I. OVERVIEW OF THE FUNDING OPPORTUNITY

Program Announcement for the Department of Defense

Defense Health Program

Congressionally Directed Medical Research Programs

Joint Warfighter Medical Research Program

Military Medical Research and Development Award

Intramural Funding Opportunity

Announcement Type: Initial

Funding Opportunity Number: W81XWH-22-JWMRP-MMRDA

Catalog of Federal Domestic Assistance 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), May 16, 2022

- **Invitation to Submit an Application:** June 16, 2022

- **Application Submission Deadline:** 11:59 p.m. ET, July 28, 2022

- **End of Application Verification Period:** 5:00 p.m. ET, August 2, 2022

- **Peer Review:** September 2022

- **Programmatic Review:** November 2022

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II. DETAILED INFORMATION ABOUT THE FUNDING OPPORTUNITY

NOTE: 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. This funding opportunity announcement is intended for intramural applicants only. ***Intramural Submission: 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 academia, biotechnology companies, foundations, government, 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 Submissions from extramural investigators to this funding opportunity announcement will be withdrawn.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: 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 W81XWH-22-S-JWMRP.

II.A. Program Description

Applications to the Fiscal Year 2022 (FY22) Joint Warfighter Medical Research Program (JWMRP) Military Medical Research and Development Award (MMRDA) are being solicited by the U.S. Army Medical Research Acquisition Activity (USAMRAA) using delegated authority provided by United States Code, Title 10, Section 2358 (10 USC 2358). 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 JWMRP was initiated in 2012 to augment and accelerate high-priority DOD and Service medical requirements and to continue prior year initiatives that are close to achieving their objectives and yielding a benefit to military medicine. The ultimate goal of the program is to expedite the delivery of highly impactful medical solutions to Service Members and Military Health System (MHS) beneficiaries, thus the Service advanced product development communities are critical partners in executing the JWMRP. Appropriations for the JWMRP from FY12 through FY21 totaled $530 million (M). The FY22 appropriation is $40M.

Congressional direction stipulates that the funds from the JWMRP shall not be used for new projects or for basic research. To be eligible for JWMRP funding, applicants must have already received DOD core or DOD Congressional Special Interest prior year funding (including DOD

Small Business Innovation (SBIR)/Small Business Technology Transfer (STTR) awards) for the same project proposed for continuation under this MMRDA. The funding shall be awarded at DOD discretion following a review of medical research and development gaps as well as unfinanced medical requirements of the Services. The projects funded through this appropriation are expected to benefit both civilian and military communities, with particular focus on initiatives that impact our forward deployed Forces and rehabilitation efforts for injured military.

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

II.A.1. FY22 JWMRP Focus Areas

The JWMRP Programmatic Panel identified the following Focus Areas as the highest priorities for FY22 JWMRP funding to meet critical research and development gaps and Service medical requirements. **To be considered for funding, applications to the FY22 JWMRP must address at least one of the Focus Areas listed under the categories below**.

Endemic and Emerging Disease Threats

- Preventative measures for infectious diseases, including combat wound care in austere and prolonged field care environments

- Therapeutic measures for infectious diseases, including combat wound care in austere and prolonged field care environments

- Capabilities to support conducting real-time research during the response to identify and characterize emerging biothreats and develop unique and pan-pathogen response tools in order to improve response and recovery and enhance capabilities to conduct clinical research at the onset of a bio-incident

Operational Medicine and Readiness

- Research aimed toward injury prevention, rapid return-to-duty capabilities, and rehabilitation solutions to maintain Service Member readiness (musculoskeletal and neurosensory)

- Artificial intelligence/machine learning and biotechnology applications to enhance health and medical surveillance critical to identifying biothreats and bio-incidents, impacts from climate and environmental change, and exposures to chemicals and physical stressors in military operations

- Tools and technologies (e.g., digital phenotyping with wearable technologies) to improve detection, prevention, and treatment for behavioral health conditions

- Mechanism-based criteria and injury prediction models for ballistic and/or blast-induced head injuries from a wide range of loading regimes seen with current and likely future weapons systems, with the goal of informing the development of more effective helmet protection

Environmental Medicine

- Metrics/measures to determine Service Member environmental susceptibilities and enhance Service Member health and performance in operational extremes (environmental/climatic), particularly Arctic, high altitude, or surface/undersea conditions

Combat Casualty Care

- Modernized combat casualty care capabilities that can deliver life-saving care at the point of injury, enable prolonged casualty care, provide advanced resuscitative and damage control surgical care, and long-distance en route care consistent with the demands of an all domain battlespace against a near peer competitor:

  - Tools that enhance medical decision-making capabilities and reduce cognitive burden on medical providers and Warfighters (e.g., artificial intelligence-based clinical decision support, augmented reality systems, procedural telementoring capabilities)

  - Autonomous care and evacuation capabilities that augment the individual medic/ Warfighter or system in order to increase the capability and capacity for casualty response

  - Novel solutions for non-compressible torso hemorrhage

  - Intelligent imaging technologies that provide increased diagnostic capability in the forward operating environment, particularly those that can identify life-threatening hemorrhage or neurologic injuries or facilitate early return to duty for less severe injuries

  - Solutions to enhance the provision of combat casualty care (including tactical combat casualty care, en route care, and damage control surgery) in extreme cold weather environments

  - Solutions that improve the combat casualty care system's ability to manage large numbers of casualties including improved triage, medical regulating, and evacuation capabilities

- Validated training platforms for the acquisition and retention of knowledge, skills, and abilities aligned to wartime medical specialties of the operational force while refining, reducing, and replacing use of live tissue

II.A.2. Award History

JWMRP awards were first offered in FY12. Since the inception of the JWMRP, a total of 169 individual projects have received funding.

II.B. Award Information

This MMRDA mechanism is **intended to support a logical continuation of previously funded, prior year research or development efforts relevant to the above FY22 JWMRP Focus Areas** with the highest potential to augment and accelerate medical product development and healthcare solutions for military Service Members, Veterans, their families, other MHS beneficiaries, and/or the American public. All invited applicants must submit full applications in accordance with the procedures outlined in this funding opportunity announcement. Funds designated for DOD laboratories or activities should be identified in the application through submission of a "Suggested DOD Military Budget Format".

Funding from this award mechanism may be used for a wide range of research projects spanning preclinical studies, translational and technology development, clinical studies (including correlative studies and initial safety and efficacy testing of promising drug and vaccine candidates, medical devices and technologies), and phase 1, phase 2, or phase 3 clinical trials.

Clinical research is defined as: (1) Patient-oriented research. Research conducted with human subjects (or on material of human origin such as tissues, specimens, and cognitive phenomena) for which an investigator (or colleague) directly interacts with human subjects. Excluded from this definition are in vitro studies that utilize human tissues that cannot be linked to a living individual. Patient-oriented research includes: (a) mechanisms of human disease, (b) therapeutic interventions, (c) clinical trials, and (d) development of new technologies; (2) epidemiologic and behavioral studies; and (3) outcomes research and health services research. *Note:* Studies that meet the requirements for Institutional Review Board (IRB) Exemption 4 are not considered CDMRP-defined clinical research. IRB Exemption 4 refers to research involving the collection or study of existing de-identified specimens or data, if these sources are publicly available.

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 placebo or other control) to evaluate the effects of the interventions on biomedical or behavioral health-related outcomes. Funded trials are required to post a copy of the IRB-approved informed consent form used to enroll subjects on a publicly available federal website in accordance with federal requirements described in Code of Federal Regulations, Title 32, Part 219 (32 CFR 219).

Submission Options: Applications must be submitted under one of the three following options. It is important to choose the option that is most appropriate for the proposed research and to submit all of the documents required for the option selected. Please contact the CDMRP Help Desk (at help@eBRAP.org or 301-682-5507) if there is any question as to which option should be selected.

- **Military Medical Research and Development Award (MMRDA)**, for applications proposing research that does not involve human subjects and/or human anatomical substances

- **Military Medical Research and Development Award – Human Subjects/Sample Acquisition Option (MMRDA-HSSA)**, for applications proposing research that involves human subjects and/or human anatomical substances, but that does not constitute a clinical trial

- **Military Medical Research and Development Award – Human Subjects/Sample Acquisition with Clinical Trial Option (MMDRA-HSSA-CT)**, for applications proposing research that constitutes a clinical trial

The anticipated total costs budgeted for the entire period of performance for a FY22 JWMRP MMRDA will not exceed $4.5M. Refer to Section II.D.4, Funding Restrictions, for detailed funding information.

Awards will be made no later than September 30, 2023. For additional information refer to Section II.F.1, Federal Award Notices.

The CDMRP expects to allot approximately $18M to fund approximately four MMRDA 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 FY22 funding opportunity will be initially funded with FY22 funds.

Applications received in response to both the FY22 JWMRP BAA and intramural funding opportunity announcement will be evaluated and considered for funding together. No advantage is conferred by submitting an application via one funding opportunity versus the other. The government reserves the right to fund any combination of extramural and/or intramural applications.

Research Involving Human Anatomical Substances, Human Subjects, or Human Cadavers: All DOD-funded research involving new and ongoing research with human anatomical substances, human subjects, or human cadavers must be reviewed and approved by the USAMRDC Office of Research Protections (ORP), Human Research Protection Office (HRPO), prior to research implementation. This administrative review requirement is in addition to the local IRB or Ethics Committee (EC) review. Local IRB/EC approval at the time of submission is *not* required. Allow up to 3 months to complete the HRPO regulatory review and approval process following submission of *all required and complete documents to the HRPO*. Refer to Appendix III and the Human Research Protections Office Resources and Overview document available on the eBRAP "Funding Opportunities & Forms" web page (https://ebrap.org/eBRAP/public/Program.htm) for additional information.

If the proposed research involves more than one 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.

Use of DOD or Department of Veterans Affairs (VA) Resources: If the proposed research involves access to active-duty military 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 III for additional information.

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. Core standards are described in Landis, S.C., et al., A call for transparent reporting to optimize the predictive value of preclinical research, *Nature* 2012, 490:187-191 (https://www.nature.com/articles/nature11556). 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 research and should be applied consistently across translational studies. Applicants should consult the ARRIVE 2.0 (*Animal Research: Reporting In Vivo Experiments*) guidelines to ensure relevant aspects of rigorous animal research are adequately planned for and, ultimately, reported. The ARRIVE 2.0 guidelines can be found at https://arriveguidelines.org/arrive-guidelines. Projects that include research on animal models are required to submit Attachment 7, Animal Research Plan, as part of the application package to describe how these standards will be addressed.

Research Involving Animals: All DOD-funded research involving new and ongoing research with animals must be reviewed and approved by the USAMRDC ORP 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 III for additional information.

The CDMRP intends that information, data, and research resources generated under awards funded by this funding opportunity 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 IV, Section J.

II.C. Eligibility Information

II.C.1. Eligible Applicants

II.C.1.a. Organization: *Applications for this funding opportunity announcement may only be submitted by intramural organizations. Submissions from extramural applicants to this funding opportunity announcement will be withdrawn.* Intramural applicants are required to explain how their applications do not overlap with other funded efforts. Applicants from an extramural organizations should apply through eBRAP under funding opportunity number W81XWH-22-S-JWMRP. These terms are defined below.

Extramural Organization: An eligible non-DOD organization. Examples of extramural organizations include academic institutions, biotechnology companies, foundations, federal government organization 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: 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.*

Awards are made to eligible organizations, not to individuals.

II.C.1.b. Principal Investigator (PI)

Independent investigators at all academic levels (or equivalent) are eligible to be named by the organization as the 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 PI, regardless of ethnicity, nationality, or citizenship status, must be employed by, or affiliated with, an eligible organization.

The CDMRP 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 or Material Transfer Agreements. 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 funding opportunity announcement.

II.D. Application and Submission Information

Submission of applications that are essentially identical or that propose research that is not a logical continuation of a previously funded research or development effort will result in administrative withdrawal of the application(s).

II.D.1. eBRAP

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

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

Intramural DOD Submission:

Pre-application content and forms and full application packages for funding opportunity number **W81XWH-22-JWMRP-MMRDA** 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 CDMRP 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.** *Note: Applications for this funding opportunity announcement may only be submitted by intramural organizations.* Submissions from extramural DOD organizations to this funding opportunity will be withdrawn.

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 CDMRP 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/). Because the invitation to submit an application is based on the contents of the pre-application, investigators should not change the title or research objectives after the pre-application is submitted.

The applicant organization and associated PI identified in the pre-application should be the same as those intended for the subsequent application submission. If any changes are necessary after submission of the pre-application, the applicant must contact the CDMRP Help Desk at help@eBRAP.org or 301-682-5507.

A change in PI or organization after submission of the pre-application may be allowed after review of a submitted written appeal (contact the CDMRP Help Desk at help@eBRAP.org or 301-682-5507) and at the discretion of the CDMRP Program Manager.

PIs with an ORCID identifier should enter that information in the appropriate field in the "My Profile" tab in the "Account Information" section of eBRAP.

The 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 Business Official must be either selected from the eBRAP list or invited in order for the pre-application to be submitted. **If the Business Official cannot be found in eBRAP, an invitation must be sent to them to register in eBRAP.**

  Select the organization submitting on behalf of the PI 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.

FY22 JWMRP 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.1.c, Withdrawal, or contact the CDMRP 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**

  Note: Upload documents as individual PDF files unless otherwise noted. eBRAP will not allow a file to be uploaded if the number of pages exceeds the limit specified below.

  Note: No figures, charts, graphs, or other additional material will be accepted during the pre-application process.

  Provide responses to the questions in the **FY22 JWMRP Pre-Application Template**. The template and the Clinical Trial and Technology/Knowledge Readiness Level Definitions are posted in eBRAP for your use.

  The submitted completed FY22 JWMRP Pre-Application Template should not exceed five pages. The maximum period of performance for applications submitted to the FY22 JWMRP is 3 years with a budget not to exceed $4.5M total costs.

  Pre-applications should be submitted under one of the following submission options in eBRAP:

  ○ *MMRDA – Military Medical Research and Development Award; or*

  ○ *MMRDA-HSSA – Military Medical Research and Development Award – Human Subjects/Sample Acquisition Option; or*

  ○ *MMRDA-HSSA-CT – Military Medical Research and Development Award – Human Subjects/Sample Acquisition with Clinical Trial Option*

  Note: Upload the completed FY22 JWMRP Pre-Application Template as an individual PDF file. eBRAP will not allow the file to be uploaded if the number of pages exceeds the limit specified above.

- **Tab 6 – Submit Pre-Application**

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

Pre-Application Screening

- **Pre-Application Screening Criteria**

  To determine the technical merits of the pre-application and the relevance to the mission of the Defense Health Program (DHP) and the JWMRP, pre-applications will be screened based on the following criteria:

  ○ How well the pre-application describes a follow-on effort that is a logical continuation of a previously funded, prior year research or product development effort.

  ○ How well the proposed research or development effort addresses one or more of the FY22 JWMRP Focus Areas.

  ○ Relative potential of the proposed effort to augment and/or accelerate clinical, technical, or materiel/knowledge product development with a clear benefit to military medicine.

  ○ How well the pre-application adequately describes the products or deliverables expected from the proposed follow-on effort and any associated challenges.

  ○ How well the regulatory strategy, commercialization strategy, and the estimated Technology Readiness Level (TRL)/Knowledge Readiness Level (KRL) demonstrates transition potential of the anticipated product/outcome.

- **Notification of Pre-Application Screening Results**

  Following the pre-application screening, PIs will be notified as to whether or not they are invited to submit applications; however, they will not receive feedback (e.g., a critique of strengths and weaknesses) on their pre-application. The estimated timeframe for notification of invitation to submit an application is indicated in Section I, Overview of the Funding Opportunity. Invitations to submit a full application are based on the Pre-Application Screening Criteria listed above.

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

Applications will not be accepted unless notification of invitation has been received.

Full application components, which are listed in Table 1 below, must be submitted by the PI through eBRAP.

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

Application Package Location
Download application package components for W81XWH-22-JWMRP-MMRDA from eBRAP (https://ebrap.org).
Full Application Package Components
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.
Application Package Submission
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.***
Application Verification Period
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 intramural FY22 JWMRP MMRDA, 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.

  ○ **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 V.

    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 (20-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 outline below.

    Background/Rationale:

    – Describe the previously funded research or product development effort identified in the notification of invitation, including a description of the accomplishments and outcomes from that award. Explain how this proposed effort is a logical continuation of the previous research or product development effort.

    – Explain how the research has the potential to augment and/or accelerate medical product development in at least one of the FY22 JWMRP Focus Areas.

    – Present the scientific rationale behind the proposed research or product development effort, including relevant literature citations, preliminary data, and/or preclinical data that led to the development of the proposed research, to support feasibility. Any preliminary data provided should be from the laboratory of the PI or member(s) of the collaborating team.

- Describe previous experience among members of the project team most pertinent to the proposed research.

- Clearly demonstrate that there is sufficient scientific evidence to support moving into the proposed stage of research.

- As applicable to the proposed research, provide a summary of relevant studies, clinical studies or clinical trials, and distinguish how the proposed study differs from other relevant or recently completed research or clinical trials. If applicable, include a discussion of any current clinical use of the intervention under investigation and/or details of its study in clinical trials for other indications.

- **Hypotheses/Objectives:** State the hypotheses to be tested and/or the objective(s) 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 this application is part of a larger study, present only tasks that this award would fund. Avoid interdependency of specific aims when possible (i.e., dependency on successful outcomes of other ongoing related research efforts).

- **Research Strategy and Feasibility:**

  - Describe the experimental design, methods, and analyses, including appropriate controls, choice of animal model (if applicable), and the endpoints/outcome measures to be used, in sufficient detail for evaluation of feasibility and effectiveness in supporting completion of the project aims.

  - Applications that include research on animal models are also required to submit Attachment 7, Animal Research Plan.

  - Describe potential problem areas and discuss alternative methods/approaches that may be employed to overcome them, including interdependency of aims (i.e., dependency on successful outcomes of other ongoing related research efforts).

  For applications submitted under the Human Subjects/Sample Acquisition Option or the Human Subjects/Sample Acquisition with Clinical Trial Option:

  - Provide detailed plans for initiating and conducting the clinical trial during the course of this award. Describe the type of clinical trial to be performed (e.g., treatment, prevention, diagnostic), the phase of trial and/or class of device (as appropriate), and the study model (e.g., single group, parallel, crossover).

  - Identify and describe the hypothesis/intervention to be studied and the projected outcomes.

  - Define the study variables and how they will be measured. Include a description of appropriate controls and the endpoints to be tested.

- Provide a brief description of the study population, criteria for inclusion/exclusion, and the methods that will be used for recruitment/accrual of human subjects and/or samples.

- Describe measures that will be taken to reduce bias, such as blinding of subjects, clinicians, data analysts, and/or others during the study.

- Discuss risk/benefit considerations, including a clear and detailed description of potential ethical issues raised by the proposed study, and a detailed plan for how the ethical issues will be addressed.

- Document the availability and accessibility of the drug/compound, device, or other materials needed for the duration of the proposed study, and describe how quality control will be addressed.

- Describe the potential for subject loss to follow-up, and how such loss will be handled/mitigated.

- **Data and Statistical Analysis Plan:**

  - Describe how data will be collected and analyzed in a manner that is consistent with the study objectives. If applicable, include a complete power analysis to demonstrate that the sample size is appropriate to meet the objectives of the study. Specify the approximate number of human subjects/samples that will be accrued, if applicable. If multiple study sites are involved for human subject recruitment, state the approximate number to be enrolled at each site.

  - Describe how data will be reported and how it will be assured that the documentation will support a regulatory filing with the U.S. Food and Drug Administration (FDA), if applicable.

- **Study Personnel:** Identify the key members of the study team and describe their roles on the project, including sufficient clinical and/or statistical expertise. For studies involving human subjects, an independent research monitor (external to the study), study coordinator(s), and statistician should be included as applicable.

○ **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.

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: 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 this funding opportunity announcement, such as those from members of Congress, do not impact application review or funding decisions.

Letters of Collaboration (if applicable): Provide a signed letter from each collaborating individual or organization that will demonstrate 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 letter from the collaborator's Commander or Commanding Officer at the intramural organization that authorizes the collaborator's involvement.

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

- **Background and Proprietary Information:** Provide a list of all background intellectual property to be used in the project or provide a statement that none will be used.

- **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. Refer to [Appendix IV](#), Section J, for more information about the CDMRP expectations for making data and research resources publicly available.

Traumatic Brain Injury (TBI) Data Reporting (if applicable): For projects involving TBI, PIs may be required to report data to the Federal Interagency Traumatic Brain Injury Research (FITBIR) informatics system (https://fitbir.nih.gov/). While there is no direct charge to users of the FITBIR informatics system, a project estimation tool (https://fitbir.nih.gov/jsp/contribute/fitbir-costs.jsp) is available to help estimate costs and manpower needs that may be associated with data submission.

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 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 (NPC) 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: Abstracts (one-page limit each): Upload as "Abstracts.pdf".**

  Technical Abstract (one-page limit): 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.

  Technical abstracts should be written using the outline below. The technical abstract should provide an appropriate description of the project's key aspects; therefore, clarity and completeness within the space limits of the technical abstract are highly important.

  Background: State how the proposed research addresses at least one of the [FY22 JWMRP Focus Areas](#). Present the scientific rationale behind the proposed work.

  Hypothesis/Objective: State the hypothesis to be tested or the objective to be reached.

  Specific Aims: State the specific aims of the study.

Study Design: Briefly describe the study design including appropriate controls.

Impact: Highlight the likely contributions of the initiative to augment and/or accelerate a product development effort. Briefly explain how the proposed project will have an immediate or potential long-term benefit that may lead to a major impact on the health and well-being of Service Members, Veterans, their families, and/or the American public.

Lay Abstract (one-page limit): 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.

Lay abstracts should be written using the outline below. Minimize use of acronyms and abbreviations, where appropriate.

Describe the rationale, scientific objective, and aims for the proposed project in a manner that will be readily understood by readers without a background in science or medicine.

State the FY22 JWMRP Focus Area(s) that the project addresses.

What are the military benefits of the proposed project and the potential impact on the health and welfare of military Service Members, Veterans, their families, and/or the American public?

Describe the ultimate applicability of the research.

- What types of patients will it help, and how will it help them?

- What are the potential clinical applications, benefits, and risks?

- What is the projected time it may take to achieve a patient-related outcome?

- If the research will not result in immediate clinical applicability, describe the interim outcomes.

– What are the likely contributions of the study to augment and/or accelerate a product development effort?

○ **Attachment 4: Statement of Work (six-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 MMRDA mechanism, refer to the **"Suggested SOW Strategy Generic Research"** document if no clinical research is proposed or the "**Suggested SOW Strategy Clinical**

Research" if clinical research or clinical trial is proposed. The SOW must be in PDF format prior to attaching.

○ **Attachment 5: Impact Statement (two-page limit): Upload as "Impact.pdf".**
Explain why the proposed research or product development effort is important and relevant to the role of the JWMRP in addressing high-priority DOD medical requirements and capability gaps and accelerating the development of products that will impact the Warfighter within the context of the [FY22 JWMRP Focus Area(s)](#) being addressed.

– *Describe the potential impact on civilian and military populations:* Provide information about the incidence and/or prevalence of the disease or condition in the general population, as well as in military Service Members, Veterans, and/or their beneficiaries. 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 healthcare needs of military Service Members, Veterans, and/or their beneficiaries, as appropriate. Describe how the research will result in faster and/or better delivery of healthcare solutions for the Warfighter.

– *Describe the short-term impact:* Detail the anticipated short-term outcome(s)/ product(s) (knowledge and/or materiel) that will be directly attributed to the results of the proposed research or product development effort and describe how they will impact the relevant populations. Describe how the study will augment and/or accelerate product development, as applicable.

– *Describe the long-term impact:* Explain the anticipated long-term gains from this research and describe how they may impact the health and readiness of Warfighters. Compare to the information known/products currently available, as applicable.

○ **Attachment 6: Transition Plan (three-page limit): Upload as "Transition.pdf".**
Describe/discuss the methods and strategies proposed to move the product/knowledge/ intervention to the next phase of development (clinical trials, 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 TRL or KRL of 4, and estimate the target TRL/KRL level upon completion of the proposed research ([Appendix II](#)). 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 and/or other funding agencies to facilitate moving the product into the next phase of development. The plan for post-award transition of the anticipated research outcomes should include the components listed below, as appropriate and applicable to the research proposed.

Details of the funding strategy to transition to the next level of development and/or commercialization (e.g., specific 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.

For knowledge products (KPs), 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 (CPGs) and recommendations, provider training materials, patient brochures, and other clinical support tools, scientific journal publications, models, simulations, and applications. (A "knowledge product" is a non-materiel product that addresses an identified need, topic area, or capability gap, is based on current evidence and research, aims to transition into medical practice, training, tools, or to support materiel solutions [systems to develop, acquire, provide, and sustain medical solutions and capabilities], and educates or impacts behavior throughout the continuum of care, including primary prevention of negative outcomes.)

A brief schedule and milestones for transitioning the anticipated research outcomes to the next phase of development (i.e., next-phase clinical trials, commercialization/ transition to industry, delivery to the military or civilian market, incorporation into clinical practice, and/or approval by the FDA).

Clearly articulate ownership rights/access to the intellectual property necessary for the development and/or commercialization of products or technologies supported with this funding opportunity announcement and the government's ability to access such products or technologies in the future.

- If prior federally funded SBIR/STTR data supports the proposed follow-on development effort, describe the connection between the prior SBIR/STTR and the current project and explain all active SBIR/STTR data rights.

- If applicable, state and identify the proprietary information that will be provided to the government and indicate whether the applicant will require a waiver of the federal purpose license.

- If applicable, a risk analysis for cost, schedule, manufacturability, and sustainability.

○ **Attachment 7: Animal Research Plan (if applicable; three-page limit): Upload as "AnimalResPlan.pdf".** If 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. In accordance with the ARRIVE 2.0 (*Animal Research: Reporting In Vivo Experiments*) guidelines (https://arriveguidelines.org/arrive-guidelines), 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.

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

- – Describe the randomization and blinding procedures for the study and 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 endpoints(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 8: Intervention (if applicable;** *required for applications submitted under the Human Subjects/Sample Acquisition with Clinical Trial Option*) **(no page limit): Upload as "Intervention.pdf".** The Intervention attachment should include the components listed below.

  Description of the Intervention: Identify the intervention to be tested and describe the particular outcomes. Describe how the intervention addresses the clinical needs and how it compares with currently available interventions and/or standards of care. As applicable, the description of the intervention should include the following components: complete name and composition, storage and handling information, source, dose, schedule, administration route, washout period, duration of the intervention, and concomitant medications allowed. Description of devices should include general concept of design, detailed operational instructions, any potential risks to users, and intended benefits. Other types of interventions should be fully described. Document access to the intellectual property rights to the intervention for the duration of the proposed clinical trial (if applicable).

  Summarize key preclinical pharmacological findings, dosage studies, and other clinical studies (if applicable) that examine the safety and stability (as appropriate) of the intervention.

  Study Procedures: Describe the interaction with the human subject, including the study intervention that he/she will experience. Provide sufficient detail in chronological order for a person uninvolved in the study to understand what the human subject will experience. Provide a schedule (e.g., flowchart or diagram) of study evaluations and follow-up procedures. Clearly delineate research procedures from routine clinical procedures. Discuss how compliance with current Good Laboratory Practice (GLP) guidelines, Good Manufacturing Practice (GMP), and other regulatory considerations will be established, monitored, and maintained, as applicable.

  - – **Clinical Monitoring Plan:** Describe how the study will be conducted by and monitored for current ICH E6 (International Conference on Harmonisation of

Technical Requirements for Registration of Pharmaceuticals for Human Use) Good Clinical Practice (GCP) compliance, by an independent clinical trial monitor (or clinical research associate). The monitoring plan should describe the types of monitoring visits to be conducted, the intervals (based on level of risk), how corrective actions will be reported to the Sponsor and PI, and how they will be corrected and prevented by the clinical trial site/PI.

- ○ **Attachment 9: Human Subject Recruitment and Safety Procedures (if applicable*; required for all applications submitted under the Human Subjects/Sample Acquisition Option or the Human Subjects/Sample Acquisition with Clinical Trial Option*) (no page limit): Upload as "HumSubProc.pdf".** The Human Subject Recruitment and Safety Procedures attachment should include the components listed below.

    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 trials (if applicable). Address any potential barriers to accrual and plans for addressing unanticipated delays, including a mitigation plan for slow or low enrollment and/or subject loss to follow-up. Identify ongoing clinical trials 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 trials proposing to include military personnel, refer to [Appendix III](#) for more information.*

    Inclusion/Exclusion Criteria: List the inclusion and exclusion criteria for the proposed clinical trial. 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.

    Inclusion of Women and Minorities in 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 appropriate to the objectives of the study, including a description of the composition of the proposed study population in terms of sex/gender, racial, and ethnic group, and an accompanying rationale for the selection of subjects. Provide an anticipated enrollment table(s) with the proposed enrollment distributed on the basis of sex/gender, race, and ethnicity. The Public Health Service (PHS) Inclusion Enrollment Report is a three-page fillable PDF form, which can be downloaded from

eBRAP at https://ebrap.org/eBRAP/public/Program.htm. Include an appropriate justification if women and/or minorities will be excluded from the clinical trial.

Description of the Recruitment Process: Describe the plan for recruitment in detail. Explain methods for identification of potential human subjects (e.g., medical record review, obtaining sampling lists, healthcare provider identification). 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 description of and justification for the compensation plan. Describe the recruitment and advertisement materials (these should not be coercive or offer undue inducements and should accurately reflect the study).

Description of the Informed Consent Process: Describe the plan for obtaining informed consent from human subjects.

- *For the proposed study, provide a draft, in English, of the Informed Consent Form.*

- 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 trial.

- 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 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 trial. If applicable, refer to Appendix III for more information.

- *Assent:* If minors or other populations that cannot provide informed consent are included in the proposed clinical trial, 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: Describe the plan for screening of subjects. 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 trial. 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 surveillance 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 that should be taken by the human subjects before, during, and after the study (e.g., medication washout periods, dietary restrictions, hydration, fasting, 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.

  - ❖ If the IRB determines that a trial presents greater than minimal risk to human subjects, the DOD requires an independent research monitor with expertise consistent with the nature of risk(s) identified within the research protocol.

- **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 10: Regulatory Strategy (if applicable;** *relevant for all product development efforts and required for all applications submitted under the Human Subjects/Sample Acquisition with Clinical Trial Option)* **(no page limit). 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.

  State the product/intervention name.

  For products/interventions that do not require regulation by the FDA:

  Explain why the product/intervention is exempt from FDA oversight. Provide confirmation that the use of the product does not require regulation by the FDA in writing from the IRB of record or the FDA. No further information for this attachment is required.

  For products/interventions that require regulation by the FDA:

  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. Identify the regulatory sponsor. Include a signed sponsor commitment letter acknowledging the regulatory sponsor's understanding of all sponsor responsibilities and commitment to oversee execution of the study.

  - If the proposed research or trial involves the use of a drug that has not been approved by the FDA for the proposed investigational use, then an **Investigational New Drug (IND) application** to the FDA that meets all requirements under 21 CFR 312 may be required and must be submitted to the FDA *by/before September 30, 2023*. If the investigational product is a device, then an **Investigational Device Exemption (IDE) application** to the FDA that meets all requirements under 21 CFR 812 may be required and must be submitted to the FDA *by/before September 30, 2023*. Ideally,

clinical studies should be conducted in the United States, or there must be evidence of pre-IND communication between the applicant and the FDA regarding phase 1 studies. The government reserves the right to withdraw funding if an IND or IDE is necessary but has not been submitted to the FDA by/before September 30, 2023, or if documentation of communication from the FDA indicating the IND or IDE application is active/safe to proceed has not been obtained by March 31, 2024. If an IND or IDE has already been obtained for the investigational product, provide a copy of the acceptance from the FDA.

– Provide the current status for manufacturing development (e.g., manufacturer's name, GMP-compliant lots available, status of stability testing), non-clinical development (e.g., test facility name, status of pivotal GLP toxicology studies to support phase 1 testing), and clinical development (e.g., clinical site name, safety profile, status of any completed or ongoing clinical trials) to demonstrate readiness for the next level of development and/or commercialization.

– Describe the overall regulatory strategy and product development plan that will support the planned product indication. Include a description of the numbers and types of studies proposed to reach approval, licensure, or clearance, the types of FDA meetings that will be held/planned, and the submission filing strategy. Include considerations for compliance with current GMP, GLP, and GCP guidelines.

○ **Attachment 11: Data Management (if applicable;** *required for all applications submitted under the Human Subjects/Sample Acquisition Option or the Human Subjects/Sample Acquisition with Clinical Trial Option***) (no page limit): Upload as "Data_Manage.pdf".** The Data Management attachment should include the components listed below.

Data Management: Describe all methods used for data collection, including the following:

▪ **Identifiers:** Describe the unique identifiers or specific code system to be used to identify human subjects, if applicable.

▪ **Confidentiality:**

❖ Explain measures taken to protect the privacy of human subjects and maintain confidentiality of study data. Strategies to protect the privacy and confidentiality of study records, particularly those containing identifying information, should be addressed.

❖ Address who will have access to study records, data, and specimens, including an acknowledgment that representatives of the DOD are eligible to review study records.

❖ Address the requirements for reporting sensitive information to state or local authorities.

- **Data capture, verification, and disposition:** Describe how data will be captured and verified. Describe where data (both electronic and hard copy) will be stored, who will keep the data, how data will be stored, the process for locking the database at study completion, and the length of time data will be stored. Describe the proposed database, how it will be developed and validated, and its capability to safeguard and maintain the integrity of the data. Describe the database lock process. For FDA-regulated studies, compliance with 21 CFR 11 and appropriate data standards (such as those established by the Clinical Data Interchange Standards Consortium) are required.

- **Data reporting:** 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.

- **Sharing study results:** In cases where the human subject could possibly benefit medically or otherwise from the information, explain whether or not the results of screening and/or study participation will be shared with human subjects or their primary care provider, including results from any screening or diagnostic tests performed as part of the study.

Laboratory Evaluations:

- **Specimens to be collected, schedule, and amount:** All specimens that will be collected for study purposes must be clearly stated. The collection schedule and amount of material collected must also be clearly described.

- **Evaluations to be made:** Describe all evaluations that will be made for study purposes. Explain how the results of laboratory evaluations will be used to meet the objectives of the study (or to monitor safety of human subjects).

- **Storage:** Describe specimen storage, including location of storage, how long specimens will be stored, any special conditions required, labeling, and specimen disposition. Outline the plan to store specimens for future use, including considerations for informed consent and providing human subjects with an opportunity to decline participation in the study.

- **Labs performing evaluations and special precautions:** Identify the laboratory performing each evaluation, the applicable quality standard, and any special precautions that should be taken in handling the samples. Special precautions that should be taken by the human subject before, during, or after the laboratory procedure should be clearly defined. If transport of samples is required, describe provisions for ensuring proper storage during transport.

- ○ **Attachment 12: Study Personnel and Organization (if applicable;** *required for all applications submitted under the Human Subjects/Sample Acquisition with Clinical Trial Option*) **(no page limit): Start each document on a new page. Combine into one document and upload as "Personnel.pdf".** The Study Personnel and Organization attachment should include the components listed below.

Organizational Chart: Provide an organizational chart that identifies key members of the study team and provides an outline of the governing structure for multi-institutional studies. Identify collaborating organizations, centers, and/or departments and name each person's position on the project. Include any separate laboratory or testing centers. Identify the data and clinical coordinating center(s) and note any involvement from Contract Research Organizations, as appropriate. Identify and provide justification for the inclusion of international sites, as appropriate. If applicable, identify the FDA regulatory sponsor and any external consultants or other experts who will assist with FDA applications. While there is no specified format for this information, a table(s) or diagram is recommended. *Note:* This item may be made available for programmatic review.

Study Personnel Description: Briefly describe the composition of the study team, including the roles of the individuals listed in the organizational chart on the project. Study coordinator(s) should be included. Describe how the levels of effort for each individual are appropriate to successfully support the proposed research. Describe relevant experience and qualifications that demonstrate appropriate expertise for the given role, including previous interactions with the FDA, if applicable.

- **Study Management Plan:** Provide a plan for ensuring the standardization of procedures among staff and across sites (if applicable). If the proposed clinical trial involves more than one institution, clearly describe the multi-institutional structure governing the research protocol(s) across all participating institutions. Provide a regulatory submission plan for the master protocol and master consent form by the lead organization; include a single IRB/EC pathway whenever possible. If the research involves more than one institution, a single IRB is required for all institutions located in the United States. If applicable, describe how communication and data transfer between/among the collaborating institutions will occur, as well as how data, specimens, and/or imaging products obtained during the study will be handled and shared.

  Attachment 13: Questionnaires and Other Research Data Collection Instruments (if applicable; no page limit): Upload as "Data_Collection.pdf". The Questionnaires and Other Research Data Collection Instruments attachment should include a copy of the most recent version of questionnaires, data collection forms, rating scales, interview guides, or other instruments. For each instrument, describe how the information collected is related to the objectives of the study. Describe how and when the instrument(s) will be administered. Describe how the instrument(s) will be adapted to the subject population, if applicable.

○ **Application Component – 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.

- ○ **Application Component – Research & Related Senior/Key Person Profile**

  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.

  – 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".

    – For extramural submissions, refer to the General Submission Instructions, Section III.A.4, for detailed information.

  – 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".

    – For extramural submissions, refer to the General Submission Instructions, Section III.A.4, for detailed information.

New Requirement: 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 (U.S. Code, Title 18, Section 1001).

○ **Application Component – Budget** 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 VI for detailed information on completing this form.

   – Upload the DOD Military Budget Format and Justification form 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 VI. 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.

   – Subaward Budget: Include all Subaward budgets. Describe in detail funding arrangements with extramural partners (if applicable). For each subaward (intramural or extramural), complete a separate detailed budget using the DOD Military Budget Format and Justification form including a budget justification for each subaward in accordance with the instructions listed above. Title each individual subaward "Budget" or "Budget Justification," with the name of the subawardee/subrecipient organization. Refer to Appendix VI for detailed information on completing this form.

○ **Application Component – 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.

- **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.

- **Tab 5 – Submit/Request Approval of the Full Application**

  Once all components have been 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 validate files against the funding opportunity announcement requirements, and discrepancies will be noted. If no discrepancies are noted, press the "Confirm Submission" button to complete the application submission. eBRAP will notify your Resource Manager/Comptroller/Task Area Manager or equivalent Business Official by email to log into eBRAP to review and approve the full application package prior to the approval deadline.

II.D.3. Submission Dates and Times

All submission dates and times are indicated in <u>Section I, Overview of the Funding Opportunity</u>. 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 funding opportunity 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 funding opportunity 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 **3** years.

The anticipated total costs budgeted for the entire period of performance will not exceed **$4.5M**. If indirect cost rates have been negotiated, indirect costs are to be budgeted in accordance with the organization's negotiated rate. No budget will be approved by the government exceeding **$4.5M** total costs or using an indirect cost rate exceeding 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 **3** years.

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

- Travel between collaborating organizations

- Travel costs for one investigator to disseminate project results at two separate DOD-sponsored meetings (e.g., the MHS Research Symposium)

- Travel costs for one investigator to travel to one scientific/technical meeting per year, after the first year of the period of performance, to present project information or disseminate project results from the FY22 JWMRP MMRDA

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. Out-year funds may not be available in the event that subsequent annual congressional appropriations are not authorized. Intramural applicants should have a plan in place for accepting the entire award amount up front and managing those funds throughout the life of the award. If such a plan is not feasible, intramural applicants may consider working with a foundation.

Refer to Appendix VI 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 VI.***

II.D.5. Other Submission Requirements

Refer to Appendix V 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 of equal importance:

- **Research Strategy and Feasibility**

  - How well the application presents the scientific rationale behind the proposed research or product development effort, including relevant literature citations, preliminary data, and/or preclinical data, to support feasibility.

  - How well the application states the hypotheses to be tested and/or the objective(s) to be reached.

  - How well the application describes the experimental design, methods, and analyses, including appropriate controls, choice of animal model (if applicable), and the endpoints/ outcome measures to be used, in sufficient detail for evaluation of feasibility and effectiveness in supporting completion of the project aims.

  - Whether the SOW indicates a feasible plan and timeline to conduct the research and how well it provides clearly defined milestones to be accomplished.

  - How well the application describes potential problem areas and discusses alternative methods/approaches that may be employed to overcome them, including interdependency of aims (i.e., dependency on successful outcomes of other ongoing related research efforts).

  For applications submitted under the Human Subjects/Sample Acquisition Option or the Human Subjects/Sample Acquisition with Clinical Trial Option:

  - As applicable, how well the application describes the type of clinical trial to be performed, the phase of trial and/or class of device, and the study model.

  - How well the application identifies and describes the hypothesis/intervention to be studied and the projected outcomes.

  - To what degree the intervention addresses high-priority clinical needs and represents an advancement over currently available interventions and/or standards of care.

  - To what degree the application includes preclinical and/or clinical evidence to support the safety and stability (as appropriate) of the intervention.

  - How well the application documents access to the intellectual property rights to the intervention for the duration of the proposed clinical trial (if applicable).

- o How well the application provides a brief description of the study population, criteria for inclusion/exclusion, and the methods that will be used for recruitment/accrual of human subjects and/or samples.

- o Whether the strategy for the inclusion of women and minorities and distribution of proposed enrollment are appropriate for the proposed research.

- o How well the application describes the plan for obtaining informed consent from human subjects.

- o Whether the application demonstrates that the research team has access to the proposed study population at each site, and describes the efforts that will be made to achieve accrual goals.

- o How well the application addresses any potential barriers to accrual and plans for addressing unanticipated delays, including a mitigation plan for slow or low enrollment and/or subject loss to follow-up.

- o How well the application describes measures that will be taken to reduce bias, such as blinding of subjects, clinicians, data analysts, and/or others during the study.

- o How well research procedures are delineated from routine clinical procedures.

- o How well the application discusses risk/benefit considerations, including a clear and detailed description of potential ethical issues raised by the proposed study, and a detailed plan for how the ethical issues will be addressed.

- o How well the application explains measures taken to protect the privacy of human subjects and maintains confidentiality of study data.

- **Data and Statistical Analysis Plan**

  - o To what degree the data analysis plan is consistent with study objectives.

  - o To what degree the statistical plan, including power analysis for sample size projections, is appropriate to meet the objectives of the study.

  - o To what degree the application describes how the data will be reported and how it will be assured that the documentation will support a regulatory filing with the FDA, if applicable.

- **Impact**

  - o The degree to which the proposed effort is relevant to the role of the JWMRP in addressing high-priority DOD medical requirements and capability gaps and accelerating the development of products that will impact the Warfighter within the context of the FY22 JWMRP Focus Area(s) being addressed.

- To what degree the knowledge, technologies, or products gained from the research could benefit the civilian population and also address the healthcare needs of military Service Members, Veterans, and/or their beneficiaries.

- To what degree the research will result in faster and/or better delivery of high-priority healthcare solutions for the Warfighter.

- To what degree the anticipated short-term outcomes(s)/products(s) (knowledge and/or materiel) of the proposed effort will impact the relevant populations, and augment and/or accelerate product development as applicable.

- How significantly the long-term gains from this research may impact the health and readiness of Warfighters.

- **Transition Plan and Regulatory Strategy**

  - Whether the transition plan and regulatory strategy are appropriate and well described.

  - Whether the proposed research meets a current TRL or KRL of 4 or higher, and whether the proposed target TRL or KRL is realistic and appropriate.

  - Whether the funding strategy to transition to the next level of development and/or commercialization (e.g., specific industry partners, specific funding opportunities to be applied for) is reasonable and achievable.

  - For KPs, whether the proposed collaborations and other resources that will be used to provide continuity of development, including proposed development or modification of CPGs and recommendations, provider training materials, patient brochures, clinical support tools, scientific journal publications, models, simulations, and applications are established and/or achievable.

  - Whether the schedule and milestones for transitioning the anticipated research outcomes to the next phase of development (i.e., next-phase clinical trials, commercialization/ transition to industry, delivery to the military or civilian market, incorporation into clinical practice, and/or approval by the FDA) are achievable.

  - How well the application identifies intellectual property ownership rights and/or demonstrates the appropriate access to the intellectual property necessary for the development and/or commercialization of products or technologies supported by this funding opportunity announcement, and identifies the government's ability to access such products or technologies in the future.

  - How well the application describes any active SBIR/STTR data rights (if applicable).

  - How well the application describes an appropriate Intellectual and Material Property Plan for resolving intellectual and material property issues among participating organizations (if applicable).

- o   If applicable, whether the risk analysis for cost, schedule, manufacturability, and sustainability is realistic and reasonable.

- o   The extent to which the regulatory strategy to support the product label indication or product label change, if applicable, is appropriate and well described.

- o   Whether the application explains why the product/intervention is exempt from FDA oversight, or, for products that require FDA regulation, whether the plans/timeline for IND or IDE application submission to the FDA are appropriate, or the IND or IDE submission has already taken place.

- o   If clinical studies will be conducted outside of the United States, whether there is documentation of pre-IND communication between the applicant and the FDA regarding phase 1 studies.

- o   Whether the identified status for manufacturing development, non-clinical development, and clinical development demonstrates readiness for the next level of development and/or commercialization.

- o   Whether the numbers and types of studies proposed to reach approval, licensure, or clearance, the types of FDA meetings that will be held/planned, and the submission filing strategy are appropriate.

- o   Whether plans to comply with GMP, GLP, and GCP guidelines are appropriate.

- **Personnel**

  - o   To what degree the study personnel's background and expertise are appropriate with respect to its ability to perform the proposed work, including whether there is evidence of sufficient clinical and/or statistical expertise (as applicable).

  - o   To what degree the levels of effort by the PI and other key personnel are appropriate for successful conduct of the proposed work.

  - o   How the PI's record of accomplishment demonstrates their ability to accomplish the proposed work.

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

- **Environment**

  - o   How the scientific environment is appropriate for the proposed research and/or product development effort.

  - o   How the research and/or product development requirements are supported by the availability of, and accessibility to, facilities and resources (including collaborative arrangements).

- o   How the quality and extent of institutional support are appropriate for the proposed effort.

- **Budget**

  - o   Whether the **total** costs exceed the allowable total costs as published in the funding opportunity announcement.

  - o   Whether the budget is appropriate for the proposed research.

- **Application Presentation**

  - o   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 DHP and FY22 JWMRP, as evidenced by the following:

  - o   Military relevance, including alignment with the identified DOD and Services medical research priorities and portfolios

  - o   Relative potential of the research to augment and/or accelerate clinical, technical, or materiel/knowledge product development efforts that directly benefit military medicine

  - o   Relative transition potential of the anticipated product/outcome

  - o   Relative impact of the research on Service Members, Veterans, and their families

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.army.mil/about/2tierRevProcess. An information paper describing the funding

recommendations and review process for the award mechanisms for the JWMRP 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. 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 FY22 funds are anticipated to be made no later than September 30, 2023. Refer to Appendix IV for additional award administration information.

After email notification of application review results through eBRAP, and if selected for funding, a Science Officer from CDMRP will contact the business official authorized to negotiate on behalf of the PI's organization.

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. Funds will be transferred to organizations, not to individual PIs. 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 will be allowed at the discretion of the USAMRAA Grants/Contracting Officer, provided the intent of the award mechanism is met.

Organizational transfer of an award is discouraged and will be evaluated on a case-by-case basis and only allowed at the discretion of the USAMRAA Grants Officer or Contracting Officer. An organizational transfer of an award will not be allowed in the last year of the (original) period of performance or any extension thereof. The organizational transfer of an award supporting a clinical trial is strongly discouraged and in most cases will not be allowed.

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

II.F.2. Reporting

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

Quarterly, annual progress reports as well as a final progress report will be required. The Award Terms and Conditions will specify if more frequent reporting is required.

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: Enrollment reporting on the basis of sex/gender, race, and 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 funding opportunity announcement may incorporate additional reporting requirements related to recipient integrity and performance matters.

II.G. Federal Awarding Agency Contact

II.G.1. CDMRP Help Desk

Questions related to funding opportunity 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 CDMRP Help Desk, which is available Monday through Friday from 8:00 a.m. to 5:00 p.m. ET. Response times may vary depending upon the volume of inquiries.

Phone: 301-682-5507

Email: help@eBRAP.org

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 pre-application:

- Completed FY22 JWMRP Pre-Application is missing.

- FY22 JWMRP Pre-Application Template exceeds page limit.

The following will result in administrative rejection of the application:

- Submission of an application for which a letter of invitation was not received.

- Project Narrative exceeds page limit

- Project Narrative is missing.

- Budget is missing.

For applications involving animal research:

- [Attachment 7, Animal Research Plan](#) is missing.

For applications submitted under the Human Subjects/Sample Acquisition Option:

- [Attachment 9, Human Subject Recruitment and Safety Procedures](#) is missing.

- [Attachment 11, Data Management](#) is missing.

For applications submitted under the Human Subjects/Sample Acquisition with Clinical Trial Option:

- [Attachment 8, Intervention](#) is missing.

- [Attachment 9, Human Subject Recruitment and Safety Procedures](#) is missing.

- [Attachment 10, Regulatory Strategy](#) is missing.

- [Attachment 11, Data Management](#) is missing.

II.H.1.b. Modification

- Pages exceeding the specific limits will be removed prior to review for all documents other than the FY22 JWMRP Pre-Application and Application 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 FY22 JWMRP 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 FY22 JWMRP Programmatic Panel members can be found at https://cdmrp.army.mil/JWMRP/panels/panels22.*

- The application fails to conform to this funding opportunity 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 FY22, the identities of the peer review contractor and the programmatic review contractor may be found at the CDMRP website (https://cdmrp.army.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.

- Pre-applications or 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 does not address at least one of the FY22 JWMRP Focus Areas.

- The invited application proposes a different research project than that described in the pre-application.

- The invited application proposes research that is not a logical continuation of the previously funded research or development effort identified in the notification of invitation.

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 CDMRP 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"	
	Abstracts: Upload as Attachment 3 with file name "Abstracts.pdf"	
	Statement of Work: Upload as Attachment 4 with file name "SOW.pdf"	
	Impact Statement: Upload as Attachment 5 with file name "Impact.pdf"	
	Transition Plan: Upload as Attachment 6 with file name "Transition.pdf"	
	Animal Research Plan: Upload as Attachment 7 with file name "AnimalResPlan.pdf" if applicable	
	Intervention: Upload as Attachment 8 with file name "Intervention.pdf" if applicable	
	Human Subject Recruitment and Safety Procedures: Upload as Attachment 9 with file name "HumSubProc.pdf" if applicable	
	Regulatory Strategy: Upload as Attachment 10 with file name "Regulatory.pdf" if applicable	
	Data Management: Upload as Attachment 11 with file name "Data_Manage.pdf" if applicable	
	Study Personnel and Organization: Upload as Attachment 12 with file name "Personnel.pdf" if applicable	
	Questionnaires and Other Research Data Collection Instruments: Upload as Attachment 13 with file name "Data_Collection.pdf" if applicable	
Research & Related Personal Data	Complete form as instructed	

Application Components	Action	Completed
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	
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 Development
ACURO	Animal Care and Use Review Office
ARRIVE	Animal Research: Reporting In Vivo Experiments
BAA	Broad Agency Announcement
CDC	Centers for Disease Control and Prevention
CDMRP	Congressionally Directed Medical Research Programs
CFR	Code of Federal Regulations
CPG	Clinical Practice Guideline
DA PAM	Department of the Army Pamphlet
DHA	Defense Health Agency
DHHS	U.S. Department of Health and Human Services
DHP	Defense Health Program
DOD	Department of Defense
DoDI	DoD Instruction
DTIC	Defense Technical Information Center
eBRAP	Electronic Biomedical Research Application Portal
EC	Ethics Committee
ET	Eastern Time
FAD	Funding Authorization Document
FDA	U.S. Food and Drug Administration
FITBIR	Federal Interagency Traumatic Brain Injury Research
FOIA	Freedom of Information Act
FWA	Federalwide Assurance
FY	Fiscal Year
GCP	Good Clinical Practice
GLP	Good Laboratory Practice
GMP	Good Manufacturing Practice
HIPAA	Health Insurance Portability and Accountability Act
HRPO	Human Research Protection Office
IACUC	Institutional Animal Care and Use Committee
ICH E6	International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use
IDE	Investigational Device Exemption
IND	Investigational New Drug
IRB	Institutional Review Board

IRP	Inquiry Review Process
JWMRP	Joint Warfighter Medical Research Program
KP	Knowledge Product
KRL	Knowledge Readiness Level
LAR	Legally Authorized Representative
M	Million
MB	Megabyte
MDO	Multi-Domain Operation
MHS	Military Health System
MIPR	Military Interdepartmental Purchase Request
MMRDA	Military Medical Research and Development Award
MMRDA-HSSA	Military Medical Research and Development Award – Human Subjects/Sample Acquisition Option
MMDRA-HSSA-CT	Military Medical Research and Development Award – Human Subjects/Sample Acquisition with Clinical Trial Option
NIH	National Institutes of Health
NPC	Non-Profit Corporation
ORCID	Open Researcher and Contributor ID, Inc.
ORP	Office of Research Protections
PD	Project Director
PHS	Public Health Service
PI	Principal Investigator
PII	Personally Identifiable Information
RDT&E	Research, Development, Test and Evaluation
SBIR	Small Business Innovation Research
SOW	Statement of Work
STEM	Science, Technology, Engineering, and/or Mathematics
STTR	Small Business Technology Transfer
TBI	Traumatic Brain Injury
TRA	Technology Readiness Assessment
TRL	Technology Readiness Level
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	Department of Veterans Affairs

APPENDIX II: 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 (TRA) 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 TRA Deskbook (July 2009, https://apps.dtic.mil/docs/citations/ADA524200).

Knowledge Readiness Levels: The scientific maturity of KPs 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 KPs. 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 KPs.

Step 1: Determine the Knowledge Product (KP):

KRL7-9 ratings are given to KPs resulting from research designed to emphasize external validity (generalizability) of knowledge for use in a specified real world application context. This research often addresses a policy question, asking, "How does it compare to usual practice?" To achieve a rating of KRL7-9, the KP must be based on valid replicated KRL 4-6 research.
Examples include:
- Battlefield intervention
- Primary care screener
- Workplace prevention
- Systematic reviews of KRL 7-9 research
- Systematic reviews to inform creation of practice guidelines and study of a guideline

KP3 Community

KRL4-6 are given to KPs that seek to generate applied knowledge to eventually perform a non-research related function or to inform understanding of an application or tool. KRL4-6 research often asks questions such as "Can the application work under ideal research conditions?" and "(if the application can work), how does it work?" To achieve a rating of KRL 4-6, the KP must be based on valid, replicated KRL1-3 research.
Examples include:
- Applications that prevent, screen/diagnose, or treat illness
- Systematic reviews that summarize KRL4-6 research

KP2 Bedside

KRL1-3 provide the scientific foundation for KP development toward practical application. These KPs are the outputs of health research that seeks basic mechanisms rather than applications and tends to be theoretical or conceptual, often (but not always) comprising laboratory, descriptive, or exploratory studies.
Examples include:
- Animal research
- Non-Clinical laboratory research
- Descriptive epidemiology
- Systematic reviews of KRL1-3 research

KP1 Bench

Step 2: Determine the Knowledge Readiness Level (KRL)

KRL 9

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.)

KRL 8

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.)

KRL 7

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.)

KRL 6

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.

KRL 5

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.

KRL 4

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).

KRL 3

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)

KRL 2

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.

KRL 1

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.)

Community / Real World

Bedside / Applications

Bench / Foundations

APPENDIX III: 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.amedd.army.mil/index.cfm/resources/researcher_resources/safety.

B. Research Protections Review Requirements

The USAMRDC ORP 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 ORP 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 ORP, HRPO, 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 ORP 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-Conducted and -Supported Research."

Additional information is available at https://mrdc.amedd.army.mil/index.cfm/collaborate/research_protections

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.amedd.army.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 (usarmy.detrick.medcom-usamrdc.other.acuro@mail.mil).

2. Research Involving Human Subjects

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

⚠️ ***NOTE: The protocol submitted for HRPO 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, HRPO 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 ORP HRPO (usarmy.detrick.medcomusamrdc.otherhrpo@mail.mil). For in-depth information and to access HRPO protocol submission forms, refer to the ORP HRPO website (https://mrdc.amedd.army.mil/index.cfm?pageid=Research_Protections.hrpo). Key requirements found in the ORP HRPO 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 Federalwide Assurance (FWA) 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 ORP HRPO 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 Health Insurance Portability and Accountability Act (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 Department of Defense (DoD) Funded Human Research With Military Populations," at Conducting_Research_Military_Pop_DoD_May_2021.pdf (army.mil).

- **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 ORP HRPO 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 ORP HRPO.

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 ORP HRPO prior to implementation. For additional guidance and instructions on ORP HRPO 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.amedd.army.mil/index.cfm?pageid=Research_Protections.hrpo

NOTE: The protocol submitted for HRPO review must 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, HRPO 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 ORP HRPO 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 ORP HRPO 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 Use of 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 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 ORP 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 ORP 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 ORP review and approval should be directed to the ORP at usarmy.detrick.medcom-usamrmc.other.hrpo@mail.mil.

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 ACOS/R&D or Clinical Service Chief. If appropriate, the application should identify the VA-affiliated 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 IV: 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 completed for submission with the application.

    - USAMRDC research progress reporting requirements and instructions can be found at https://mrdc.amedd.army.mil/index.cfm?pageid=researcher_resources. technical_reporting

- 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 HRPO requires submission of institutional continuing review reports and study event reports. Instructions are found at https://mrdc.amedd.army.mil/index.cfm?pageid=research_protections.hrpo.

    - The USAMRDC's HRPO 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@mail.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 funding opportunity announcement, a change in organizational affiliation will be considered on a case-by-case basis by the CDMRP 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 Principal Investigator: Unless otherwise restricted, changes in PI will be allowed at the discretion of the CDMRP Program Manager, provided that the intent of the award mechanism is met.

C. Disclosure of Proprietary Information

Do not include proprietary 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 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 information that is included in the application.

E. Inquiry Review Process (IRP)

Although not required by law or acquisition regulation, 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 funding opportunity announcement describing peer and programmatic review (e.g., documents requested in the funding opportunity 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 IRP and the funding decision are not subject to appeal. Questions related to the IRP 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 through the (*insert program name*) under Award No. (W81XWH-22-1-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.amedd.army.mil/index.cfm?pageid=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 Centers for Disease Control and Prevention (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 (DTIC).

J. Sharing of Data and Research Resources

The CDMRP intends that information, data, and research resources generated under awards funded by the funding opportunity 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 funding opportunity announcement. This includes all data and research resources generated during the project's period of performance as annotated in the award:

- **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 funding opportunity announcement, the PI may be required to participate in the following:

- Traumatic Brain Injury: If the project includes TBI research, the PI may be 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 may be 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 the specific funding opportunity announcement.

K. Property/Equipment

Unless otherwise specified in the award, the title to equipment or other tangible property acquired with government funds will vest in institutions of higher education or with non-profit organizations whose primary purpose is conducting scientific research. Normally, the title will vest in the recipient if vesting will facilitate scientific research performed by the organization for the government. Title to equipment or other tangible property acquired by for-profit organizations will conditionally vest in the organization subject to the requirements of the DoD Grant and Agreement Regulations (DoDGARs), Part 34.21. However, if the award is subsequently transferred to a new organization, the DOD reserves the right to require the transfer of equipment acquired with the award funds to the federal government or to an eligible third party.

L. Title to Inventions and Patents

In accordance with the Bayh-Dole Act (35 USC 200 et seq.), the recipient and collaborators may elect to retain title to their subject inventions, subject to meeting the reporting and patent filing requirements and retained rights to the U.S. government. The U.S. government shall, at a minimum, retain non-exclusive rights for the use of such inventions. Instructions in the assistance agreement concerning subject inventions must be followed.

APPENDIX V: 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 funding opportunity 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 funding opportunity 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 VI: 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. No budget will be approved by the government exceeding the cost limit stated in this funding opportunity announcement. 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 PI's name, eBRAP Log number, and period of performance fields should be entered at the top of the Suggested DOD Military Budget Format.

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 in the bottom 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/among 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 FY22 funding will be obligated by **September 30, 2022**. 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 FY22 funding not obligated by September 30, 2022 may be withdrawn by the issuing Comptroller.