 CFR 46.114[b]). If the proposed, non-exempt research involves more than one U.S.-based institution, a written plan for single IRB review arrangements must be provided at the time of application submission or award negotiation. The lead institution responsible for developing the master protocol and master consent form should be identified and should be the single point of contact for regulatory submissions and requirements.

Rigor of Experimental Design: All projects should adhere to accepted standards for rigorous study design and reporting to maximize the reproducibility and translational potential of preclinical research. The standards are described in Landis, S.C., et al., 2012, A call for transparent reporting to optimize the predictive value of preclinical research, *Nature* 490:187-191 (http://www.nature.com/nature/journal/v490/n7419/full/nature11556.html). While these standards were written for preclinical studies, the basic principles of randomization, blinding, sample-size estimation, and data handling derive from well-established best practices in clinical studies. Projects that include research on animal models are required to submit Attachment 8, Animal Research Plan, as part of the application package to describe how these standards will be addressed. Applicants should consult the ARRIVE guidelines 2.0 (Animal Research: Reporting *In Vivo* Experiments) to ensure relevant aspects of rigorous animal research are adequately planned for and, ultimately, reported. The ARRIVE guidelines 2.0 can be found at https://arriveguidelines.org/arrive-guidelines.

Use of DOD or Department of Veterans Affairs (VA) Resources: If the proposed research involves access to active-duty military and/or VA patient populations and/or DOD or VA resources or databases, the application must describe the access at the time of submission and include a plan for maintaining access as needed throughout the proposed research. Refer to Section II.D.2.b.ii, Full Application Submission Components, for detailed information. Refer to Appendix VI, for additional information.

Research Involving Animals: All research funded by the FY23 CRRP TRA award involving new and ongoing research with animals must be reviewed and approved by the USAMRDC OHARO Animal Care and Use Review Office (ACURO), in addition to the local Institutional Animal Care and Use Committee (IACUC) of record. IACUC approval at the time of submission is ***not*** required. ***Allow at least 3 to 4 months for ACURO regulatory review and approval processes for animal studies.*** Refer to Appendix VI, for additional information.

The CDMRP intends that information, data, and research resources generated under awards funded by this program announcement be made available to the research community (which includes both scientific and consumer advocacy communities) and to the public at large. For additional guidance, refer to Appendix VII, Section J.

Federal Interagency Traumatic Brain Injury Research (FITBIR) Data Sharing: The DOD requires that awardees make any traumatic brain injury (TBI) focused research data generated by this award mechanism available to the research community through the FITBIR Informatics System. The FITBIR Informatics System is a free resource designed to accelerate research progress by allowing the storage, reanalysis, integration, and rigorous comparison of multiple datasets. Currently, FITBIR-eligible research includes all studies generating prospectively collected human TBI subject data (e.g., clinical, demographic, phenotypic, imaging, and genetic). Consult the FITBIR website at https://fitbir.nih.gov for additional information. Elements which must be included in the proposed research can be found in Appendix IV.

II.C. Eligibility Information

II.C.1. Eligible Applicants

II.C.1.a. Organization: ***Applications for this program announcement may only be submitted by intramural organizations. Submissions from extramural applicants to this program announcement will be withdrawn.*** Intramural applicants are required to explain how their applications do not overlap with other funded efforts. Applicants from an extramural organization should apply through eBRAP under the funding opportunity number HT9425-23-S-CRRP-TRA. These terms are defined below.

Government Agencies Within the United States: Local, state, and federal government agencies are eligible to the extent that applications do not overlap with their fully funded internal programs. Such agencies are required to explain how their applications do not overlap with their internal programs.

Extramural Organization: An eligible non-DOD organization. Examples of extramural organizations include academic institutions, biotechnology companies, foundations, federal government organizations other than the DOD, and research institutes.

Intramural DOD Organization: A DOD laboratory, DOD military treatment facility, and/or DOD activity embedded within a civilian medical center. ***Intramural Submission:*** **An *application submitted by a DOD organization for an intramural investigator working within a DOD laboratory or military treatment facility or in a DOD activity embedded within a civilian medical center.***

The USAMRAA makes awards to eligible organizations, not to individuals.

II.C.1.b. Principal Investigator

Independent investigators at all academic levels (or equivalent) are eligible to be named by the organization as the Principal Investigator (PI) in the application.

There are no limitations on the number of applications for which an investigator may be named as a PI.

An eligible Principal Investigator (PI), regardless of ethnicity, nationality, or citizenship status, must be employed by or affiliated with an eligible organization.

The CDMRP strongly encourages all PIs to participate in a digital identifier initiative through Open Researcher and Contributor ID, Inc. (ORCID). Registration for a unique ORCID identifier can be done online at https://orcid.org/.

II.C.2. Cost Sharing

Cost sharing/matching is not an eligibility requirement.

II.C.3. Other

It is expected that the work funded through this funding opportunity announcement will be performed by an intramural DOD organization. It is permissible, however, for an extramural investigator to be named as a collaborator in a submission from an intramural investigator. In such cases, the intramural organization will receive all funds and is responsible for executing all necessary awards to collaborating partners through their agency's procedures. Regardless of location, any work that is to be performed by associated non-DOD organizations must be limited to work performed under existing contracts, and resource sharing should be accomplished through Cooperative Research and Development Agreements (CRADA) or Material Transfer Agreements (MTA). The government reserves the right to administratively withdraw any application that does not meet these eligibility criteria. ***Applications that require research to be performed by a non-DOD organization under a new service contract will not be considered for funding.***

Organizations must be able to access **.gov** and **.mil** websites in order to fulfill the financial and technical deliverable requirements of the award and submit invoices for payment.

Refer to Section II.H.1, Administrative Actions, for a list of administrative actions that may be taken if a pre-application or application does not meet the administrative, eligibility, or ethical requirements defined in this program announcement.

Conflicts of Interest (COIs): All awards must be free of COIs that could bias the research results. Prior to award of a contract, applicants will be required to disclose all potential or actual COIs along with a plan to manage them. An award may not be made if it is determined by the USAMRAA Grants/Contracting/Agreements Officer that COIs cannot be adequately managed. Refer to the General Submission Instructions, Appendix 3, for additional information.

Review of Risk: The following areas may be reviewed in evaluating the risk posed by an applicant: financial stability; quality of management systems and operational controls; history of performance; reports and findings from audits; ability to effectively implement statutory, regulatory, or other requirements imposed on non-federal entities; degree of institutional support; integrity; adequacy of facilities; and conformance with safety and environmental.

II.D. Application and Submission Information

Submission of applications that are essentially identical or propose essentially the same research project to different funding opportunities within the same program and fiscal year is prohibited and will result in administrative withdrawal of the duplicative application(s).

Inclusion of classified research data within the application and/or proposing research of which the anticipated outcomes may be classified or deemed sensitive to national security concerns may result in application withdrawal. Refer to the General Submission Instructions Appendix 2, Section E.

II.D.1. eBRAP

eBRAP (https://ebrap.org) is a secure web-based system that allows PIs to submit their pre-applications and full applications, receive communications from the CDMRP, and submit documentation during award negotiations and throughout the period of performance.

The eBRAP platform allows an organization's representatives and PIs to view and modify certain components of the full application submissions associated with them. It will validate full application files against the specific program announcement requirements, and discrepancies will be noted in an email to the PI and in the Full Application Files tab in eBRAP. It is the applicant's responsibility to review all application components for accuracy and to ensure proper ordering as specified in the program announcement.

Contact information for the eBRAP Help Desk can be found in Section II.G, Federal Awarding Agency Contacts.

Intramural DOD Submission:

- Pre-application content and forms must be accessed and submitted at eBRAP.org.
- Full application packages must be accessed and submitted at eBRAP.org.

II.D.2. Content and Form of the Application Submission

Submission is a two-step process requiring both ***pre-application*** and ***full application*** through eBRAP (eBRAP.org) as indicated below. The submission process should be started early to avoid missing deadlines. There are no grace periods.

The application title, eBRAP log number, and all information for the PI, Business Official(s), performing organization, and contracting organization must be consistent throughout the entire pre-application and full application submission process. Inconsistencies may delay

application processing and limit or negate the ability to view, modify, and verify the application in eBRAP. If any changes need to be made, the applicant should contact the eBRAP Help Desk at help@eBRAP.org or 301-682-5507 prior to the application submission deadline.

II.D.2.a. Step 1: Pre-Application Submission Content

During the pre-application process, eBRAP assigns each submission a unique log number. This unique eBRAP log number is required during the full application submission process.

To begin the pre-application process, first select whether the submitting organization is extramural or intramural, then confirm your selection or cancel. **Incorrect selection of extramural or intramural submission type will delay processing.**

If an error has been made in the selection of extramural versus intramural and the pre-application submission deadline has passed, the PI or Business Official must contact the eBRAP Help Desk at help@eBRAP.org or 301-682-5507 to request a change in designation.

All pre-application components must be submitted by the PI through eBRAP (https://eBRAP.org/).

The pre-proposal/pre-application consists of the following components, which are organized in eBRAP by separate tabs:

- **Tab 1 – Application Information**

  Submission of application information includes assignment of primary and secondary research classification codes, which may be found at https://ebrap.org/eBRAP/public/Program.htm. Applicants are strongly encouraged to review and confirm the codes prior to making their selection.

- **Tab 2 – Application Contacts**

  Enter contact information for the PI. Enter the organization's Business Official responsible for sponsored program administration (the "person to be contacted on matters involving this application" in Block 5 of the Grants.gov SF424 Research & Related Form). The Business Official must be either selected from the eBRAP list or invited in order for the pre-application to be submitted.

  Select the performing organization (site at which the PI will perform the proposed work) and the contracting organization (organization submitting on behalf of the PI, which corresponds to Block 5 on the Grants.gov SF424 Research & Related Form), and click on "Add Organizations to this Pre-application." The organization(s) must be either selected from the eBRAP drop-down list or invited in order for the pre-application to be submitted.

  It is recommended that PIs identify an Alternate Submitter in the event that assistance with pre-application submission is needed.

- **Tab 3 – Collaborators and Key Personnel**

  Enter the name, organization, and role of all collaborators and key personnel associated with the application.

  FY23 CRRP Programmatic Panel members should not be involved in any pre-application or application. For questions related to panel members and pre-applications or applications, refer to Section II.H.2.c, Withdrawal, or contact the eBRAP Help Desk at help@eBRAP.org or 301-682-5507.

- **Tab 4 – Conflicts of Interest**

  List all individuals other than collaborators and key personnel who may have a conflict of interest in the review of the application (including those with whom the PI has a personal or professional relationship).

- **Tab 5 – Pre-Application Files**

  Letter of Intent (LOI) (one-page limit): Provide a brief description of the research to be conducted. Include the FY23 CRRP focus area under which the application will be submitted. LOIs are used for program planning purposes only (e.g., reviewer recruitment) and will not be reviewed during either the peer or programmatic review sessions. ***An invitation to submit a full application is NOT provided after LOI submission and applicants are not required to have such an invitation in order to proceed to submitting a full application.***

- **Tab 6 – Submit Pre-Application**

  This tab must be completed for the pre-application to be accepted and processed.

II.D.2.b. Step 2: Full Application Submission Content

The CDMRP cannot make allowances/exceptions to its policies for submission problems encountered by the applicant organization using system-to-system interfaces with Grants.gov.

Each application submission must include the completed full application package for this program announcement. The full application package is submitted by the Authorized Organizational Representative through Grants.gov (https://grants.gov/) for extramural organizations or through eBRAP (https://ebrap.org/) for intramural organizations. See Table 1 below for more specific guidelines.

II.D.2.b.i. Full Application Guidelines

Do not password protect any files of the application package, including the Project Narrative.

Table 1. Full Application Submission Guidelines

Intramural DOD Submissions
Download application package components for HT9425-23-CRRP-TRA from eBRAP (https://ebrap.org).
Tab 1 – Summary: Provide a summary of the application information. **Tab 2 – Application Contacts:** This tab will be pre-populated by eBRAP; add Authorized Organizational Representative.
Tab 3 – Full Application Files: Upload files under each Application Component in eBRAP. Descriptions of each required file can be found under Full Application Submission Components: • Attachments • Key Personnel • Budget • Performance Sites **Tab 4 – Application and Budget Data:** Review and edit proposed project start date, proposed end date, and budget data pre-populated from the Budget Form.
Submit package components to eBRAP (https://ebrap.org). **Tab 5 – Submit/Request Approval Full Application:** After all components are uploaded and prior to the full application submission deadline, enter your password in the space provided next to "Enter Your Password Here" and press the "Submit Full Application" button. eBRAP will notify your Resource Manager/ Comptroller/Task Area Manager or equivalent Business Official by email. ***Do not password protect any files of the application package, including the Project Narrative.***
After eBRAP has processed the full application, the organizational Resource Manager/Comptroller/ Task Area Manager or equivalent Business Official and PI will receive email notification of this status and will be able to view and modify application components in eBRAP. During the application verification period, the full application package may be modified ***with the exception of the Project Narrative and Research & Related Budget Form***. Your Resource Manager/ Comptroller/Task Area Manager or equivalent Business Official should log into eBRAP to review and to approve prior to the application verification deadline.

The full application package must be submitted using the unique eBRAP log number to avoid delays in application processing.

II.D.2.b.ii. Full Application Submission Components

For the FY23 CRRP TRA program announcement, the eBRAP application package includes the following components, which are organized in eBRAP by separate tabs. To access these tabs, go to "My Applications" and click on "Start Full Application" for the log number under which the pre-application was submitted. Page limits are validated as a document is uploaded. eBRAP will not allow a file to be uploaded if the number of pages exceeds the limit specific below.

- **Tab 1 – Summary:** Provides a summary of the application information.
- **Tab 2 – Application Contacts:** This tab will be populated by eBRAP. Edit contact information as applicable.
- **Tab 3 – Full Application Files:** Under each Application Component in eBRAP, upload each as an individual PDF file.

1. **Application Component – Attachments:** Each attachment to the full application components must be uploaded as an individual file in the format specified and in accordance with the formatting guidelines listed in Appendix VIII.

For all attachments, ensure that the file names are consistent with the guidance. Attachments will be rejected if the file names are longer than 50 characters or have incorrect file names that contain characters other than the following: A-Z, a-z, 0-9, underscore, hyphen, space, and period. In addition, there are file size limits that may apply in some circumstances. Individual attachments may not exceed 20 megabytes (MB), and the file size for the entire full application package may not exceed 200 MB.

- **Attachment 1: Project Narrative (15-page limit): Upload as "ProjectNarrative.pdf".** The page limit of the Project Narrative applies to text and non-text elements (e.g., figures, tables, graphs, photographs, diagrams, chemical structures, drawings) used to describe the project. Inclusion of URLs (uniform resource locators) that provide additional information to expand the Project Narrative and could confer an unfair competitive advantage is prohibited and may result in administrative withdrawal of the application.
  - Describe the proposed project in detail using the outlines below.
    - **Background:** Describe the problem, question, or knowledge gap related to at least one of the FY23 CRRP Focus Areas and, if applicable, any relevant FY23 CRRP Area(s) of Encouragement to be addressed by the proposed project. Present the scientific rationale on which the proposed work is based. Provide a literature review and describe the preliminary studies and/or preclinical data that led to the development of the proposed research. These data may be unpublished or from the published literature. Describe any existing resources that the proposed project will leverage. If the project is part of a larger study, articulate the information that establishes a framework for this study. The proposal/application must demonstrate logical reasoning and provide a sound scientific rationale for the proposed project. Throughout the Project Narrative, describe how the proposed research is translational and has the potential for broadly applicable, cross-cutting advances benefiting military health and medicine as well as the general public.
    - **Hypothesis or Objective:** State the hypothesis to be tested and/or the objective to be reached.

- **Specific Aims:** Concisely explain the project's specific aims. These aims should agree with the primary aims and associated tasks described in the Statement of Work (SOW). If the proposed work is part of a larger study, present only aims that this DOD award would fund.

- **Research Strategy:** Describe the experimental design, methods, and analyses including appropriate controls in sufficient detail for evaluation. Provide a well-developed, well-integrated research strategy that supports the translational feasibility and promise of the approach. Explain how the research strategy will meet the project's goals and milestones within the proposed period of performance.

  - Define the specific study outcomes/endpoints and how they will be measured. Address potential problem areas and present alternative methods and approaches.

  - If applicable, describe resources available for the development of sufficient quantities of critical reagents under Good Manufacturing Practice (GMP).

  - If animal studies are proposed, briefly describe the key elements of the study/studies as they relate to the overall project. Explain how and why the animal species, strain, and model(s) being used can address the scientific objectives and how it is optimal for addressing the study aims and facilitates rapid development and translation of solutions for the Warfighter. Describe how animal research will be conducted in accordance with the ARRIVE guidelines 2.0 (https://arriveguidelines.org/arrive-guidelines). Further details of research involving animals will be required in Attachment 8, Animal Research Plan, as applicable.

  - For clinical research studies, further details of clinical research components will be required in Attachment 7, Human Subject Recruitment and Safety Procedures, as applicable.

- **Statistical Plan:** Describe the data management plan. Describe how data will be handled, including rules for stopping data collection, criteria for inclusion and exclusion of data, how outliers will be defined and handled, and identification of primary endpoints and secondary endpoints. Describe the data collection instruments (e.g., research questionnaires, assays, assessment measures) that will be used, and to what degree they are appropriate to support the statistical significance of the proposed study. Clearly describe the statistical plan and rationale for the statistical methodology demonstrating that the proposed research is designed to achieve reproducible and rigorous results. Provide a sample size estimate and the method by which it was derived, including power analysis calculation, if applicable. Describe how data will be reported and how it will be assured that the documentation will support a regulatory filing with the FDA, or international regulatory agency, if applicable.

- **Research Team:** Describe how the background and expertise of the PI and other key personnel demonstrate their understanding of working in military populations or relevant trauma environments. Describe whether the composition of the research or study team is appropriate and complementary.

- **Attachment 2: Supporting Documentation: Combine and upload as a single file named "Support.pdf".** Start each document on a new page. If documents are scanned to PDF, the lowest resolution (100 to 150 dpi) should be used. The Supporting Documentation attachment should not include additional information such as figures, tables, graphs, photographs, diagrams, chemical structures, or drawings. These items should be included in the Project Narrative.

  For supporting documentation of the data management plan, describe the plan in accordance with Section 3.c., Enclosure 3, DoD Instruction 3200.12. The data management plan should be no more than 2 pages and submitted under "Supporting Documentation" only if a separate Data Management Attachment is not required as a separate attachment. The data management plan should include but is not limited to:

  (1) The types of data, software, and other materials to be produced.

  (2) How the data will be acquired.

  (3) Time and location of data acquisition, if scientifically pertinent.

  (4) How the data will be processed.

  (5) The file formats and the naming conventions that will be used.

  (6) A description of the quality assurance and quality control measures during collection, analysis, and processing.

  (7) A description of dataset origin when existing data resources are used.

  (8) A description of the standards to be used for data and metadata format and content.

  (9) Appropriate timeframe for preservation.

  The plan may consider the balance between the relative value of data preservation and other factors such as the associated cost and administrative burden. The plan will provide a justification for such decisions. Include a statement that the data cannot be made available to the public when there are controlled unclassified information concerns (e.g., "This data cannot be cleared for public release in accordance with the requirements in DoD Instruction 5230.09.").

  - ***There are no page limits for any of these components unless otherwise noted. Include only those components described below; inclusion of items not requested or viewed as an extension of the Project Narrative will result in the removal of those items or may result in administrative withdrawal of the application.***

- **References Cited:** List the references cited (including URLs, if available) in the Project Narrative using a standard reference format that includes the full citation (i.e., author[s], year published, title of reference, source of reference, volume, chapter, page numbers, and publisher, as appropriate).

- **List of Abbreviations, Acronyms, and Symbols:** Provide a list of abbreviations, acronyms, and symbols.

- **Facilities, Existing Equipment, and Other Resources:** Describe the facilities and equipment available for performance of the proposed project and any additional facilities or equipment proposed for acquisition at no cost to the award. Indicate whether or not government-furnished facilities or equipment are proposed for use. If so, reference should be made to the original or present government award under which the facilities or equipment items are now accountable. There is no form for this information.

- **Publications and/or Patents:** Include a list of relevant publication URLs and/or patent abstracts. If articles are not publicly available, then copies of up to five published manuscripts may be included in Attachment 2. Extra items will not be reviewed.

- **Letters of Organizational Support (one-page limit per letter is recommended):** Provide a letter (or letters, if applicable) signed by the Department Chair or appropriate organization official, confirming the laboratory space, equipment, and other resources available for the project. Letters of support not requested in the program announcement, such as those from members of Congress, do not impact application review or funding decisions.

- **Letters of Collaboration (if applicable, one-page limit per letter is recommended):** Provide a signed letter from each collaborating individual or organization that demonstrates that the PI has the support or resources necessary for the proposed work. If an investigator at an intramural organization is named as a collaborator on an application submitted through an extramural organization, the application must include a signed letter from the collaborator's Commander or Commanding Officer at the intramural organization that authorizes the collaborator's involvement.

- **Letters of Commitment (if applicable, two-page limit per letter is recommended):** If the proposed study involves use of a commercially produced investigational drug, device, or biologic, provide a signed letter of commitment from the commercial entity indicating availability of the product for the duration of the study, support for the proposed phase of research, and support for the indication to be tested.

- **Intellectual Property:** Information can be found in the 2 CFR 200.315, "Intangible Property."

  - **Background and Proprietary Information:** All software and data first produced under the CRRP TRA are subject to a federal purpose license. A term of the CRRP TRA requires the recipient to grant the government all necessary and appropriate licenses, which could include licenses to background and proprietary information that have been developed at private expense. Refer to Appendix VII, Sections C and D, for more information about disclosure of proprietary information.

    Therefore, it is important to disclose/list any intellectual property (software, data, patents, etc.) that will be used in performance of the project or provide a statement that none will be used. If applicable, all proprietary information to be provided to the government should be stated and identified; the applicant should indicate whether a waiver of the federal purpose license will be required.

  - **Intellectual and Material Property Plan (if applicable):** Provide a plan for resolving intellectual and material property issues among participating organizations.

- **Data and Research Resources Sharing Plan:** Describe how data and resources generated during the performance of the project will be shared with the research community. For applications involving FITBIR-eligible TBI research:

  - Identify and describe the planned common data elements (CDEs), alignment to FITBIR data elements and forms, and timelines for integrating data to the FITBIR Informatics System.

  - For unique data elements (UDEs), provide a justification as to why existing CDEs are not applicable or appropriate.

  Refer to Appendix VII, Section J, for more information about the CDMRP expectations for making data and research resources publicly available.

- **Quad Chart:** Provide a Quad Chart for the proposed project. The format for the quad chart is available on the eBRAP "Funding Opportunities & Forms" web page at (https://ebrap.org/eBRAP/public/Program.htm).

- **Use of DOD Resources (if applicable):** Provide a letter of support signed by the lowest-ranking person with approval authority confirming access to active-duty military populations and/or DOD resources or databases.

- **Use of VA Resources (if applicable):** Provide a signed letter of support from the VA Facility Director(s) or individual designated by the VA Facility Director(s), such as the Associate Chief of Staff for Research and Development (ACOS/R&D) or Clinical Service Chief, confirming access to VA patients, resources, and/or VA research space. For VA PIs, if the VA non-profit corporation is not identified as the

applicant institution for administering the funds, include a letter from the VA ACOS/R&D confirming this arrangement and identifying the institution that will administer the funds associated with the proposed research.

- **Attachment 3: Technical Abstract (one-page limit): Upload as "TechAbs.pdf".** The technical abstract is used by all reviewers. Abstracts of all funded research projects will be posted publicly. ***Do not include proprietary or confidential information.*** Use only characters available on a standard QWERTY keyboard. Spell out all Greek letters, other non-English letters, and symbols. Graphics are not allowed.

  Programmatic reviewers rely on the technical abstract for appropriate description of the project's key aspects. Therefore, clarity and completeness within the space limits of the technical abstract are highly important.

  The technical abstract should include the following elements:

  - **Background:** Describe the idea and rationale behind the proposed work.
  - **Objective/Hypothesis/Specific Aims:** State the objective to be reached/hypothesis to be tested. Provide evidence or rationale that supports the hypothesis(es)/objective(s). State concisely the specific aims of the study.
  - **Study Design:** Briefly describe the study design.
  - **Impact and Translation:** Describe the innovative qualities of the proposed work. State the FY23 CRRP Focus Area(s) and, if applicable, any relevant FY23 CRRP Areas of Encouragement that the research addresses. Indicate how the proposed work will lead to the translation of applicable advances for improving medical readiness, mitigating fatalities, optimally treating life-threatening injuries, and promoting positive long-term outcomes for Service Members, as well as the general public.

- **Attachment 4: Lay Abstract (one-page limit): Upload as "LayAbs.pdf".** The lay abstract is used by all reviewers. Abstracts of all funded research projects will be posted publicly. ***Do not include proprietary or confidential information***. ***Do not duplicate the technical abstract.*** Use only characters available on a standard QWERTY keyboard. Spell out all Greek letters, other non-English letters, and symbols. Graphics are not allowed.

  - Describe the objectives and theoretical reasoning behind the proposed work in a manner readily understood by readers without a background in science or medicine. State the FY23 CRRP Focus Area(s) and, if applicable, any relevant FY23 CRRP Areas of Encouragement that the research addresses and describe how it is addressed.
  - Describe the problem or question to be addressed and the ultimate applicability and impact of the research.
    - How does the research increase medical readiness, mitigate fatalities, optimally treat life-threatening injuries, and/or promote positive long-term outcomes?

        - How will the research improve delivery of medical damage control capability, assets, and life-saving interventions?
        - What are the potential clinical applications, benefits, and risks?
    - Describe how the proposed project will benefit Service Members, Veterans, military beneficiaries, and/or the American public.
        - How will the research increase survivability and readiness of the Warfighter in diverse operational settings?

- **Attachment 5: Statement of Work (three-page limit): Upload as "SOW.pdf".** The suggested SOW format and examples specific to different types of research projects are available on the eBRAP "Funding Opportunities & Forms" web page (https://ebrap.org/eBRAP/public/Program.htm). Recommended strategies for assembling the SOW can be found at https://ebrap.org/eBRAP/public/Program.htm.
    - For the CRRP TRA mechanism, refer to the **"*Suggested SOW Strategy Generic Research*"** and use the blank SOW format titled "Suggested SOW Format". The SOW must be in PDF format prior to attaching.
    - The SOW should include a list of major tasks that support the proposed specific aims, followed by a series of subtasks outlined step-by-step as they relate to the major tasks and milestones within the period of performance. The SOW should describe only the work for which funding is being requested by this proposal/application and, as applicable, should also:
    - Include the following information for each study site/subaward site: Organization; organization address; investigator(s), collaborator(s), consultant(s); description of research with animals, human anatomical substances, and/or human subjects or cadavers to be conducted at the site; and key personnel responsible for each major task and each subtask to be performed at the site.
    - Indicate the number (and type, if applicable) of research subjects (animal or human) and/or human anatomical samples projected or required for each task and at each site. As applicable, estimated times to complete each task should include time for local and USAMRDC regulatory review and approval, as shown below. Refer to Appendix VI for additional information regarding regulatory review.
    - For studies involving human subjects, include a subtask that allows at least 2 to 4 months for regulatory review and approval by the USAMRDC OHRO; this does not include the additional time required for local IRB review and approval.
    - For animal studies, include a subtask that allows at least 3 to 4 months for regulatory review and approval by the USAMRDC ACURO; this does not include the additional time required for local IACUC review and approval.

- **Attachment 6: Impact/Military Relevance Statement (two-page limit): Upload as "Impact.pdf".** The impact statement should be written with a broad audience in mind, including readers without a background in science or medicine.

  - Explain in detail how the research represents an accelerated and relevant approach for existing research and technologies, aligned to the FY23 CRRP Focus Area(s) and, if applicable, any relevant FY23 CRRP Areas of Encouragement. Describe how the research is cross-cutting with the potential to benefit multiple DOD medical research program areas.

  - Describe how the proposed research will significantly improve the readiness of the Force in combat and frontline trauma environments. Clearly articulate how the proposed research can be applied in far-forward roles of care (e.g., in combat, at point of injury, en route) to optimize survival and recovery during future MDO that feature delayed evacuation and austere environments.

  - Describe how the anticipated outcomes will be translated into clinical practice and decrease morbidity and mortality of the Warfighter. Expand on how the outcomes will be utilized and implemented in far-forward roles of care and/or austere environments, if applicable. Describe any potential issues or anticipated challenges that might limit the impact.

  - Describe how the anticipated outcomes of the proposed project will advance operational performance, medical readiness, or quality of life of Service Members or Veterans. In addition, describe how the proposed research will benefit their families, caregivers, and the American public, as applicable. Include the timeline to realize the anticipated short-term and long-term outcomes of the research. Explain how the knowledge, technologies, or products gained from the research could be implemented in a dual-use capacity to benefit the civilian population and address the health care needs of military Service Members, Veterans, and/or their beneficiaries, as appropriate.

- **Attachment 7: Human Subject Recruitment and Safety Procedures for clinical research (no page limit), if applicable; required for all studies recruiting human subjects: Upload as "HumSubProc.pdf".** The Human Subject Recruitment and Safety Procedures attachment should include the components listed below, where applicable.

  Applicants and collaborating organizations may not use, employ, or subcontract for the use of any human participants, including the use of human anatomical substances, human data, and/or human cadavers until applicable regulatory documents are reviewed and approved by the USAMRDC OHRO to ensure that DOD regulations have been met.

  - **Study Population:** Describe the target population (to whom the study findings will be generalized) and the nature, approximate number, and pertinent demographic characteristics of the accessible population at the study site(s) (population from whom the sample will be recruited/drawn). Provide a table of anticipated enrollment counts

at each study site. Demonstrate that the research team has access to the proposed study population at each site and describe the efforts that will be made to achieve accrual goals. Furthermore, discuss past efforts in recruiting human subjects from the target population for previous clinical studies (if applicable). Address any potential barriers to accrual and plans for addressing unanticipated delays, including a mitigation plan for slow or low enrollment or poor retention. Identify ongoing clinical studies that may compete for the same patient population and how they may impact enrollment progress. Provide justification related to the scientific goals of the proposed study for limiting inclusion of any group by age, race, ethnicity, or sex/gender. ***For clinical research proposing to include military personnel, refer to Appendix VI for more information.***

- **Inclusion/Exclusion Criteria:** List the inclusion and exclusion criteria for the proposed clinical study. Inclusion/exclusion criteria should take into consideration the specific risk profile of the studies to be conducted and the standard of care for that patient population. Provide detailed justification for exclusions.

- **Women and Minorities in the Study:** Consistent with the Belmont Report, "Ethical Principles and Guidelines for the Protection of Human Subjects," and Congressional legislation, special attention is given to inclusion of women and/or minorities in studies funded or supported by the USAMRDC. This policy is intended to promote equity both in assuming the burdens and in receiving the benefits of human subjects research. Describe the strategy for the inclusion of women and minorities in the clinical research appropriate to the objectives of the study, including a description of the composition of the proposed study population in terms of sex/gender, race, and ethnicity, and an accompanying rationale for the selection of subjects. Studies utilizing human biospecimens or datasets that cannot be linked to a specific individual, gender, ethnicity, or race (typically classified as exempt from IRB review) are exempt from this requirement.

- **Description of the Recruitment Process:** Explain methods for identification of potential human subjects (e.g., medical record review, obtaining sampling lists, health care provider identification).

  - Describe the recruitment process in detail. Address who will identify potential human subjects, who will recruit them, and what methods will be used to recruit them.

  - If human subjects will be compensated for participation in the study, include a detailed description of and justification for the compensation plan.

  - Describe the recruitment and advertisement materials. The recruitment materials should not be coercive or offer undue inducements and should accurately reflect the study.

– **Description of the Informed Consent Process:** Specifically describe the plan for obtaining informed consent from human subjects. ***This funding opportunity may not be used to support studies requiring EFIC.***

  - ***For the proposed study, provide a draft, in English, of the Informed Consent Form. FITBIR-eligible applications should include FITBIR consent language (see Appendix IV) for sample consent language.***

  - Identify who is responsible for explaining the study, answering questions, and obtaining informed consent. Include a plan for ensuring that human subjects' questions will be addressed during the consent process and throughout the study.

  - Include information regarding the timing and location of the consent process.

  - Address issues relevant to the mental capacity of the potential human subject (e.g., altered capacity due to administration of any mind-altering substances such as tranquilizers, conscious sedation or anesthesia, brain injury, stress/ life situations, or human subject age), if applicable.

  - Address how privacy and time for decision-making will be provided and whether or not the potential human subject will be allowed to discuss the study with anyone before making a decision.

  - Consider the need for obtaining ongoing consent or for re-assessing capacity over the course of a long-term study and describe any relevant procedures to assure continued consent.

  - Describe the plan for the consent of the individual's Legally Authorized Representative (LAR) to be obtained prior to the human subject's participation in the study. State law defines who may act as the LAR. The local IRB of record should be consulted for guidance regarding who can serve as LAR for research at the study site. ***Note:*** In compliance with 10 USC 980 (https://www.gpo.gov/fdsys/pkg/USCODE-2011-title10/pdf/USCODE-2011-title10-subtitleA-partII-chap49-sec980.pdf), the application must describe a clear intent to benefit for human subjects who cannot give their own consent to participate in the proposed clinical study. If applicable, refer to Appendix VI for more information.

  - ***Assent:*** If minors or other populations that cannot provide informed consent are included in the proposed clinical study, a plan to obtain assent (agreement) from those with capacity to provide it, or a justification for a waiver of assent, should be provided. PIs should consult with their local IRB to identify the conditions necessary for obtaining assent.

– **Screening Procedures:** List and describe any evaluations (e.g., laboratory procedures, history, or physical examination) that are required to determine eligibility/suitability for study participation and the diagnostic criteria for entry.

Note: Some screening procedures may require a separate consent or a two-stage consent process.

– **Risks/Benefits Assessment:**

- **Foreseeable risks:** Clearly identify all study risks, including potential safety concerns and adverse events. Study risks include any risks that the human subject is exposed to as a result of participation in the clinical study. Consider psychological, legal, social, and economic risks as well as physical risks. If the risks are unknown, this should be stated. If applicable, any potential risk to the study personnel should be identified.

- **Risk management and emergency response:**

  - Describe how safety monitoring and reporting to the IRB and FDA (if applicable) will be managed and conducted.

  - Describe all safety measures to minimize and/or eliminate risks to human subjects and study personnel or to manage unpreventable risks. Include safeguards and planned responses such as dose reduction or stopping criteria based on toxicity grading scales or other predetermined alert values.

  - Discuss the overall plan for provision of emergency care or treatment for an adverse event for study-related injuries, including who will be responsible for the cost of such care.

  - Address any special precautions to be taken by the human subjects before, during, and after the study (e.g., medication washout periods, dietary restrictions, hydration, fasting, and pregnancy prevention).

  - Describe any special care (e.g., wound dressing assistance, transportation due to side effects of study intervention impairing ability to drive) or equipment (e.g., thermometers, telemedicine equipment) needed for human subjects enrolled in the study.

- **Potential benefits:** Describe known and potential benefits of the study to the human subjects who will participate in the study. Articulate the importance of the knowledge to be gained as a result of the proposed research. Discuss why the potential risks to human subjects are reasonable in relation to the anticipated benefits to the human subjects and others that may be expected to result.

○ **Attachment 8: Animal Research Plan (if applicable; required for all studies utilizing animals; five-page limit): Upload as "AnimRschPln.pdf".**

When the proposed study involves animals, the applicant is required to submit a summary describing the animal research that will be conducted. Applicants should not submit a verbatim replica of the protocol(s) to be submitted to the IACUC as the Animal Research

Plan. The Animal Research Plan should address the following points for each proposed animal study:

- Briefly describe the research objective(s) of the animal study. Explain how and why the animal species, strain, and model(s) being used can address the scientific objectives and, where appropriate, the study's relevance to human biology.

- For studies using non-gyrencephalic (lissencephalic) animal models of TBI, include justification for their use.

- Summarize the procedures to be conducted. Describe how the study will be controlled.

- Describe the randomization and blinding procedures for the study, and any other measures to be taken to minimize the effects of subjective bias during animal treatment and assessment of results. If randomization and/or blinding will not be utilized, provide justification.

- Provide a sample size estimate for each study arm and the method by which it was derived, including power analysis calculations.

- Describe how data will be handled, including rules for stopping data collection, criteria for inclusion and exclusion of data, how outliers will be defined and handled, statistical methods for data analysis, and identification of the primary endpoint(s)/outcome measure(s).

- Describe how data will be reported and how it will be assured that the documentation will support a regulatory filing with the FDA, if applicable.

- **Attachment 9: Regulatory Strategy (no page limit): (*Attachment 9 is only applicable and required for applications proposing clinical research which involve FDA-regulated products*) If submitting multiple documents, start each document on a new page. Combine and upload as a single file named "Regulatory.pdf".** Answer the following questions and provide supporting documentation as applicable.

  - **For FY23 CRRP TRA applications proposing clinical research**, state the product/intervention name. If none, state how the proposed study meets the definition of clinical research as defined in Section II.B, Award Information.

  - State the product/intervention name.

  For products/interventions that do not require regulation by the FDA or an international regulatory agency:

  - For investigator-sponsored regulatory exemptions (e.g., investigational new drug, [IND], investigational device exemption, [IDE]) provide evidence of institutional support. Provide evidence that the clinical study does not require regulation by the FDA. If the clinical study will be conducted at international sites, provide equivalent

information relevant to the host country(ies) regulatory requirements. No further information for this attachment is required.

For products that require regulation by the FDA and/or an international regulatory agency:

- State whether the product is FDA-approved, -licensed, or -cleared, and marketed in the United States.

- If the product is marketed in the United States, state the product label indication. State whether the proposed research involves a change to the approved label indication for the route of administration, dosage level, and/or subject population. Indicate whether the proposed research involves a change that increases the risks associated with using the product. State whether the product is being promoted for an off-label use (where promotion involves the sale of a marketed product).

- If the product is not currently FDA-approved, -licensed, or -cleared, state the planned indication/use. Indicate whether the product would be classified as a drug, device, biologic, or combination product. Indicate whether the FDA has confirmed the proposed classification.

- ***If an IND or IDE is required for the work proposed in the FY23 CRRP TRA period of performance, the IND/IDE application must be submitted to the FDA prior to the proposal/application submission deadline.*** The IND or IDE should be specific for the investigational product (i.e., not a derivative or alternate version of the product) and indication to be tested in the proposed clinical trial. ***Provide the date of submission, the application number, and a copy of the FDA letter acknowledging the submission.*** If there are any existing cross-references in place, provide the application number(s) and associated sponsor(s). Provide an explanation of the status of the application (e.g., past the critical 30-day period, pending response to questions raised by the FDA, on clinical hold, on partial clinical hold). If the IND or IDE application has been placed on clinical hold or partial hold, explain the conditions that must be met for release of the hold. Provide a summary of any previous meetings with the FDA on development of this product. A copy of the Agency meeting minutes should be included if available. Provide copies of communications from the FDA relevant to the most recent status of the IND or IDE application.

- If available, provide a copy of the communication from the FDA indicating the IND or IDE application is active/safe to proceed.

- If an active IND or IDE for the investigational product is in effect, but an amendment is needed to include the proposed clinical study, describe the type and nature of the amendment(s) and the timeline for submission. Indicate whether the amendment increases the risk of the intervention.

- Provide the current status for manufacturing development (manufacturer's name, GMP-compliant lots available, status of stability testing, etc.), non-clinical development (test facility name, status of pivotal Good Laboratory Practice [GLP]

toxicology studies to support phase 1 testing, etc.), and clinical development (clinical site name, safety profile, status of any completed or ongoing clinical trials, etc.).

- **Attachment 10: Transition Plan (three-page limit): Upload as "Transition.pdf".**

  Describe the methods and strategies proposed to enable the product or knowledge outcomes to move to the next phase of development (e.g., clinical trials, partnership with DOD advanced developers, commercialization, and/or delivery to the civilian or military market) after successful completion of the award. Demonstrate how the proposed product or knowledge outcome is currently at a minimum technology readiness level (TRL) or knowledge readiness level (KRL) of 3, and estimate the target TRL/KRL level upon completion of the proposed research (Appendix V). For clinical trials, demonstrate how the proposed product is currently at a minimum of TRL 4. Applicants are encouraged to work with their organization's Technology Transfer Office (or equivalent) to develop the transition plan. PIs are encouraged to explore developing relationships with industry, DOD advanced developers, and/or other funding agencies to facilitate moving the product into the next phase of development. The transition plan should include the components listed below.

  - Details of the funding strategy to transition the product(s) to the next level of development and/or commercialization (e.g., specific potential industry partners, specific funding opportunities to be applied for). Include a description of collaborations and other resources that will be used to provide continuity of development.

  - A brief schedule and milestones for transitioning the product(s) to the next phase of development (e.g., transition to industry, delivery to the civilian and/or military market, and/or incorporation into clinical practice).

  - Describe the current and planned indication for the product label, if appropriate, and an outline of the development plan required to support that indication (e.g., Target Product Profile). Describe in detail the FDA regulatory strategy, including the number and types of studies proposed to reach approval, licensure, or clearance; the types of FDA meetings to be held; the submission filing strategy; and considerations for compliance with GMP, GLP, and Good Clinical Practice (GCP) guidelines, if appropriate. For clinical trials, see Attachment 9 for the required regulatory strategy appropriate to the objectives of the study.

  - For knowledge products, a description of collaborations and other resources that will be used to provide continuity of development, including proposed development or modification of clinical practice guidelines and recommendations, provider training materials, patient brochures, and other clinical support tools, scientific journal publications, models, simulations, and applications.

  - Ownership rights/access to the intellectual property necessary for the development and/or commercialization of products or technologies supported with this award and the government's ability to access such products or technologies in the future.

  - A risk analysis for cost, schedule, manufacturability, and sustainability.

- **Extramural and Intramural Applications**

  To evaluate compliance with Title IX of the Education Amendments of 1972 (20 USC 1681[a] et seq.), the DOD is collecting certain demographic and career information to be able to assess the success rates of women who are proposed for key roles in applications in science, technology, engineering, and/or mathematics (STEM) disciplines. To enable this assessment, each application must include the following forms completed as indicated.

  Research & Related Personal Data: This form will be used by DOD as the source of demographic information, such as gender, race, ethnicity, and disability information, for the Project Director (PD)/PI and all other persons identified as Co-PD(s)/Co-PI(s).

  Each application must include this form with the name fields of the PD/PI and any Co-PD(s)/Co-PI(s) completed; however, provision of the demographic information in the form is voluntary. If completing the form for multiple individuals, each Co-PD/Co-PI can be added by selecting the "Next Person" button. The demographic information, if provided, will be used for statistical purposes only and will not be made available to merit reviewers. Applicants who do not wish to provide some or all of the information should check or select the "Do not wish to provide" option.

  Upload the Research & Related Personal Data Form as "PersonalData_LastName.pdf" under the Key Personnel Application Components.

  Research & Related Senior/Key Person Profile: Each attachment must be uploaded as an individual PDF file unless otherwise stated. The Biographical Sketches and the Previous/Current/Pending Support for the PI and Key Personnel may be either attached to the Research & Related Senior/Key Person Profile (Expanded) Form or uploaded as individual files in the "Key Personnel" Application Component.

  Research & Related Senior/Key Person Profile (Expanded): The Degree Type and Degree Year fields on the Research and Related Senior/Key Person Profile (Expanded) will be used by the DOD as the source for career information. In addition to the required fields on the form, applicants must complete these two fields for all individuals that are identified as having the project role of PD/PI or Co-PD/Co-PI on the form. Additional senior/key persons can be added by selecting the "Next Person" button. Upload the Research & Related Senior/Key Person Profile (Expanded) as "KeyPersonnel_LastName.pdf" under the Key Personnel Application Components.

  Include the requested information for each person who will contribute significantly to the proposed research project.

  - PI Biographical Sketch (six-page limit): Upload as "Biosketch_LastName.pdf". The suggested biographical sketch format is available on the "Funding Opportunities & Forms" web page (https://ebrap.org/eBRAP/public/Program.htm) in eBRAP. The National Institutes of Health(NIH) Biographical Sketch may also be used. All biographical sketches should be submitted in uneditable PDF format.

- PI Previous/Current/Pending Support (no page limit): Upload as "Support_LastName.pdf".

- Key Personnel Biographical Sketches (six-page limit each): Upload as "Biosketch_LastName.pdf".

- Key Personnel Previous/Current/Pending Support (no page limit): Upload as "Support_LastName.pdf".

Budget Form (no page limit): Use the Suggested DOD Military Facility Budget Format available for download on the eBRAP "Funding Opportunities & Forms" web page https://ebrap.org/eBRAP/public/Program.htm). Refer to Appendix IX for detailed information on completing this form.

- Upload the Suggested DOD Military Facility Budget Format as "MFBudget.pdf".

- Budget Justification (no page limit): Upload as "BudgetJustification.pdf". The budget justification must include a Federal Agency Financial Plan, as described in Appendix IX. The budget justification for the entire period of performance must be uploaded to the Research & Related Budget after completion of the budget for Period 1.

Project/Performance Site Location(s) Form: Indicate the primary site where the work will be performed. If a portion of the work will be performed at any other site(s), include the name and address for each collaborating location in the data fields provided. Add more sites as necessary using the "Next Site" button. If more than eight performance site locations are proposed, provide the requested information in a separate file and attach it to this form. Each additional research site requesting funds will require a subaward budget.

II.D.3. Submission Dates and Times

All submission dates and times are indicated in Section I, Overview of the Funding Opportunity. Pre-application and application submissions are required. The pre-application and application submission process should be started early to avoid missing deadlines. There are no grace periods. Failure to meet either of these deadlines will result in submission rejection.

Applicant Verification of Full Application Submission in eBRAP

eBRAP allows an organization's representatives and PIs to view and modify the full application submissions associated with them. Following retrieval and processing of the full application, eBRAP will notify the organizational representatives and PI by email to log into eBRAP to review, modify, and verify the full application submission. eBRAP will validate full application files against the specific program announcement requirements, and discrepancies will be noted in an email to the PI and in the "Full Application Files" tab in eBRAP. eBRAP does not confirm the accuracy of file content. Application viewing, modification, and verification in eBRAP are strongly recommended, but not required. It is the applicant's responsibility to review all application components and ensure proper ordering as specified in the program announcement. ***If either the Project Narrative or the budget fails eBRAP validation or needs to be modified, an updated full application package must be submitted prior to the application submission***

deadline. The Project Narrative and Research & Related Budget Form cannot be changed after the application submission deadline. Other application components may be changed until the end of the application verification period. Verify that subaward budget(s) and budget justification forms are present in eBRAP during the application verification period. If these components are missing, upload them to eBRAP before the end of the application verification period. After the end of the application verification period, the full application cannot be modified.

After eBRAP has processed the full application, the organizational Resource Manager/Comptroller/Task Area Manager or equivalent Business Official and PI will receive email notification of the status and will be able to view and modify application components in eBRAP. During the application verification period, the full application package, ***with the exception of the Project Narrative and Budget Form***, may be modified. The Resource Manager/Comptroller/Task Area Manager or equivalent Business Official should log into eBRAP to review and to approve the application package prior to the application verification deadline.

Verify that subaward budget(s) with budget justification are present in eBRAP during the application verification period. If these components are missing, upload them to eBRAP before the end of the application verification period.

II.D.4. Funding Restrictions

The maximum period of performance is **2** years.

The application's total costs budgeted for the entire period of performance should not exceed **$1.1M**. If indirect cost rates have been negotiated, indirect costs are to be budgeted in accordance with the organization's negotiated rate.

All direct and indirect costs of any subaward or contract must be included in the total direct costs of the primary award.

The applicant may request the entire maximum funding amount for a project that may have a period of performance less than the maximum **2** years.

For this award mechanism, direct costs must be requested for:

- Travel costs for the PI to present project information or disseminate project results at a DOD-sponsored meeting (e.g., progress review meeting or Military Heath System Research Symposium) in year 2 of the award. For planning purposes, it should be assumed that the meeting will be held Central Florida Area. These travel costs are in addition to those allowed for annual scientific/technical meetings.

May be requested for (not all-inclusive):

- Special purpose equipment
- Travel in support of multidisciplinary collaborations

- Travel costs for one investigator to travel to one scientific/technical meeting per year in addition to the required meeting described above. The intent of travel costs to scientific/ technical meetings is to present project information or disseminate project results from the CRRP TRA.

Must not be requested for:

- Clinical trial costs
- Equipment
- Tuition

Funding to intramural DOD and other federal agencies will be managed through a direct funds transfer. Intramural applicants are responsible for coordinating through their agency's procedures the use of contractual or assistance funding awards or other appropriate agreements to support extramural collaborators.

It is the responsibility of intramural research site to ensure intramural funds are obligated by the deadlines associated with the fiscal year of funds. The government reserves the right to administratively withdraw any application that does not meet these criteria.

Refer to Appendix IX for budget regulations and instructions for the Research & Related Budget. ***For federal agencies or organizations collaborating with federal agencies, budget restrictions apply as are noted in Appendix IX.***

II.D.5. Other Submission Requirements

Refer to Appendix VIII, for detailed formatting guidelines.

II.E. Application Review Information

II.E.1. Criteria

II.E.1.a. Peer Review

To determine technical merit, all applications will be evaluated according to the following **scored criteria**, which are listed in decreasing order of importance:

- **Research Strategy and Feasibility**
    - How well the scientific rationale supports the project and its translational feasibility as demonstrated by a critical review and analysis of published literature, logical reasoning, and preliminary data.
    - How well the hypothesis and/or objectives, specific aims, experimental design, methods, and analyses are developed.

- How well the application describes study outcomes/endpoints and how they will be measured.
- How well the research strategy will meet the project's goals and milestones within the proposed period of performance.
- How well the application acknowledges potential problem areas and addresses alternative methods and approaches.
- If applicable, how well the animal study is (or studies are) designed to achieve the objectives, including the choice of model and endpoints/outcome measures to be used, and facilitate rapid development and solutions for the Warfighter.
- How well the applicant demonstrates access to the relevant study resources.
- For research conducted with human subjects (clinical research), how well the application demonstrates the availability of, and access to, the appropriate patient population(s), as well as the ability to accrue a sufficient number of subjects.
- For research conducted with human subjects, whether the inclusion of women and minorities and distribution of proposed enrolment are appropriate for the proposed research.
- If applicable, the degree to which the intellectual and material property plan is appropriate.
- To what extent the research can be completed within the proposed period of performance(s).
- How well the data and resources plan feasibly allows for data sharing. For FITBIR-eligible applications:
  - How well the study utilizes TBI CDEs and describes processes and timelines for integrating data to the FITBIR Informatics System.
  - If UDEs are utilized, how well the application justifies the rationale for UDE collection.

- **Impact/Military Relevance**
  - How well the proposed work represents an accelerated and relevant approach aligned to the FY23 CRRP Focus Area(s) and, if applicable, any relevant FY23 CRRP Areas of Encouragement.
  - To what extent, the proposed research will significantly improve the readiness of the Force in combat and frontline trauma environments.

- How well the project outcomes will impact clinical practice and decrease morbidity and mortality of the Warfighter.

- To what extent the proposed research can be utilized in far-forward roles of care or austere environments.

- To what degree the anticipated outcomes of the proposed project will lead to improved operational performance, medical readiness, or quality of life for Service Members or Veterans.

- To what degree the anticipated outcomes could be implemented in a dual-use capacity to benefit the civilian population and address the health care needs of military Service Members, and/or their beneficiaries, if applicable.

- **Statistical and Data Analysis Plan**

  - How well the proposed research is designed to achieve reproducible and rigorous results, including controls, sample size estimation, randomization, statistical analysis, and data handling.

  - How adequate the statistical plan, including sample size projections and power analysis, is for achieving the study objectives and is appropriate to type and phase of study.

  - If applicable, how well the application identifies sampling methods to gain a representative sample from the population(s) of interest.

  - To what degree the research data collection instruments, are appropriate to support statistical significance of the proposed study.

- **Ethical Considerations (for studies recruiting human subjects)**

  - How well the evidence shows that procedures are consistent with sound research design and, when appropriate, that these procedures are already in use for diagnostic or treatment purposes.

  - How well the level of risk to human subjects is minimized and how the safety monitoring and reporting plan is appropriate for the level of risk.

  - Whether the population selected to participate in the clinical research stands to benefit from the knowledge gained.

  - To what degree privacy issues are appropriately considered.

  - To what degree the processes for seeking informed consent is appropriate and whether safeguards are in place for vulnerable populations.

- **Research Team**
    - To what degree the background and experience of the PI and other key personnel demonstrate their ability to perform the proposed work.
    - To what degree the levels of effort by the PI and other key personnel are appropriate to ensuring the successful conduct of the project.
    - How the PI's record of accomplishment demonstrates their ability to accomplish the proposed work.
- **Environment**
    - How the scientific environment is appropriate for the proposed research.
    - How the quality and extent of organizational support are appropriate for the proposed research.
    - How the research requirements are supported by the availability of and accessibility to facilities and resources (including collaborative arrangements).

In addition, the following **unscored criteria** will also contribute to the overall evaluation of the application:

- **Budget**
    - Whether the **total** costs exceed the allowable total costs as published in the program announcement.
    - Whether the budget is appropriate for the proposed research.
- **Application Presentation**
    - To what extent the writing, clarity, and presentation of the application components influence the review.

II.E.1.b. Programmatic Review

To make funding recommendations and select the application(s) that, individually or collectively, will best achieve the program objectives, the following criteria are used by programmatic reviewers:

- Ratings and evaluations of the peer reviewers
- Relevance to the mission of the Defense Health Program and FY23 CRRP, as evidenced by the following:
    - Adherence to the intent of the award mechanism

- Program portfolio composition
- Relevance to military health
- Relative impact and translation potential

II.E.2. Application Review and Selection Process

All applications are evaluated by scientists, clinicians, and consumers in a two-tier review process. The first tier is **peer review**, the evaluation of applications against established criteria to determine technical merit, where each application is assessed for its own merit, independent of other applications. The second tier is **programmatic review**, a comparison-based process in which applications with high scientific and technical merit are further evaluated for programmatic relevance. Final recommendations for funding are made to the Commanding General, USAMRDC. ***The highest-scoring applications from the first tier of review are not automatically recommended for funding. Funding recommendations depend on various factors as described in Section II.E.1.b, Programmatic Review.*** Additional information about the two-tier process used by the CDMRP can be found at https://cdmrp.health.mil/about/2tierRevProcess. An information paper describing the funding recommendations and review process for the award mechanisms for the CRRP will be provided to the PI and posted on the CDMRP website.

All CDMRP review processes are conducted confidentially to maintain the integrity of the merit-based selection process. Panel members sign a statement declaring that application and evaluation information will not be disclosed outside the panel. Violations of confidentiality can result in the dissolving of a panel(s) and other corrective actions. In addition, personnel at the applicant or collaborating organizations are prohibited from contacting persons involved in the review and approval process to gain protected evaluation information or to influence the evaluation process. Violations of these prohibitions will result in the administrative withdrawal of the organization's application. Violations by panel members or applicants that compromise the confidentiality of the review and approval process may also result in suspension or debarment from federal awards. Furthermore, the unauthorized disclosure of confidential information of one party to another third party is a crime in accordance with 18 USC 1905.

II.E.3. Integrity and Performance Information

Prior to making an assistance agreement award where the federal share is expected to exceed the simplified acquisition threshold, as defined in 2 CFR 200.1, over the period of performance, the federal awarding agency is required to review and consider any information about the applicant that is available in the Federal Awardee Performance and Integrity Information System (FAPIIS).

An applicant organization may review FAPIIS, accessible through System for Award Management (SAM), and submit comments to FAPIIS on any information about the organization that a federal awarding agency previously entered and is currently available in FAPIIS.

The federal awarding agency will consider any comments by the applicant, in addition to other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under federal awards when determining a recipient's qualification prior to award, according to the qualification standards of the Department of Defense Grant and Agreement Regulations (DoDGARs), Section 22.415.

II.E.4. Anticipated Announcement and Federal Award Dates

All application review dates and times are indicated in Section I, Overview of the Funding Opportunity.

Each PI and organization will receive email notification of posting of the funding recommendation in eBRAP. Each PI will receive a peer review summary statement on the strengths and weaknesses of the application.

II.F. Federal Award Administration Information

II.F.1. Federal Award Notices

Awards supported with FY23 funds are anticipated to be made no later than September 30, 2024. Refer to Appendix VII, for additional award administration information.

After email notification of application review results through eBRAP, and if selected for funding, a representative from the USAMRAA will contact the Business Official authorized to negotiate on behalf of the PI's organization.

Pre-Award Costs: An institution of higher education, hospital, non-profit or for-profit organization may, at its own risk and without the government's prior approval, incur obligations and expenditures to cover costs up to 90 days before the beginning date of the initial period of a new award. Refer to Appendix IX, Budget Instructions.

Only an appointed USAMRAA Grants Officer may obligate the government to the expenditure of funds. No commitment on the part of the government should be inferred from discussions with any other individual. **The award document signed by the Grants Officer is the official authorizing document.**

Federal Government Organizations: Funding made to federal government organizations (to include intramural DOD organizations) will be executed through the Military Interdepartmental Purchase Request (MIPR) or Funding Authorization Document (FAD) process. Transfer of funds is contingent upon appropriate safety and administrative approvals. Intramural applicants and collaborators are reminded to coordinate receipt and commitment of funds through their respective Resource Manager/Task Area Manager/Comptroller or equivalent Business Official.

II.F.1.a. PI Changes and Award Transfers

Unless otherwise restricted, changes in PI or organization will be allowed at the discretion of the USAMRAA Grants Officer, provided the intent of the award mechanism is met.

An organizational transfer of an award will not be allowed in the last year of the (original) period of performance or any extension thereof.

Refer to Appendix VII, Section B, for general information on organization or PI changes.

II.F.2. Administrative and National Policy Requirements

Applicable requirements in the DoDGARs found in 32 CFR, Chapter I, Subchapter C, and 2 CFR, Chapter XI, apply to grants and cooperative agreements resulting from this program announcement.

Refer to Appendix VII, for general information regarding administrative requirements.

Refer to Appendix X, for general information regarding national policy requirements.

Refer to full text of the latest DoD R&D General Terms and Conditions and the USAMRAA General Research Terms and Conditions: Addendum to the DoD R&D General Terms and Conditions for further information.

Certification Regarding Disclosure of Funding Sources. The proposing entity must comply with Section 223(a) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, which requires that the PI, Partnering PIs (if applicable), and all key personnel:

- Certify that the current and pending support provided on the application is current, accurate, and complete;
- Agree to update such disclosure at the request of the agency prior to the award of support and at any subsequent time the agency determines appropriate during the term of the award; and
- Have been made aware of the requirements under Section 223(a)(1) of this Act.

False, fictitious, or fraudulent statements or claims may result in criminal, civil, or administrative penalties (18 USC 1001).

II.F.3. Reporting

Refer to Appendix VII, Section A, for general information on reporting requirements.

Quarterly progress reports and quad charts, as well as annual and final progress reports may be required. The Award Terms and Conditions will specify if additional and/or more frequent reporting is required.

In addition to written progress reports, in-person or virtual presentations may be requested.

Award Expiration Transition Plan: An Award Expiration Transition Plan must be submitted with the final progress report. Use the one-page template "Award Expiration Transition Plan," available on the eBRAP "Funding Opportunities & Forms" web page (https://ebrap.org/eBRAP/public/Program.htm) under the "Progress Report Formats" section.

The Award Expiration Transition Plan must outline if and how the research supported by this award will progress and must include source(s) of funding, either known or pending.

PHS Inclusion Enrollment Reporting Requirement ***(only required for clinical research studies and clinical trials)***: Enrollment reporting on the basis of sex/gender, race, and/or ethnicity will be required with each annual and final progress report. The PHS Inclusion Enrollment Report is available on the "Funding Opportunities & Forms" web page (https://ebrap.org/eBRAP/public/Program.htm) in eBRAP.

Awards resulting from this program announcement may entail additional reporting requirements related to recipient integrity and performance matters.

Awards resulting from this program announcement may entail additional reporting requirements related to recipient integrity and performance matters. Recipient organizations that have federal contract, grant, and cooperative agreement awards with a cumulative total value greater than $10M are required to provide information to FAPIIS about certain civil, criminal, and administrative proceedings that reached final disposition within the most recent 5-year period and that were connected with performance of a federal award. These recipients are required to disclose, semiannually, information about criminal, civil, and administrative proceedings as specified in the applicable Representations (see Appendix X, Section B).

II.G. Federal Awarding Agency Contacts

II.G.1. eBRAP Help Desk

Questions related to program announcement content or submission requirements as well as questions related to the pre-application or intramural application submission through eBRAP should be directed to the eBRAP Help Desk, which is available Monday through Friday from 8:00 a.m. to 5:00 p.m. ET (closed on most U.S. federal holidays). Response times may vary depending upon the volume of inquiries.

Phone: 301-682-5507

Email: help@eBRAP.org

II.G.2. Grants.gov Contact Center

Questions related to extramural application submission through Grants.gov portal should be directed to the Grants.gov Contact Center, which is available 24 hours a day, 7 days a week (closed on U.S. federal holidays). Note that the eBRAP Help Desk is unable to provide technical assistance with Grants.gov submission.

Phone: 800-518-4726; International 1-606-545-5035

Email: support@grants.gov

II.H. Other Information

II.H.1. Administrative Actions

After receipt of pre-applications or applications, the following administrative actions may occur:

II.H.1.a. Rejection

The following will result in administrative rejection of the application:

- Pre-application (letter of intent) was not submitted.
- Project Narrative exceeds page limit.
- Project Narrative is missing.
- Budget is missing.

For applications involving animal research:

- Attachment 8, Animal Research Plan is missing.

For applications recruiting human subjects:

- Attachment 7, Human Subject Recruitment and Safety Procedures is missing.

II.H.1.b. Modification

- Pages exceeding the specific limits will be removed prior to review for all documents other than the Preproposal Narrative and Project Narrative.
- Documents not requested will be removed.

II.H.1.c. Withdrawal

The following may result in administrative withdrawal of the pre-application or application:

- An FY23 CRRP Programmatic Panel member is named as being involved in the research proposed or is found to have assisted in the pre-application or application processes including, but not limited to, concept design, application development, budget preparation, and the development of any supporting documentation. ***A list of the FY23 CRRP Programmatic Panel members can be found at https://cdmrp.health.mil/crrp/panels/panels23***.
- The application fails to conform to this program announcement description.
- Inclusion of URLs, with the exception of links in References Cited and Publication and/or Patent Abstract sections.
- Page size is larger than 8.5 inches x 11.0 inches (approximately 21.59 cm x 27.94 cm).

- To preserve the integrity of its peer and programmatic review processes, the CDMRP discourages inclusion of any employee of its review contractors having any role in the preparation, research or other duties for submitted applications. For FY23, the identities of the peer review contractor and the programmatic review contractor may be found at the CDMRP website (https://cdmrp.health.mil/about/2tierRevProcess). Applications that include names of personnel from either of these companies may be administratively withdrawn.

- Personnel from applicant or collaborating organizations are found to have contacted persons involved in the review or approval process to gain protected evaluation information or to influence the evaluation process.

- Applications submitted by an extramural organization, including non-DOD federal agencies.

- Applications submitted by an intramural DOD organization may be withdrawn if the intramural organization cannot coordinate the use of contractual, assistance, or other appropriate agreements to provide funds to extramural collaborators.

- The application includes research data that are classified and/or proposes research of which the anticipated outcomes may be classified or deemed sensitive to national security will be considered for proposal/application withdrawal.

- The application does not address at least one of the FY23 CRRP Focus Areas.

- The proposed research includes clinical trial.

- The proposal/application does not demonstrate support for and access to relevant population(s) and/or resource(s).

- The proposal/application requiring IND/IDE (or international equivalent) during the base period of performance does not include documentation of submission in the Regulatory Strategy (Attachment 9).

II.H.1.d. Withhold

Applications that appear to involve research misconduct will be administratively withheld from further consideration pending organizational investigation. The organization will be required to provide the findings of the investigation to the USAMRAA Grants Officer for a determination of the final disposition of the application.

II.H.2. Application Submission Checklist

Application Components	Action	Completed
Summary (Tab 1) and Application Contacts (Tab 2)	Complete tabs as instructed	
Attachments	Project Narrative: Upload as Attachment 1 with file name "ProjectNarrative.pdf"	
	Supporting Documentation: Upload as Attachment 2 with file name "Support.pdf"	
	Technical Abstract: Upload as Attachment 3 with file name "TechAbs.pdf"	
	Lay Abstract: Upload as Attachment 4 with file name "LayAbs.pdf"	
	Statement of Work: Upload as Attachment 5 with file name "SOW.pdf"	
	Impact/Military Relevance Statement: Upload as Attachment 6 with file name "Impact.pdf" if applicable	
	Human Subject Recruitment and Safety Procedures: Upload as Attachment 7 with file name "HumSubProc.pdf" if applicable	
	Animal Research Plan: Upload as Attachment 8 with file name "AnimRschPln.pdf" if applicable	
	Regulatory Strategy: Upload as Attachment 9 with file name "Regulatory.pdf"	
	Transition Plan: Upload as Attachment 10 with file name "Transition.pdf"	
Research & Related Personal Data	Complete form as instructed	
Research & Related Senior/Key Person Profile (Expanded)	Attach PI Biographical Sketch (Biosketch_LastName.pdf) to the appropriate field	
	Attach PI Previous/Current/Pending Support (Support_LastName.pdf) to the appropriate field	
	Attach Biographical Sketch (Biosketch_LastName.pdf) for each senior/key person to the appropriate field	
	Attach Previous/Current/Pending (Support_LastName.pdf) for each senior/key person to the appropriate field	
Budget	Suggested DOD Military Budget Format, including justification	

Application Components	Action	Completed
Project/Performance Site Location(s) Form	Complete form as instructed	
Research & Related Subaward Budget Attachment(s) Form, if applicable	Complete form as instructed	

APPENDIX I: ACRONYM LIST

ACOS/R&D	Associate Chief of Staff for Research and
ACURO	Animal Care and Use Review Office
ARRIVE	Animal Research: Reporting *In Vivo* Experiments
CDE	Common Data Element
CDMRP	Congressionally Directed Medical Research Programs
CFR	Code of Federal Regulations
CFS	Chronic Fatigue Syndrome
CRADA	Cooperative Research and Development Agreement
CRRP	Combat Readiness – Medical Research Program
DA PAM	Department of the Army Pamphlet
DHHS	U.S. Department of Health and Human Services
DOD	Department of Defense
DoDGARs	Department of Defense Grant and Agreement Regulations
DoDI	DoD Instruction
eBRAP	Electronic Biomedical Research Application Portal
EC	Ethics Committee
EFIC	Exception from Informed Consent
ET	Eastern Time
FAD	Funding Authorization Document
FAPIIS	Federal Awardee Performance and Integrity Information System
FDA	U.S. Food and Drug Administration
FITBIR	Federal Interagency Traumatic Brain Injury Research
FOIA	Freedom of Information Act
FY	Fiscal Year
GCP	Good Clinical Practice
GLP	Good Laboratory Practice
GMP	Good Manufacturing Practice
GUID	Global Unique Identifier
HIPAA	Health Insurance Portability and Accountability Act
IACUC	Institutional Animal Care and Use Committee
IDE	Investigational Device Exemption
IND	Investigational New Drug
IRB	Institutional Review Board
KP	Knowledge Product

KRL	Knowledge Readiness Level
LAR	Legally Authorized Representative
M	Million
MB	Megabytes
ME	Myalgic Encephalomyelitis
MDO	Multi-Domain Operation
MIPR	Military Interdepartmental Purchase Request
MTA	Material Transfer Agreement
mTBI	Mild Traumatic Brain Injury
NIH	National Institutes of Health
NINDS	National Institute of Neurological Disorders and Stroke
NPC	Non-Profit Corporation
OHARO	Office of Human and Animal Research Oversight (previously Office of Research Protections)
OHRO	Office of Human Research Oversight (previously Human Research Protection Office)
ORCID	Open Researcher and Contributor ID, Inc.
PA	Program Announcement
PD	Project Director
PDF	Portable Document Format
PHS	Public Health Service
PI	Principal Investigator
PII	Personally Identifiable Information
RDT&E	Research, Development, Test, and Evaluation
SAM	System for Award Management
SOW	Statement of Work
STEM	Science, Technology, Engineering, and/or Mathematics
TBI	Traumatic Brain Injury
TRA	Technology Readiness Assessment
TRA	Translational Research Award
TRL	Technology Readiness Level
UDE	Unique Data Element
URL	Uniform Resource Locator
USAMRAA	U.S. Army Medical Research Acquisition Activity
USAMRDC	U.S. Army Medical Research and Development Command
USC	United States Code
VA	U.S. Department of Veterans Affairs

APPENDIX II: FY23 CRRP AREAS OF ENCOURAGEMENT

The following Areas of Encouragement are related to the FY23 CRRP Focus Areas have been identified by the DOD and the FY23 CRRP Programmatic Panel as capabilities and knowledge gaps that are of high priority and programmatic relevance. ***The information provided is not exhaustive. While applicants are not restricted to submitting applications that address an Area of Encouragement on this list, proposals/applications must demonstrate relevance to the program mission, vision, and FY23 CRRP Focus Areas.***

Infectious Diseases and Highly Infectious Disease Treatment and Transport

- Research and development of broadly active therapeutics for infectious diseases with simplified dosing to prevent multiple endemic disease threats in far-forward, austere environments.

- Research and development of novel medical countermeasures and innovative treatment approaches for multidrug-resistant organisms in combat wound infections and/or biofilm formation, maintenance, or propagation.

- Research relating to delivery and effectiveness of current Standard of Care for traumatic wounds to inform clinical practice guidelines.

Sleep Disorders

- Research on the prevention and/or mitigation of insomnia, hypersomnia, and somnolescence due to high military operational tempo sleep restriction related to sustained combat operations, particularly associated with long aeromedical evacuation flights for both clinical team members and patients.

Service-Related Post-Traumatic Arthritis

- Research relating to prevention and treatment of post-traumatic arthritis to promote readiness.

Telemedicine and Medical Simulation Technologies

- Research and development of solutions which support medical systems communications capabilities in in delayed/disconnected, intermittently connected, and/or low-bandwidth environments.

- Research and development of solutions to maximize Warfighter capability by extending the operational reach, speed, and capacity to balance medical support. Solutions include point-of-injury treatment and evacuation of casualties to definitive care, proportionally with large-scale combat operations.

- Research and development of autonomous and/or semi-autonomous medical technologies to amplify "human-based" capabilities in far forward environments and/or situations of denied/ intermittent/low-bandwidth communication.

- Research to promote and optimize the learning and training effectiveness of medical and non-medical military providers. Solutions may include low-cost materiel and knowledge products to improve of acquisition, retention, and application of gained knowledge, skills, and abilities.

Freeze-Dried Plasma and Platelets

- Research supporting development of alternatives to optimize logistics and administration of blood products to the Warfighter, including logistics of storage.

- Research supporting development of blood-type agnostic solutions.

Ruggedized Oxygen Generation Systems

- Research and development of solutions which are portable and easy to use with enhanced safety profiles.

Eating Disorders

- Research supporting development of evidence-based recommendations supporting Warfighter readiness.

- Research which contributes to improved understanding of eating and weight management behaviors and characteristics linked to physical performance, weight status, and relation to body composition standards needed for Military screening.

Head Injury and Handheld detection devices for TBI/Portable Neurological Devices in Support of Mild Traumatic Brain Injury (mTBI) Assessment

- Development of technologies that can be used for objective assessment, diagnosis, and prognosis of mTBI in far-forward environments.

Rapidly deployable all-in-one acute and chronic care therapy to address complex trauma and start tissue regeneration

- Research and development of wound decontamination solutions (e.g., fourth-generation chemicals) and extracellular materials for wound care therapies to stabilize wounds, accelerate healing, and prevent complications.

- Research which may lead to cost effective sound care solutions.

- Research and development of innovative damage control surgical and non-surgical capabilities, especially interventions to be used in an austere environment by non-physician providers.

APPENDIX III: DOD AND VA WEBSITES

Applicants are encouraged to integrate and/or align their research projects with DOD and/or VA research laboratories and programs. Collaboration with DOD and/or VA investigators is also encouraged. Below is a list of websites that may be useful in identifying additional information about DOD and VA areas of research interest, ongoing research or potential opportunities for collaboration.

Air Force Office of Scientific Research
https://www.afrl.af.mil/AFOSR/

Air Force Research Laboratory
https://www.afrl.af.mil

Armed Forces Radiobiology Research Institute
https://afrri.usuhs.edu/home

Combat Casualty Care Research Program
https://cccrp.health.mil

Congressionally Directed Medical Research Programs
https://cdmrp.health.mil

Defense Advanced Research Projects Agency
https://www.darpa.mil/

Defense Health Agency
https://health.mil/dha

Defense Technical Information Center
https://www.dtic.mil

Defense Threat Reduction Agency
https://www.dtra.mil/

Military Health System Research Symposium
https://mhsrs.health.mil

Military Infectious Diseases Research Program
https://midrp.health.mil/

Military Operational Medicine Research Program
https://momrp.health.mil/

Naval Health Research Center
https://www.med.navy.mil/Naval-Medical-Research-Command/R-D-Commands/Naval-Health-Research-Center/med.navy.afpims.mil/Nurse-Corps/

Navy Bureau of Medicine and Surgery
https://www.med.navy.mil/

Naval Medical Research Center
https://www.med.navy.mil/Naval-Medical-Research-Center/

Navy and Marine Corps Public Health Center
https://www.med.navy.mil/sites/nmcphc/Pages/Home.aspx

Office of Naval Research
https://www.onr.navy.mil/

Office of the Under Secretary of Defense for Acquisition, Technology and Logistics
https://www.acq.osd.mil/

Telemedicine and Advanced Technology Research Center
https://www.tatrc.org/

Uniformed Services University of the Health Sciences
https://www.usuhs.edu/research

U.S. Air Force 59th Medical Wing
https://www.59mdw.af.mil/

U.S. Army Aeromedical Research Laboratory
https://www.usaarl.health.mil/

U.S. Army Combat Capabilities Development Command
https://www.army.mil/ccdc

U.S. Army Institute of Surgical Research
https://usaisr.amedd.health.mil/

U.S. Army Research Institute of Environmental Medicine
https://www.usariem.health.mil/

U.S. Army Medical Research Institute of Infectious Diseases
https://usariem.health.mil/

U.S. Army Medical Research and Development Command
https://mrdc.amedd.health.mil

U.S. Army Research Laboratory
https://www.arl.army.mil

U.S. Army Sharp, Ready and Resilient Directorate
https://www.armyresilience.army.mil/

U.S. Department of Defense Blast Injury Research Program
https://blastinjuryresearch.health.mil/

U.S. Department of Veterans Affairs, Office of Research and Development
https://www.research.va.gov

U.S. Naval Research Laboratory
https://www.nrl.navy.mil

Walter Reed Army Institute of Research
https://www.wrair.health.mil/

APPENDIX IV: FITBIR REQUIREMENTS

In order to share data with FITBIR, three elements ***must be included*** in the proposed research:

1. Updated informed consent language that includes FITBIR data sharing. Sample consent language is included below.

2. FITBIR Global Unique Identifier (GUID): The FITBIR GUID is a subject ID that allows researchers to share data specific to a study participant without exposing Personally identifiable information (PII) and makes it possible to match participants across laboratories and research data repositories. In order to generate a GUID for a subject, the following PII must be collected in the proposed research (this PII is never sent to the FITBIR system):

   - Complete legal given (first) name of subject at birth
   - Complete legal additional name of subject at birth (if subject has a middle name)
   - Complete legal family (last) name of subject at birth
   - Day of birth
   - Month of birth
   - Year of birth
   - Name of city/municipality in which subject was born
   - Country of birth

   Note that this PII is never sent to the FITBIR system. PII cannot be extracted from the GUID. Information on GUID compliance with Health Insurance Portability and Accountability Act (HIPAA) regulations can be found at https://fitbir.nih.gov/content/global-unique-identifier.

3. National Institute of Neurological Disorders and Stroke (NINDS) TBI CDEs: Research data elements ***must be reported*** using the NINDS TBI CDEs or entered into the FITBIR data dictionary as new UDEs. For the most current version of the NINDS TBI CDEs, go to https://www.commondataelements.ninds.nih.gov. Assistance will be available to help the researchers map their study variables to specific CDEs and ensure that the formats of the CDEs collected are compatible with the FITBIR Informatics System. Use of the TBI CDEs is required as applicable in an effort to create standardized definitions and guidelines about the kinds of data to collect and the data collection methods that should be used in clinical studies of TBI. Applicants are strongly required to review TBI CDEs and associated form structures during the development of the study collection methods. ***If approved CDEs are not incorporated, justification is required and subject to program approval.***

While there is no direct charge to users of the FITBIR Informatics System, a project estimation tool is available to help estimate costs and manpower needs that may be associated with data submission.

Sample Consent Language

Data from this study may be submitted to the FITBIR informatics system. FITBIR is a computer system run by the NIH that allows researchers studying traumatic brain injury to collect and share information with each other. With an easier way to share, researchers hope to learn new and important things about traumatic brain injury more quickly than before.

During and after the study, the researchers will send information about you or your child's health and behavior and in some cases, you or your child's genetic information, to FITBIR. However, before they send it to FITBIR, they will remove information such as name, date of birth, and city of birth, and replace that information with a code number. Other researchers nationwide can then file an application to obtain access to your study data for research purposes. Experts who know how to protect health and science information will look at every request carefully to minimize risks to your privacy.

You or your child may not benefit directly from allowing your information to be shared with FITBIR. The information provided to FITBIR might help researchers around the world treat future children and adults with traumatic brain injury so that they have better outcomes. FITBIR will report on its website about the different studies that researchers are conducting using FITBIR data; however, FITBIR will not be able to contact you or your child individually about specific studies.

You may decide now or later that you do not want to share you or your child's information using FITBIR. If so, contact the researchers who conducted this study, and they will tell FITBIR, which can stop sharing the research information. However, FITBIR cannot take back information that was shared before you changed your mind. If you would like more information about FITBIR, this is available on-line at http://fitbir.nih.gov

Language to be used to describe certificates of confidentiality (three versions):

1. Language for new studies that will be consenting subjects for the first time or for ongoing studies that will be re-consenting subjects because they are applying for a Certificate of Confidentiality for the study

To help protect you and/or your child's privacy the investigators of this study [have applied for]/[have obtained] a Certificate of Confidentiality from the National Institutes of Health, part of the U.S. Department of Health and Human Services (DHHS), an agency of the U.S. Government.

With this Certificate, we, the investigators, cannot be forced (e.g., by court subpoena) to disclose information that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings. Be aware that disclosure of you and/or your child's identity may be found necessary, however, upon request of DHHS for the purpose of audit or evaluation.

You should also understand that a Confidentiality Certificate does not prevent you or a member of your family from **voluntarily** releasing information about your child, yourself, or your involvement in this research. Note however, that if an insurer or employer learns about you and/or your child's participation, and obtains your consent to receive research information, then the investigator may not use the Certificate of Confidentiality to withhold this information. This means that you and your family must also actively protect your own privacy.

We are also asking your consent to provide research data and related findings to the FITBIR informatics system. FITBIR is a biomedical informatics system and data repository, created by the Department of Defense and the National Institutes of Health to assist biomedical researchers working to develop a better understanding of traumatic brain injury and/or to develop more effective methods to diagnose, treat and prevent traumatic brain injuries.

Data entered into FITBIR will be kept confidential, with FITBIR being designed for access by qualified researchers only. Data provided to FITBIR as part of you and/or your child's participation in this research study will be de-identified – i.e., you and/or your child's name will be separated from the data. However, since this institution and others submitting data to FITBIR will retain individually identifying information related to the data they provide, NIH has issued a legislatively authorized "Certificate of Confidentiality" that will help FITBIR and participating institutions avoid being forced to disclose information that may identify you as a FITBIR participant in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.

Finally, you should understand that we, the investigators, are not prevented from taking steps, including reporting to authorities, to prevent serious harm to you, your child, or others. With respect to you and/or your child's participation in FITBIR, we do not plan to make voluntary disclosures except if there were severe threats to the public health or safety.

2. Language for studies that already have a Certificate and will be re-consenting subjects about FITBIR

With your consent, this study will collect and provide research data and related findings to the FITBIR informatics system. FITBIR is a biomedical informatics system and data repository created by the Department of Defense and National Institutes of Health – part of the DHHS, an agency of the U.S. Government – to assist biomedical researchers working to develop a better understanding of traumatic brain injury and/or to develop more effective methods to diagnose, treat and prevent traumatic brain injury.

Data entered into FITBIR will be kept confidential, with FITBIR being designed for access by researchers only. Data provided to FITBIR as part of you and/or your child's participation in this research study will be de-identified—i.e., you and/or your child's name will be separated from the data. However, since this institution and others submitting data to FITBIR will retain individually identifying information related to the data they provide, NIH has issued a legislatively authorized "Certificate of Confidentiality" to help FITBIR and participating institutions avoid being forced (e.g., by court subpoena) to disclose information that may identify you as an FITBIR participant in any federal, state, or local civil, criminal, administrative,

legislative, or other proceedings. Be aware that disclosure of you and/or your child's identity may be found necessary, however, upon request of DHHS for the purpose of audit or evaluation.

As you know, we have obtained a Certificate of Confidentiality from NIH that enables us to keep the individually identifiable information that you provide as a research subject private. With this Certificate, we, the investigators cannot be forced to disclose research information collected in this study that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings. This protection will continue to protect you and/or your child's privacy even though we are providing de-identified data to FITBIR.

You should also understand that a Confidentiality Certificate does not prevent you or a member of your family from **voluntarily** releasing information about your child, yourself, or your involvement in this research. Note however, that if an insurer or employer learns about you and/or your child's participation, and obtains your consent to receive research information, then the investigator may not use the Certificate of Confidentiality to withhold this information. This means that you and your family must also actively protect your own privacy.

Finally, as we explained when we told you about this privacy protection before, we, the investigators, are not prevented from taking steps, including reporting to authorities, to prevent serious harm to you and/or your child or others based on information they learn during this study. With respect to you and/or your child's participation in FITBIR, we do not plan to make voluntary disclosures except if there were severe threats to the public health or safety.

3. Language for studies without a Certificate of their own

With your consent, this study will collect and provide research data and related findings to the FITBIR informatics system. FITBIR is a biomedical informatics system and data repository created by the Department of Defense and the National Institutes of Health—part of the DHHS, an agency of the U.S. Government—to assist biomedical researchers working to develop a better understanding of traumatic brain injury and/or to develop more effective methods to diagnose, treat and prevent traumatic brain injury.

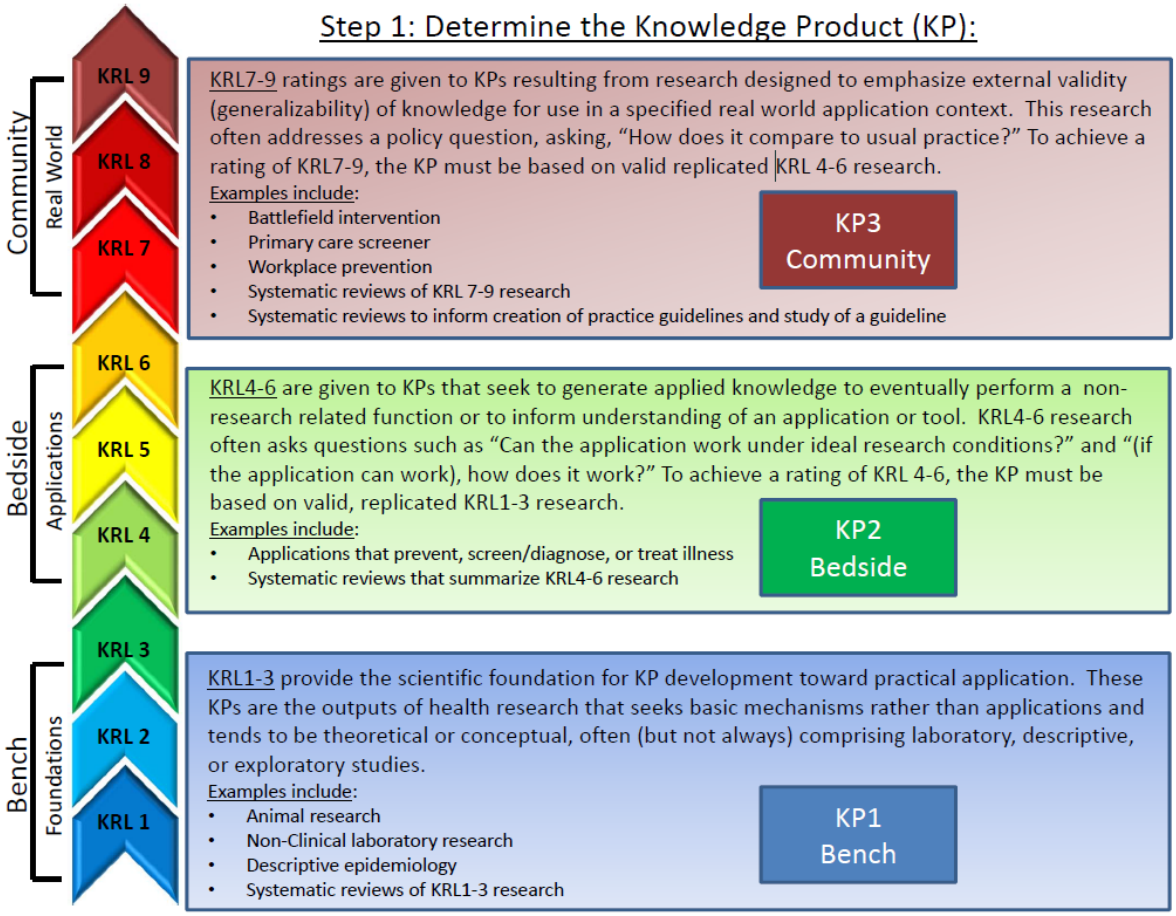
Data entered into FITBIR will be kept confidential, with FITBIR being designed for access by researchers only. Data provided to FITBIR as part of you or your child's participation in this research study will be de-identified—i.e., you and/or your child's name will be separated from the data. However, since this institution and others submitting data to FITBIR will still retain individually identifying information related to the data provided, the NIH has issued a legislatively authorized "Certificate of Confidentiality" to help FITBIR and participating institutions avoid being forced (e.g., by court subpoena) to disclose information that may identify you as an FITBIR participant in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings.

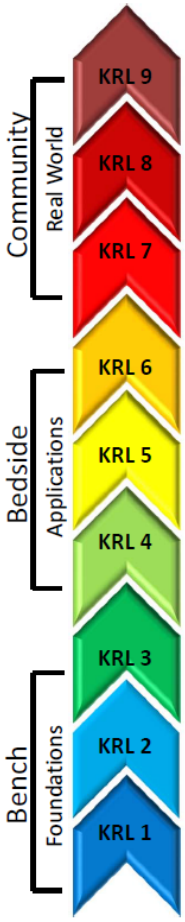
Finally, you should understand that we, the investigators, are also permitted to make voluntary disclosures with respect to information that is submitted to FITBIR, but do not plan to do so except in the event of severe threats to public health or safety. If, as part of your participation in this research study itself, we learn about serious harm to you, your child or someone else, we would take steps to prevent that harm including notifying appropriate authorities like the police or child welfare.

APPENDIX V: TECHNOLOGY READINESS LEVELS AND KNOWLEDGE READINESS LEVELS

Technology Readiness Levels: TRLs are used to categorize the product maturity of materiel solutions. The DOD's Technology Readiness Assessment Deskbook, is a reference for systematic assessment of technical maturity of relevant materiel solutions. For biomedical applications, Biomedical TRL definitions and descriptions have been developed that account for regulatory context for technology maturity and *intended context of use*. Information on Biomedical TRLs can be found in Appendix E of the DOD Technology Readiness Assessment Deskbook (July 2009, https://apps.dtic.mil/docs/citations/ADA524200).

Knowledge Readiness Levels: The scientific maturity of knowledge products resulting from biomedical research is not assessed in the same manner as that of materiel solutions. At the request of the USAMRDC, the Rand Corporation developed and released a framework to assess the relative scientific maturity of knowledge products. This process is described in a 2019 Rand Corporation Report (https://www.rand.org/pubs/research_reports/RR2127.html). The figures below represent a quick reference guide for assessing KRLs for knowledge products.





Step 2: Determine the Knowledge Readiness Level (KRL)

KRL9 research replicates or reviews well-designed KRL7 and KRL8 studies (e.g., cost analyses to achieve desired effect; comparative effectiveness studies to aid context specific policy development or intervention decisions; systematic review to estimate effect size with average participants in a real world context, assess **"Does the application work?"** in a context, or determine for which participants or time period the application works in an identified context.)

KRL8 research expands on or replicates KRL7 studies to directly assess "Does the application work in the context of interest?" It uses valid designs with emphasis on external validity (generalizability) for an intended context. (e.g., multi-site to obtain average effects; generalizable analyses of real world, (e.g., administrative) data; usual or standard care (not placebo or contact time) controls; and average (not ideal) participants.)

KRL7 research comprises early studies adapting applications supported by KRL4-6 research for use in a military health context. (e.g., adaptation from a longer screener, feasibility and standardization for post-deployment use of a brief screener; initial multi-modal tests of combined KRL4-6 supported interventions to achieve improved outcomes in primary care; adaptation and initial study in military mental health settings of KRL4-6 support therapy for PTSD; adaptation and initial study of KRL4-6 supported protective gear for preventing TBI during deployment.)

KRL6 research replicates well-designed KRL5 studies. It adds nuance to answers from completed studies (e.g., not just "Can it work" and "How," but also "For whom," "Under what conditions," or "With what frequency?") It validates hypotheses that may suggest important application contexts (e.g., battlefield, primary care, emergency rooms, post-deployment screening). It includes systematic reviews of KRL4-5 studies to address "Can it work?" and "How?" questions.

KRL5 research tests *a priori* (pre-specified) hypotheses using rigorous scientific designs (e.g., RCTs for intervention efficacy) to directly assess "Can it work" and "If so, how?" It expands on or replicates a KRL4 finding and/or improves on the design of one or more KRL4 studies.

KRL4 research generates initial knowledge regarding a human health-related application or use. KRL4 findings require subsequent replication (e.g., descriptive human epidemiology or preliminary human studies, human studies that test a clinical hypotheses, pilot tests of an intervention, screening or diagnostic tool, and development of instrumentation needed to test an intended application (e.g., outcome measure).

KRL3 research validates hypotheses and hints at future applications, research that replicates or systematically reviews well-designed KRL1-2 studies or theory, descriptive studies, particularly involving animal research (e.g., tool for prediction, prognosis, screening, diagnosis, treatment, prevention)

KRL2 research expands on or replicates a KRL1 finding, including systematic review of KRL1 studies to formulate a theoretical model (e.g., animal studies that test a hypothesis or are the first true experiment on a nascent theory and human studies not based on animal study findings that are descriptive or hypothesis generating.

KRL1 research generates initial or very early scientific knowledge without regard to or indication of a specific health use. Its purpose is inferential, with the intention to generalize. Its findings require replication. (e.g., descriptive animal studies, or those that are hypothesis generating rather than hypothesis testing.)

APPENDIX VI: REGULATORY REQUIREMENTS

A. Safety and Environmental Requirements

Based on changes to DOD compliance requirements (Department of the Army Pamphlet [DA PAM] 385-69, DA PAM 385-10, 32 CFR 651, September 6, 2012), provisions previously required for Safety and Environmental Compliance have been removed. However, in certain instances, compliance review may require submission of additional documentation prior to the awarding of any assistance agreement. Such instances may include use of Army-provided infectious agents or toxins, Biological Select Agents or Toxins, specific chemical agent(s), or pesticides outside of an established laboratory. The USAMRDC Office of Surety and Environment will identify any need for compliance review, and documents must be submitted upon request.

Additional information is available at https://mrdc.health.mil/.

B. Research Protections Review Requirements

The USAMRDC OHARO ensures that research conducted, contracted, sponsored, supported, or managed by the DOD and involving human subjects, human anatomical substances, human data, human cadavers, or animals is conducted in accordance with federal, DOD, Army, USAMRDC, and international regulatory requirements.

All DOD-funded research involving new and ongoing research with animals must be reviewed and approved by the USAMRDC OHARO Animal Care and Use Review Office (ACURO) in addition to the local IACUC of record. The ACURO must review and approve all animal use prior to the start of working with animals, including amendments to ongoing projects.

All DOD-funded research involving new and ongoing research with human anatomical substances, human subjects, human data, or human cadavers must be reviewed and approved by the USAMRDC OHARO, OHRO, prior to research implementation. This administrative review requirement is in addition to the local IRB or EC review.

PIs and applicant organizations **may not commence performance** of research involving the above, **or expend funding** on such efforts, until regulatory documents are submitted and approved by the USAMRDC Office of Research Protections to ensure that DOD regulations are met. All expectations described below are consistent with DoD Instruction (DoDI) 3216.01, "Use of Animals in DoD Programs," and DoDI 3216.02, "Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported and -Conducted Research."

Additional information is available at https://mrdc.health.mil/index.cfm/collaborate/research_protections/hrpo.

1. Research Involving Animal Use

The ACURO must review and approve all animal use funded by the award prior to the start of working with animals, including amendments to ongoing projects. IACUC approval at the time of submission is not required. Specific documents relating to the use of animals in the proposed

research will be requested if the application is selected for funding. PIs must submit the institutional animal use protocol, IACUC approval of that protocol, and a version of the animal use appendix titled "Research Involving Animals." For guidance, visit the ACURO website at https://mrdc.health.mil/index.cfm/collaborate/research_protections/acuro. ***Allow at least 3 to 4 months for regulatory review and approval processes for animal studies.***

For additional information, send questions via email to ACURO (https://mrdc.health.mil/index.cfm/collaborate/research_protections/acuro).

2. Research Involving Human Subjects

The OHRO ensures that DOD-supported research complies with specific laws, regulations, and requirements governing human subjects research. Allow up to 3 months to complete the OHRO regulatory review and approval process following submission of ***all required and complete*** documents to the OHRO. Studies taking place in international settings may require additional time for completion of OHARO OHRO reviews.

NOTE: The protocol submitted for OHRO review must include only those activities funded by the DOD, as referenced in the approved SOW. If the DOD-funded activities have been added to an ongoing/existing protocol that is not DOD-funded, OHRO will require the PI to write a stand-alone protocol that is limited to those activities supported under the DOD award.

Effective 20 January 2020, The Revised Common Rule (i.e., the 2018 Requirements) at 45 CFR 46.114(b) requires that all institutions located in the United States that are engaged in cooperative research conducted or supported by a Common Rule department or agency rely upon approval by a single IRB for the portion of the research that is conducted in the United States. These provisions apply to DOD-funded research. Applicants must provide a written plan for single IRB review arrangements at the time of application submission or award negotiation.

Questions regarding applicable human subjects protection regulations, policies, and guidance should be directed to the local IRB or the OHARO OHRO (usarmy.detrick.medcomusamrdc.otherhrpo@health.mil). For in-depth information and to access OHRO protocol submission forms, refer to the OHARO OHRO website (https://mrdc.health.mil/index.cfm/collaborate/research_protections/hrpo). Key requirements found in the OHARO OHRO guidance document, "Information for Investigators – Human Subjects Research," include:

- **Assurance of Compliance:** Each institution engaged in non-exempt human subjects research must have a current DHHS Office for Human Research Protection Federal-Wide Assurance or DOD Assurance.

- **Training:** Personnel involved in human subjects research must have completed appropriate training in the protection of human subjects per institutional requirements. Documentation confirming completion of appropriate training will be required during the OHARO OHRO review process.

- **Informed Consent Form:** The following must appear in the consent form:

- A statement that the DOD is providing funding for the study.
- A statement that representatives of the DOD are authorized to review research records.
- In the event that HIPAA authorization is required, the DOD must be listed as one of the parties to whom private health information may be disclosed.

- **Access to DOD-Affiliated Personnel for Research:** See the guidance document, "A Primer for Conducting DOD Funded Human Research With Military Populations," at Conducting_Research_Military_Pop_DoD_May_2021.pdf.

- **10 USC 980 Waiver:** If the applicant proposes to conduct a trauma clinical trial or other planned emergency research subject to the requirements for exception from advanced informed consent under 21 CFR 50.24, the applicant should plan for 3-6 months of additional time for the OHARO OHRO to review the submission and request a waiver of 10 USC 980 from the Secretary of the Army or the DOD Office of Human Research Protections.

3. Research Involving the Secondary Use of Data/Specimens

Research involving the use of human data and/or specimens not otherwise subject to institutional review requires a determination letter (e.g., stating that the project does not constitute "human subjects research" or can be considered "exempt human subjects research") from the PI's human subjects protection office as well as a concurrence from the OHARO OHRO.

All USAMRDC-supported research involving the secondary use of human data, human biospecimens (hereafter referred to as data/specimens) must be reviewed for compliance with federal and DOD human subjects protection requirements and approved by the OHARO OHRO prior to implementation. For additional guidance and instructions on OHARO OHRO review of DOD-funded research activities involving access, use, and analysis of data/specimens, see the guidance document, "Information for Investigators – Research with Data/Specimens," found at https://mrdc.health.mil/index.cfm/collaborate/research_protections/hrpo

NOTE: The protocol submitted for OHRO review should include only those activities funded by the DOD, as referenced in the SOW. If the DOD-funded activities have been added to an ongoing/existing protocol that is not DOD-funded, OHRO will require the PI to write a stand-alone protocol that is limited to those activities supported under the DOD award.

4. Additional Information/Requirements

Site Visits: The USAMRDC OHARO OHRO conducts site visits as part of its responsibility for compliance oversight.

Accurate and complete study records must be maintained and made available to representatives of USAMRDC as a part of their responsibility to protect human subjects in research. Research

records must be stored in a confidential manner so as to protect the confidentiality of subject information.

Protocol Submission Format: The OHARO OHRO accepts protocol submissions in the format required by the local IRB. The IRB protocol application, if separate from the protocol itself, should be included with protocol submissions.

Research Involving the FDA-Regulated Products (i.e., drugs, devices, in vitro diagnostics) in which the focus of the study is on the safety or effectiveness of the product requires IRB review in accordance with 21 CFR 50 and 21 CFR 56.

Clinical Trial Registry: PIs are required to register applicable clinical trials individually on https://clinicaltrials.gov/ using a Secondary Protocol ID number designation of "CDMRP-eBRAP Log Number" (e.g., CDMRP-PC22####). If several protocols exist under the same application, the Secondary Protocol ID number must be designated "CDMRP-eBRAP Log Number-A, B, C, etc." (e.g., CDMRP-PC22####-A). Clinical trials must be registered prior to enrollment of the first patient. All trials that meet the definition on the NIH database (see https://prsinfo.clinicaltrials.gov/, click on "Support Materials (including data element definitions)") are required to register. Failure to do so may result in a civil monetary penalty and/or the withholding or recovery of grant funds as per U.S. Public Law 110-85. PIs conducting phase 3 clinical trials shall submit results of analyses of group differences on the basis of sex/gender, race, and/or ethnicity to https://www.clinicaltrials.gov/ at the time of final report submission. If final analyses of sex/gender and race/ethnicity are not available at the time of the final technical report, a justification and plan ensuring completion and reporting of the analyses must be submitted to USAMRAA.

Research Involving Recombinant DNA: The recipient must assure that all work involving the use of recombinant DNA will be in compliance with guidance provided at Biosafety and Recombinant DNA Policy – Office of Science Policy (nih.gov).

5. Use of Human Cadavers or Human Anatomical Substances Obtained from Human Cadavers

Research, development, test and evaluation (RDT&E), education, or training activities involving human cadavers or human anatomical substances obtained from cadavers (postmortem samples) shall not begin until the USAMRDC OHARO grants approval in accordance with the Army Policy for Use of Human Cadavers for RDT&E, Education, or Training (https://mrdc.amedd.army.mil/assets/docs/orp/Army_Policy_for_Use_of_Human_Cadavers.pdf). The USAMRDC OHARO is the Action Office for this Army policy. **Additional requirements apply to activities involving exposure of cadavers to impacts, blasts, ballistics testing, crash testing, and other destructive forces.**

Award recipients must coordinate with the supporting/funding Army organization to ensure that proper approvals are obtained. Specific requirements for submission and review of RDT&E, education, and training involving cadavers and postmortem specimens can be found at https://mrdc.amedd.army.mil/index.cfm?pageid=research_protections.hrpo.

Written approvals to begin the activity will be issued under separate notification to the recipient. Questions regarding submission of human cadaver research for USAMRDC OHARO review and approval should be directed to the OHARO at usarmy.detrick.medcom-usamrmc.other.hrpo@health.mil.

6. Large-Scale Genomic Data (LSGD) Collected from DoD-affiliated Personnel

Disclosure of DOD-affiliated personnel's LSGD may pose a national security risk; accordingly, such research (including the secondary use or sharing of identified or de-identified data or specimens) requires inclusion of administrative, technical, and physical safeguards commensurate with risk. The study must undergo security review and additional approvals by the USAMRDC Office of Human and Animal Research Oversight, USAMRDC Headquarters, and DOD Office of Human Research Protections to ensure the adequacy of the proposed administrative, technical, and physical safeguards. These requirements do not apply to incidental participation of DOD-affiliated personnel in research that enrolls a broader population, and does not extend to research on targeted genes, genotypes, or phenotypes that are non-large-scale. DOD-affiliated personnel include Service Members, Reserve Service Members, National Guard members, DOD civilians, and DOD contractors. DOD-funded research involving LSGD collected from DOD-affiliated personnel may require that the performer obtain a NIH Certificate of Confidentiality (https://grants.nih.gov/policy/humansubjects/coc/how-to-apply.htm). If selected for funding, performers must take these additional requirements into consideration when developing timelines and milestones.

C. Use of DOD or VA Resources

If the proposed research involves access to active-duty military patient populations and/or DOD resources or databases, the application must describe the access at the time of submission and include a plan for maintaining access as needed throughout the proposed research. Access to the target active-duty military patient population(s) and/or DOD resource(s) or database(s) should be confirmed by including a letter of support, signed by the lowest-ranking person with approval authority.

If the proposed research involves access to VA patient populations, VA study resources and databases, and/or VA research space and equipment, VA PIs/Co-PIs must have a plan for obtaining and maintaining access throughout the proposed research. Access to VA patients, resources, and/or VA research space should be confirmed by including a letter of support from the VA Facility Director(s) or individual designated by the VA Facility Director(s), such as the Associate Chief of Staff for Research and Development (ACOS/R&D) or Clinical Service Chief. If appropriate, the application should identify the VA-affiliated non-profit corporation (NPC) as the applicant institution for VA PIs. If the VA NPC is not identified as the applicant institution for administering the funds, the application should include a letter from the VA ACOS/R&D confirming this arrangement and identifying the institution that will administer the funds associated with the proposed research.

Access to certain DOD or VA patient populations, resources, or databases may only be obtained by collaboration with a DOD or VA investigator who has a substantial role in the research and may not be available to a non-DOD or non-VA investigator if the resource is restricted to DOD

or VA personnel. Investigators should be aware of which resources are available to them if the proposed research involves a non-DOD or non-VA investigator collaborating with the DOD and/or VA. If access cannot be confirmed at the time of application submission, the government reserves the right to withdraw or revoke funding until the PI has demonstrated support for and access to the relevant population(s) and/or resource(s).

APPENDIX VII: REPORTING REQUIREMENTS AND ADMINISTRATIVE INFORMATION

A. Reporting Requirements for Awards

The government requires periodic reports to be submitted to continue the research and funding through the entire period of performance. Specific reports required by the government will be described in each award and may include:

- Technical/Scientific:
    - In addition to annual progress reports, the Terms and Conditions of the award will indicate any additional reporting required.
    - Final progress report
    - Quad Chart: The Quad Chart template is a one-page Word document or PowerPoint file that must be downloaded from eBRAP at https://ebrap.org/eBRAP/public/Program.htm, and as an attachment to a standard post-award progress report under Special Reporting Requirements if required by the terms and conditions of the award.
    - USAMRDC research progress reporting requirements and instructions can be found at https://mrdc.health.mil/index.cfm/resources/researcher_resources/reporting/technical.
- Fiscal (SF425 "Federal Financial Report")
    - Annual reports
    - Final report
- Regulatory:
    - Research Involving Human Subjects: For DOD awards that include funding to support research with human subjects, the USAMRDC's OHRO requires submission of institutional continuing review reports and study event reports. Instructions are found at https://mrdc.health.mil/index.cfm/collaborate/research_protections/hrpo.
    - The USAMRDC's OHRO will no longer require submission of local IRB annual continuing review materials for studies that no longer require continuing review under the 2018 Revised Common Rule (49 CFR Part 11).
    - Research Involving Animals: For DOD awards that include funding to support animal studies, staff from the USAMRDC's ACURO will contact the PI regarding submission requirements and deadlines. Questions related to ACURO review and approval should be directed to the ACURO central email account at usarmy.detrick.medcom-usamrdc.other.acuro@health.mil.

- PHS Inclusion Enrollment Report: This is used to report the sex/gender, race, and ethnicity of study participants that will be enrolled in the clinical research (both planned and actual). The PHS Inclusion Enrollment Report is a three-page fillable PDF form that may be downloaded from eBRAP at https://ebrap.org/eBRAP/public/Program.htm and completed for submission with the application.

B. Post-Award Organization and Principal Investigator Changes

Transfer of Award to New Organization: Unless restricted by the specific program announcement, a change in organizational affiliation will be considered on a case-by-case basis by the CDMRP CRRP Program Manager. If approved, the PI's original organization will be required to agree to relinquish the award. The new organization will be required to resubmit the entire application on behalf of the PI, including regulatory documentation. Extended times for transfer may put the award funding at risk. A transfer will not, unless under extraordinary circumstances, be allowed for any organization that includes a study site/clinical trial at its location. Organization transfers are not allowed in the last year of the performance period.

Change in PI: Unless otherwise restricted, changes in PI will be allowed at the discretion of the CDMRP CRRP Program Manager, provided that the intent of the award mechanism is met.

C. Disclosure of Proprietary Information

Do not include proprietary or confidential information in a pre-application or abstract. Proprietary information should only be included in a full application if necessary for evaluation.

Evaluators must agree that proprietary or confidential information in the application will be used for evaluation purposes only and will not be further disclosed or used. All applications may be subject to public release under the Freedom of Information Act (FOIA).

Applications for funded projects will be subject to public release under the FOIA to the extent that they are incorporated in an award document; applications that are not selected for funding will not be subject to public release.

D. Marking of Proprietary Information

Conspicuously and legibly mark any proprietary or confidential information that is included in the application.

E. Inquiry Review Process

Although not required by law or acquisition regulation, the CDMRP offers a courtesy to all applicants in an effort to maintain high integrity in its review processes. If an application is not recommended for funding and a factual or procedural error is believed to have occurred during the review of the application, the organization or PI may submit an inquiry within 15 business days after the notification email is sent. Inquiries submitted after 15 business days will not be considered.

The inquiry must specifically address a factual or procedural error that is believed to have occurred during review of the application, as defined below:

- **Factual error:** An error in the review (peer or programmatic) that is restricted to, or based on, fact. Differences of opinion between reviewers or between reviewer(s) and an applicant are not factual errors.

- **Procedural error:** An error in the review (peer or programmatic) that is restricted to review process adherence. Review process did not follow the procedures as outlined in the program announcement describing peer and programmatic review (e.g., documents requested in the program announcement and submitted with the original application were left out of the peer or programmatic review package).

Inquiries should be submitted through the CDMRP Help Desk at help@eBRAP.org. An inquiry review panel consisting of CDMRP staff will determine whether an error occurred in either peer or programmatic review and, if so, recommend corrective action where appropriate. The determination of an error in the review process is not a guarantee of funding. The final determination of the inquiry review panel and the funding decision are not subject to appeal. Questions related to the inquiry review process prior to or after submitting an inquiry should be directed to the CDMRP Help Desk at help@eBRAP.org.

F. Information Service

Applicants may use the technical reference facilities of the U.S. Department of Commerce National Technical Information Service (https://www.ntis.gov) to obtain information about existing research to avoid duplication of scientific and engineering effort.

G. Freedom of Information Act Requests

The FOIA (5 USC 552) provides a statutory basis for public access to official government records. The definition of "records" includes documentation received by the government in connection with the transaction of public business. Records must be made available to any person requesting them unless the records fall under one of nine exceptions to the Act (www.usdoj.gov/oip/index.html).

When a FOIA request asks for information contained in a successful application that has been incorporated into an award document, the submitter will be contacted and given an opportunity to object to the release of all or part of the information that was incorporated. A valid legal basis must accompany each objection to release. Each objection will be evaluated by USAMRDC in making its final determination concerning which information is or is not releasable. If information requested is releasable, the submitter will be given notice of USAMRDC's intent to release and will be provided a reasonable opportunity to assert available action.

H. Information Release

A recipient of an award will be required to agree to the release of information pertaining to the research and development supported by the federal agency. "Information" includes but

is not limited to news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association meetings, and symposia.

The following statements must be included in all information releases:

(1) All releases shall identify the award number and include a statement acknowledging the federal sponsoring agency. The release shall also contain a statement that the opinions, interpretations, conclusions, and recommendations are those of the author and are not necessarily endorsed by the DOD. The requirement with specific language will be included in the award notice. Below is an example:

"This work was supported by the Office of the Assistant Secretary of Defense for Health Affairs and the Defense Health Agency J9, Research and Development Directorate, or the U.S. Army Medical Research Acquisition Activity at the U.S. Army Medical Research and Development Command, in the amount of (*insert total costs*), through the (*insert program name*) under Award No. (HT9425-23-1-XXXX). Opinions, interpretations, conclusions and recommendations are those of the author and are not necessarily endorsed by the Department of Defense."

(2) "In conducting research using animals, the investigator(s) adheres to the laws of the United States and regulations of the Department of Agriculture." Include required assurances, approvals, documents and information specified on the ACURO website. (https://mrdc.health.mil/index.cfm/collaborate/research_protections.acuro).

(3) "In the conduct of research utilizing recombinant DNA, the investigator adhered to NIH Guidelines for research involving recombinant DNA molecules." (https://www.nih.gov/)

(4) "In the conduct of research involving hazardous organisms or toxins, the investigator adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories." (https://www.cdc.gov/safelabs/resources-tools.html)

Failure to include the above statements and adhere to the above regulations, when required, may result in loss of funding.

I. Sharing of Application Information

The USAMRDC shares application information with other federal funding agencies (e.g., NIH, National Science Foundation, VA) to inform funding priorities and decisions, and to increase transparency. In addition, award data are made available to the public through the CDMRP website and to other organizations such as the International Cancer Research Partnership. By sharing and leveraging this information, duplication of effort can be avoided, allowing for the support of more investigators with federal funds. The CDMRP believes that such sharing allows for a more expeditious translation of research results into knowledge, products, and procedures to improve human health. Updates on CDMRP-funded awards including awardee information and published results are shared on the Defense Technical Information Center.

J. Sharing of Data and Research Resources

The CDMRP intends that information, data, and research resources generated under awards funded by the program announcement be made available to the research community (which includes both scientific and consumer advocacy communities) and to the public at large.

Data and research resources generated by funded research should be made available to the research community (which includes both scientific and consumer advocacy communities) and to the public. The expectations for sharing of data and research resources apply to all types of research funded by the program announcement. This includes all data and research resources generated during the project's period of performance as annotated in the assistance agreement:

- **Unique Data** are defined as data that cannot be readily replicated. Examples of unique data include large research data collections that are expensive to replicate; studies of unique populations, such as patients to whom access is not widely available; studies conducted at unique times, such as during military conflict; studies of rare phenomena, such as rare diseases. (Adapted from https://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm#unique.)

- **Final Research Data** are defined as recorded factual material commonly accepted in the scientific community as necessary to document and support research findings. These are not the summary statistics or tables; rather, final research data are the data on which summary statistics and tables are based. Final research data do not include laboratory notes or notebooks, partial datasets, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as gels or laboratory specimens. (Adapted from https://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm#unique.)

- **Research Resources** include, but are not limited to, the full range of tools that scientists and technicians use in the laboratory, such as cell lines, antibodies, reagents, animal models, growth factors, combinatorial chemistry, DNA libraries, clones and cloning tools, methods, laboratory equipment and machines. (Adapted from https://grants.nih.gov/grants/intell-property_64FR72090.pdf.)

Data and research resources generated from CDMRP-funded research should be made as widely available as possible while safeguarding the privacy of participants and protecting confidential and proprietary data and third-party intellectual property.

By sharing and leveraging data and research resources, duplication of effort can be avoided, allowing for the support of more investigators with federal funds. The USAMRDC believes that such sharing allows for a more expeditious translation of research results into knowledge, products, and procedures to improve human health. Depending on the project, the PI may be required to participate in the following:

- Traumatic Brain Injury: If the project includes TBI research, the PI is required to make TBI data generated via an award available to the research community by depositing de-identified research data into the FITBIR Informatics System (https://fitbir.nih.gov).

- Clinical Trials: If the project includes a clinical trial(s), the PI is required to register the clinical trial(s) individually on the registry and database ClinicalTrials.gov (https://www.clinicaltrials.gov/).

For additional information on CDMRP's expectations and policies for data-sharing, refer to "Policy on Sharing Data & Research Resources," available on eBRAP under Resources and Reference Material at https://ebrap.org/eBRAP/public/Program.htm. For unique data-sharing guidelines and requirements, refer to the instructions in this program announcement.

APPENDIX VIII: FORMATTING GUIDELINES

All pre-application and application documents must be legible and should conform to the formatting guidelines described below. The font size, spacing, page size, and margins may differ among the word processing, PDF, and printed versions. These guidelines apply to the document properties of the electronic version of the PDF file(s) as viewed on a computer screen.

- **Document Format:** Each attachment to the full application forms must be uploaded as an individual file in the format specified in the program announcement. All contributors to the application must use matching compatible versions of Adobe software for all PDF documents when editing and preparing application components. The use of different software versions will result in corruption of the submitted file.
- **Font Size:** 12 point, not condensed.
- **Font Type:** Times New Roman.
- **Spacing:** Single space or no more than six lines of type within a vertical inch (2.54 cm).
- **Page Size:** No larger than 8.5 inches x 11.0 inches (21.59 cm x 27.94 cm).
- **Margins:** At least 0.5 inch (1.27 cm) in all directions.
- **Print Area:** 7.5 inches x 10.0 inches (19.05 cm x 25.40 cm).
- **Color, High-Resolution, and Multimedia Objects:** Project narratives and pre-application files may include color, high-resolution, or multimedia objects (e.g., MPEG, WAV, or AVI files) embedded in the PDF files; however, these objects should not exceed 15 seconds in length and a size of 10 MB. Photographs and illustrations must be submitted in JPEG format; bitmap and TIFF formats are not allowed. Please note that these types of objects are not allowed in the technical and public abstracts.
- **Scanning Resolution:** 100 to 150 dots per inch.
- **Internet URLs:** URLs, or web addresses, directing reviewers to websites that contain additional information about the proposed research are not allowed in the application or its components. Inclusion of such URLs may be perceived as an attempt to gain an unfair competitive advantage. However, links to publications referenced in the application are encouraged.
- **Language:** All documents must be submitted in English, unless otherwise specified in the program announcement (e.g., foreign transcripts submitted with English translations).
- **Headers and Footers:** Should not be used. Pre-existing headers and footers on required forms are allowed.
- **Page Numbering:** Should not be used.

- **Recommended Attachment Size:** Individual attachments should be no larger than 20 MB.

APPENDIX IX: BUDGET INSTRUCTIONS

An estimate of the total proposed research project cost, with a breakdown of all cost categories for each year, must be submitted on the Suggested DOD Military Budget Format and Justification form. For limits on funding amounts, types of costs, and period of performance, refer to Section II.D.4, Funding Restrictions. The budget and budget justification should include sufficient detail for the government to determine whether the proposed costs are allowable, allocable, and reasonable for the proposed research. ***The budget justification for the entire period of performance must be uploaded to the Research & Related Budget after completion of the budget for Period 1.*** At the time of application submission to Grants.gov, the AOR is certifying to the best of their knowledge that all costs are current, accurate, and complete.

If the budget fails eBRAP validation or needs to be modified, an updated Grants.gov application package must be submitted via Grants.gov as a "Changed/Corrected Application" with the previous Grants.gov Tracking ID prior to the application submission deadline.

No budget will be approved by the government exceeding the cost limit stated in the specific program announcement or using an indirect rate exceeding the organization's negotiated rate.

DOD Civilian and Military Personnel: Personnel involved in the project should be listed in this section; however, this award is not intended to provide salary support for any federal employee, as those costs were to have been included in infrastructure costs. If salary support is requested, sufficient justification must be provided in the budget justification section.

- **Name:** Beginning with the PI, list all participants who will be involved in the project during the initial budget period, whether or not salaries are requested. Include all collaborating investigators, research associates, individuals in training, mentor (if applicable), and support staff.

- **Role on Project:** Identify the role of each participant listed. Describe their specific functions in the proposed research in the budget justification.

- **Type of Appointment (Months):** List the number of months per year reflected in an individual's contractual appointment with the applicant organization. The government assumes that appointments at the applicant organization are full time for each individual. If an appointment is less than full time (e.g., 50%), note this with an asterisk (*) and provide a full explanation in the budget justification. Individuals may have split appointments (e.g., for an academic period and a summer period). For each type of appointment, identify and enter the number of months on separate lines.

- **Annual Base Salary:** Enter the annual organizational base salary (based on a full-time appointment) for each individual listed for the project.

- **Effort on Project:** List the percentage of each appointment to be spent on this project for all staff members including unpaid personnel.

- **Salary Requested:** Enter the salary for each position for which funds are requested. This is calculated automatically from the data provided. If you do not wish this to be calculated for you, uncheck the small "Calculate Salary" checkbox located in the lower portion of the field. Calculate the salary request by multiplying an individual's organizational base salary by the percentage of effort on the project.

- **Fringe Benefits:** Enter the fringe benefits requested for each individual in accordance with organizational guidelines.

- **Totals:** Calculated automatically from the data provided.

- **Major Equipment:** Provide an itemized list of proposed equipment, showing the cost of each item. Equipment is any article of nonexpendable tangible property having a useful life of more than 1 year and an acquisition cost of $5,000 or more per unit.

- **Materials, Supplies, and Consumables:** The budget justification for supporting material and supply (consumable) costs should include a general description of expendable material and supplies.

- **Travel Costs:** PIs are responsible for budgeting for all costs associated with travel, including airfare, hotel, etc., associated with the trip. Anticipated travel costs should be built into the budget at current or projected DOD per diem rates. Travel costs may include:

    - Travel costs for the PI to attend a required In-Progress Review meeting each year.

    - Travel costs for up to one investigator to travel to one scientific/technical meeting per year.

    - Travel costs between collaborating organizations.

- **Research-Related Subject Costs:** Include itemized costs of subject participation in the proposed research. These costs are strictly limited to expenses specifically associated with the proposed research.

- **Other Direct Costs:** Itemize other anticipated direct costs such as publication and report costs, equipment rental (provide hours and rates), communication costs, and organizationally provided services. Unusual or expensive items should be fully explained and justified. Estimate the costs of publishing and reporting research results, including direct charges for clerical services, illustrations, reprints, and distribution. Organizationally provided services should be supported by the organization's current cost/rate schedule. These items should be described in detail and clearly justified.

- **Contract Costs (Partnership/Collaboration Costs):** Should an intramural organization propose collaboration with an extramural entity for part of the research effort, the intramural organization will receive all funds and is responsible for executing all necessary contractual or assistance funding awards to collaborating partners through the agency's procedures. **All direct and indirect costs of any partnership/collaboration**

costs must be included in the total direct costs of the primary award. The nature of the partnership/collaboration should be described in the Budget Justification section.

- **Total Direct Costs:** Calculated automatically from the data provided for the initial budget period and for the entire proposed period of support.

- **Total Indirect Costs:** If funds for indirect costs are requested, sufficient justification must be provided in the Justification section. The government reserves the right to disallow any indirect costs not sufficiently justified. All direct and indirect costs of any proposed collaborator must be included in the total direct costs of the primary award. Refer to Section II.D.4, Funding Restrictions for detailed information.

- **Total Costs:** This section is calculated automatically from the data provided.

- **Fee:** A profit or fixed fee is not allowable on awards or on subawards.

  ***Budget Justification Instructions*:** Provide a clear budget justification for each item in the budget over the entire period of performance in the Justification section of the Suggested DOD Military Budget. Itemize direct costs within each budget category for additional years of support requested beyond year one.

- **Federal Agency Financial Plan (required):** Provide a detailed Federal Agency Financial Plan after the budget justification information in the DOD Military Budget. The plan delineates how all FY23 funding will be obligated by **September 30, 2024**. The plan must include the funding mechanism(s) or contractual arrangements that will be used to carry over funds between fiscal years, if applicable. Any FY23 funding not obligated by September 30, 2024 may be withdrawn by the issuing.

APPENDIX X: NATIONAL POLICY REQUIREMENTS

The National Policy Requirements are available in full text at https://usamraa.health.mil/Pages/Resources.aspx. For additional regulatory requirements regarding safety, surety, and environmental requirements, and for use of animal and human subjects in research, refer to Appendix VI.

A. Certification

Certification of compliance with the national policy requirement regarding lobbying activities is required from all recipients of awards over $100,000. Submission of this certification is required by 31 USC 1352 and is a prerequisite for making or entering into an award over $100,000. Complete SFLLL (Disclosure of Lobbying Activities), if applicable, and attach to Block 18 of the SF424 (Research & Related) (Application for Federal Assistance) Form.

Certification for Contracts, Grants, Loans, and Cooperative Agreements

By signing an application, the applicant certifies, to the best of his or her knowledge and belief, that:

> (1) No federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, and the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
>
> (2) If any funds other than federal appropriated funds have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit SFLLL (Disclosure of Lobbying Activities), in accordance with its instructions.
>
> (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 1352 USC 31. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

B. Representations

Extramural applicants are required to complete the representations below and submit with each application only if the organization is a Corporation and the response to item (2) or (3) is in the affirmative. The form for completion and submission is posted in eBRAP (https://ebrap.org/eBRAP/public/Program.htm). Upload the form into Grants.gov under Attachments.

Representations Regarding Unpaid Federal Tax Liabilities and Conviction of Felony Criminal Violations Under Any Federal Law

At the time of application submission, the applicant organization represents that it:

(1) Is _____ Is not _____ a Corporation ("Corporation" means any entity, including any institution of higher education, other non-profit organization, or for-profit entity that has filed articles of incorporation). If the organization is a corporation, complete (2) and (3) below.

(2) Is_____ Is not _____ a Corporation that has any unpaid federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

(3) Is____ Is not _____ a Corporation that was convicted of a criminal violation under any federal law within the preceding 24 months.

NOTE: If the applicant organization responds in the affirmative to either (2) or (3) of the above representations, the applicant is ineligible to receive an award unless the agency suspension and debarment official has considered suspension or debarment and determined that further action is not required to protect the government's interests. The applicant organization therefore will be required to provide information about its tax liability and/or conviction, upon request, to the Grants Officer, to facilitate completion of the required consideration before award decisions are made.

In accordance with DOD appropriations, the following representation is required. The applicant, by its signature on the SF424 Research & Related, represents:

Representation Regarding the Prohibition on Using Funds Under Grants and Cooperative Agreements with Entities That Require Certain Internal Confidentiality Agreements

By submission of its application, the applicant represents that it does not require any of its employees, contractors, or subrecipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting those employees, contractors, or subrecipients from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a federal department or agency authorized to receive such information. Note that (1) the basis for this representation is a prohibition in Section 743 of the Financial Services and General Government Appropriations Act, 2015 (Division E of the Consolidated and Further Continuing Appropriations Act, 2015, Public Law 113-235) and any successor provision of law on making funds available through

grants and cooperative agreements to entities with certain internal confidentiality agreements or statements; and (2) Section 743 states that it does not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a federal department or agency governing the nondisclosure of classified information.

National Policy Requirements

The recipient must comply with the following requirements, as applicable. The full text of National Policy Requirements is available at https://www.nre.navy.mil/work-with-us/manage-your-award/manage-grant-award/grants-terms-conditions. Awards will incorporate the most recent set of National Policy Requirements available at the time of award.

- Nondiscrimination
- Environmental Standards
- Live Organisms (Human Subjects and Animals)
- Debarment and Suspension
- Drug-Free Workplace
- Lobbying
- Officials Not to Benefit
- Hatch Act
- Native American Graves Protection and Repatriation Act
- Fly America Act
- Use of United States Flag Vessels
- Research Misconduct
- Requirements for an Institution of Higher Education Concerning Military Recruiters and Reserve Officer Training Corps
- Historic Preservation
- Relocation and Real Property Acquisition
- Confidentiality of Patient Records
- Pro-Children Act
- Constitution Day
- Trafficking in Persons
- Whistleblower Protections
- Certain Internal Confidentiality Agreements
- FY21 National Defense Authorization Act, Section 223(a), (a1) U.S. Code Title 18 Section 1001