

**US ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND (USAMRDC)  
CONGRESSIONALLY DIRECTED MEDICAL RESEARCH PROGRAMS (CDMRP)  
FISCAL YEAR 2020 (FY20) BREAST CANCER RESEARCH PROGRAM (BCRP)**

**DESCRIPTION OF REVIEW PROCEDURES**

The programmatic strategy implemented by the FY20 BCRP called for applications in response to program announcements (PAs) for four award mechanisms released in December 2019:

- Era of Hope Scholar Award
- Breakthrough Award Level 3
- Breakthrough Award Level 4
- Innovator Award

In response to the Era of Hope Scholar Award PA, 16 compliant applications were received in March 2020 and peer reviewed in May 2020. Stage 1 programmatic review was conducted in August 2020, and the Principal Investigators (PIs) of four applications were invited to Stage 2 programmatic review (oral presentation). Two of the applications (12.5%) were recommended for funding after Stage 2 programmatic review for a total of \$9.24 million (M).

Pre-applications were received for the Breakthrough Award Level 3, Breakthrough Award Level 4, and Innovator PAs in March 2020 and screened in April 2020 to determine which investigators to invite to submit a full application. Pre-applications were screened based on the evaluation criteria specified in the PAs.

In response to the Innovator Award, nine pre-applications were received and none were invited to submit a full application.

Applications were received for the Breakthrough Award Level 3 and Breakthrough Award Level 4 PAs in June 2020 and peer reviewed in August 2020. Breakthrough Award Level 3 programmatic review and Breakthrough Award Level 4 Stage 1 programmatic review were conducted in September 2020.

In response to the Breakthrough Award Level 3 PA, 73 pre-applications were received and the PIs of 24 of these were invited to submit a full application. Twenty compliant applications were received and one (5.0%) was recommended for funding for a total of \$5.48M.

In response to the Breakthrough Award Level 4 PA, 10 pre-applications were received and the PIs of three of these were invited to submit a full application. Three compliant applications were received and none were recommended for funding for Stage 2 programmatic review (oral presentation).

Submission and award data for the FY20 BCRP are summarized in the tables below.

**Table 1. Submission/Award Data for the FY20 BCRP\***

<b>Mechanism</b>	<b>Pre-Applications Received</b>	<b>Pre-Applications Invited</b>	<b>Compliant Applications Received</b>	<b>Applications Recommended for Funding (%)</b>	<b>Total Funds</b>
Era of Hope Scholar Award	N/A <sup>+</sup>	N/A <sup>+</sup>	16	2 (12.5%)	\$9,235,666
Breakthrough Award – Funding Level 3	73	24	20	1 (5.0%)	\$5,477,741
<b>Total</b>	<b>73</b>	<b>24</b>	<b>36</b>	<b>3 (8.3%)</b>	<b>\$14,713,407</b>

\*These data reflect funding recommendations only. Pending FY20 award negotiations, final numbers will be available after September 30, 2021.

<sup>+</sup>N/A: Not applicable. Investigators submitting to the Era of Hope Scholar Award PA were not required to submit a pre-application to be screened; they were required to submit a Letter of Intent.

**Table 2. Submission/Award Data for the FY20 BCRP from Stage 1 Programmatic Review**

<b>Mechanism</b>	<b>Pre-Applications Received</b>	<b>Pre-Applications Invited</b>	<b>Compliant Applications Received</b>	<b>Applications Recommended for Stage 2 Programmatic Review</b>
Breakthrough Award – Funding Level 4	10	3	3	0

## **THE TWO-TIER REVIEW SYSTEM**

The USAMRDC developed a review model based on recommendations of the 1993 Institute of Medicine (IOM) (now called the National Academy of Medicine) of the National Academy of Sciences report, *Strategies for Managing the Breast Cancer Research Program: A Report to the Army Medical Research and Development Command*. The IOM report recommended a two-tier review process and concluded that the best course would be to establish a peer review system that reflects not only the traditional strengths of existing peer review systems, but also is tailored to accommodate program goals. The Command has adhered to this proven approach for evaluating competitive applications. An application must be favorably reviewed by both levels of the two-tier review system to be funded.

### **THE FIRST TIER—Scientific Peer Review**

Era of Hope Scholar Award applications were peer reviewed in May 2020 by one panel of scientists, clinicians, and consumer advocates based on the evaluation criteria specified in the PA.

Breakthrough Award Level 3 and Breakthrough Award Level 4 applications were peer reviewed in August 2020 by three panels of researchers, clinicians, and consumer advocates based on the evaluation criteria specified in the relevant PA.

Each peer review panel included a Chair, scientific reviewers, consumer reviewers, and a nonvoting Scientific Review Officer. The primary responsibility of the panelists was to review the technical merit of each application based upon the evaluation criteria specified in the relevant PA.

### **Individual Peer Review Panels**

The Chair for each panel presided over the deliberations. Applications were discussed individually. The Chair called upon the assigned reviewers for an assessment of the merits of each application using the evaluation criteria published in the appropriate PA. Following a panel discussion, the Chair summarized the strengths and weaknesses of each application, and panel members then rated the applications confidentially.

### **Application Scoring**

*Evaluation Criteria Scores (Breakthrough Award Level 3 and Level 4):* Panel members were asked to rate each peer review evaluation criterion as published in the appropriate PA. A scale of 1 to 10 was used, with 1 representing the lowest merit and 10 the highest merit, using whole numbers only. The main reasons for obtaining the criteria ratings were to (1) place emphasis on the published evaluation criteria and provide guidance to reviewers in determining an appropriate overall score, and (2) provide the applicant, the Programmatic Panel, and the Command with an informed measure of the quality regarding the strengths and weaknesses of each application. The evaluation criteria scores were not averaged or mathematically manipulated in any manner to connect them to the global or percentile scores.

*Overall Score (Breakthrough Award Level 3 and Level 4):* To obtain an overall score, a range of 1.0 to 5.0 was used (1.0 representing the highest merit and 5.0 the lowest merit). Reviewer scoring was permitted in 0.1 increments. Panel member scores were averaged and rounded to arrive at a two-digit number (1.2, 1.9, 2.7, etc.). The following adjectival equivalents were used to guide reviewers: Outstanding (1.0–1.5), Excellent (1.6–2.0), Good (2.1–2.5), Fair (2.6–3.5), and Deficient (3.6–5.0).

In contrast to the typical technical merit review process, no criteria scores were assigned to the Era of Hope Scholar Award applications. Instead, reviewers were asked to address specific questions pertaining to the applicant's qualifications, accomplishments, research goals or ideas, and leadership skills. Each reviewer then voted confidentially on an overall level of enthusiasm (High, Medium, Low).

*Summary Statements:* The Scientific Review Officer on each panel was responsible for preparing a Summary Statement reporting the results of the peer review for each application. The Summary Statements included the evaluation criteria and overall scores, peer reviewers' written comments, and the essence of panel discussions. This document was used to report the peer review results to the Programmatic Panel. It is the policy of the USAMRDC to make Summary Statements available to each applicant when the review process has been completed.

## **THE SECOND TIER—Programmatic Review**

For the Era of Hope Scholar Award, Stage 1 programmatic review, held in August 2020, and Stage 2 programmatic review, held in September 2020, were both conducted by the FY20 Programmatic Panel. For Breakthrough Award Level 3 and Breakthrough Award Level 4, Stage 1 programmatic review was held in September 2020 and conducted by the FY20 Programmatic Panel. The Programmatic Panel is comprised of a diverse group of scientists, clinicians, and consumer advocates, each contributing special expertise of interest in breast cancer. Programmatic Review is a comparison-based process that considers scientific evaluations across all disciplines and specialty areas. Programmatic Panel members do not automatically recommend funding applications that were highly rated in the technical merit review process; rather, they carefully scrutinize applications to allocate the limited funds available to those that best meet the programmatic review criteria.

Programmatic review criteria published in the Era of Hope Scholar Award PA for Stage 1 were as follows: ratings and evaluations of the peer reviewers, relevance to the mission of the Defense Health Program (DHP) and the FY20 BCRP; relative innovation; and adherence to the intent of the award mechanism. For Stage 2, criteria include: understanding the barriers in breast cancer; articulation of a realistic vision with a high potential to impact breast cancer; and leadership capabilities to form partnerships and collaborations that will impact breast cancer.

Programmatic review criteria published in the Breakthrough Award Level 3 and Breakthrough Award Level 4 PAs for Stage 1 were as follows: ratings and evaluations of the peer reviewers; relevance to the mission of the DHP and FY20 BCRP; adherence to the intent of the award mechanism; program portfolio composition; and relative impact.

After programmatic review, the Commanding General, USAMRDC approved funding for the applications recommended during programmatic review.