

# II CDMRP ACCOMPLISHMENTS

The Congressionally Directed Medical Research Programs' (CDMRP's) vision is to find and fund the best research to eradicate diseases and support the warfighter for the benefit of the American public. This is an ambitious and exciting goal, and we are making advancements. The CDMRP is leveraging resources (Figure II-1) to accelerate progress toward disease eradication and in the process is serving as a national and international model for re-engineering science administration.



Figure II-1. Leveraging Resources to Cure Disease

## LEVERAGING FUNDING TO CURE DISEASE

The CDMRP has invested almost \$2.6 billion (B) in biomedical research from fiscal years 1992 through 2004 (FY92 through FY04), with congressional appropriations totaling \$3.4B through FY05. This has resulted in 6,193 research grants, contracts, and cooperative agreements (Table II-1). The success of the programs, the work of consumer advocates, and the need for additional, focused biomedical research have led to continuing appropriations for programs managed by the CDMRP. Table II-2 reflects the increase in biomedical programs, dollars, and awards administered by the CDMRP since its inception.

## LEVERAGING PEOPLE TO CURE DISEASE

The success of the CDMRP can be attributed to the collective wisdom and dedication of the people involved—scientists, research managers, consumers, and those who are ultimately most affected by policy and research.

Table II-1. FY92–04 Awards Managed by the CDMRP

Programs (Fiscal Years)	Grants Managed	Dollars Invested
BCRP (FY92–04)	4,293	\$1,437.3M
PCRP (FY97–04)	1,245	\$492.3M
NFRP (FY96–04)	140	\$112.4M
OCRCP (FY97–04)	92	\$70.1M
PRMRP (FY99–04)	156	\$206.2M
CMLRP (FY02–04)	36	\$11.9M
TSCRCP (FY02–04)	20	\$5.3M
Other Programs (FY95–04)	211	\$245.7M
<b>Total</b>	<b>6,193</b>	<b>\$2,581.2M</b>

Table II-2. The CDMRP: Then and Now

	1992	2004
Number of Research Programs	1	25
Appropriation(s)	\$25M	\$368.5M
Number of Awards	26	566



### *Advocates, Consumers, and the CDMRP*

The unique voices and experiences of survivors and their families have played a pivotal role in the establishment and growth of the CDMRP. The relentless work of thousands of advocates has resulted in almost \$3.4B in appropriations for targeted diseases through FY05. Today, the CDMRP is a recognized leader in integrating consumers in virtually all aspects of program execution. Consumers for most of the core programs are survivors of the respective diseases and representatives of consumer advocacy organizations. The value of consumer involvement is derived from each individual's firsthand experiences with the disease. This adds a perspective, passion, and a sense of urgency that ensure that the human dimension is incorporated in the program policy, investment strategy, and research focus. For instance, approximately 30 consumers have served on Integration Panels (IPs) from 1993 to the present, while others have been active participants in executing some research projects. Over 850 consumers have served on scientific peer review panels since 1995. Finally, consumers have had opportunities to learn about the scientific advances that their lobbying efforts have supported by attending multidisciplinary meetings held by the CDMRP, such as the Breast Cancer Research Program's (BCRP's) Era of Hope meetings. Consumer participation in these meetings is substantial, from serving as members of the technical planning committee to co-chairing every scientific session. Read the In The News story beginning on page II-13 for one consumer's recounting of her experience at the most recent Era of Hope meeting held in 2005. Additionally, for more information on consumer involvement and serving as a consumer reviewer in the first tier of review (peer review), see the consumer involvement pages on the CDMRP website (<http://cdmrp.army.mil>).

### *The Scientific Community and the CDMRP*

The scientific community is essential in assisting the CDMRP in shaping the future of health care. The fulfillment of program goals requires cooperation and communication across multiple scientific and clinical disciplines. To date, almost 4,000 scientists and clinicians have provided the necessary subject matter expertise on peer review panels. Approximately 200 world-renowned basic scientists, clinicians, and policymakers have participated in vision setting and programmatic review as IP members and approximately 175 scientists have served as ad hoc programmatic reviewers. Almost 100 scientists, clinicians, and professionals are currently involved in all phases of program execution and science management of the CDMRP. Collectively, these scientists have assisted the CDMRP in funding over 5,700 researchers in an effort to tackle the complex causes of disease and translate this knowledge to improved disease prevention, patient survival, and quality of life.



Moreover, the CDMRP has played a major role in training scientists at all points in their careers. In the 1993 Institute of Medicine (IOM) report, it was stated that the “best investment the program can make is to stimulate talented new investigators....”<sup>1</sup> The CDMRP’s commitment to training the best and the brightest to eradicate human diseases is demonstrated by its portfolio of funded projects, nearly one-third of which focus on training and recruitment. The CDMRP has supported both new researchers in the field and established scientists interested in extending their expertise to the study of other diseases. Table II-3 illustrates the CDMRP’s investment in training and recruitment awards that support the scientific community, a crucial force in the war against disease.

*Table II-3. Investing in the Best and Brightest: Summary of Training and Recruitment Awards from FY92–04*

Award Mechanisms	Programs (Fiscal Years)	Number of Awards	Investment
Career Development	BCRP (FY93–01)	175	\$38.9M
	NFRP (FY02)	1	\$0.2M
Career Transition	NPRP (FY02)	4	\$1.6M
Clinical Research Nurse	BCRP (FY02–03)	17	\$3.0M
CTR Postdoctoral Fellowship	BCRP (FY00)	2	\$0.3M
HBCU/MI Partnership Training	BCRP (FY99–04)	12	\$9.7M
Health Disparity Training–Prostate Scholar	PCRP (FY01–04)	6	\$1.1M
Institutional Training	BCRP (FY93/94, 98–99)	34	\$19.9M
	OCRP (FY02)	1	\$0.6M
Minority Population Focused Training	PCRP (FY98–00)	24	\$1.3M
Physician Scientist Training	BCRP (FY02–03)	10	\$5.2M
	PCRP (FY03–04)	14	\$9.0M
Postdoctoral	BCRP (FY93–02)	480	\$64.4M
	PCRP (FY99–04)	174	\$17.6M
	NFRP (FY98–04)	26	N/A <sup>a</sup>
Predocctoral	BCRP (FY93–04)	744	\$52.5M
Prion Techniques Fellowship	NPRP (FY02)	1	\$0.04M
Sabbatical	BCRP (FY93/94, 96–97)	8	\$0.8M
Undergraduate Summer Training Program	BCRP (FY00–02)	16	\$2.3M
	PCRP (FY04) <sup>b</sup>	3	\$0.6M
<b>Total</b>		<b>1,752</b>	<b>\$229.04M</b>

<sup>a</sup> The NFRP offered support for postdoctoral trainees as nested traineeships within Investigator-Initiated Research Awards; therefore, dollars invested for the nested postdoctoral traineeships are not available.

<sup>b</sup> The PCRP offered Historically Black Colleges and Universities (HBCU) Undergraduate Summer Training Program Awards.



<sup>1</sup> Institute of Medicine, Strategies for Managing the Breast Cancer Research Program: A Report to the U.S. Army Medical Research and Development Command, The National Academies Press, 1993.



## LEVERAGING SCIENCE MANAGEMENT TO CURE DISEASE

The CDMRP has been a pioneer in exploring and mobilizing untapped research and science management opportunities, from creating award mechanisms that fulfill unique niches to developing innovative management execution processes, many of which are now being adopted by other funding agencies. Collectively, these new practices reflect the CDMRP’s commitment to creating foundations on which future research can be built.

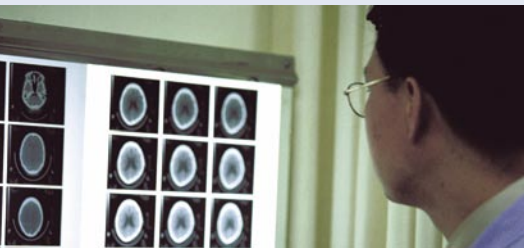
### CDMRP Award Opportunities

The CDMRP has provided support for areas of highest priority and greatest need among individual programs. The CDMRP has ensured that the focus and structure of research categories and award mechanisms offered within individual programs match the unique opportunities for research breakthroughs. Approximately 30 different award mechanisms have been launched by the CDMRP to train new investigators (Table II-3), develop necessary research resources (Table II-4), and promote innovative research (Table II-5).

In the 1993 IOM report, it was noted that “research in breast cancer is impeded by inadequate access to resources that are appropri-

Table II-4. Investing in Research Resources:  
Summary of Infrastructure Awards from FY92–04

Award Mechanisms	Programs (Fiscal Years)	Number of Awards	Investment
Behavioral Center of Excellence	BCRP (FY00)	4	\$23.2M
Breast Cancer Center of Excellence	BCRP (FY01–04)	14	\$107.0M
Cancer Center Initiation/ Program Project	BCRP (FY93–95)	4	\$17.8M
	PCRP (FY99)	4	\$8.5M
	OCRP (FY97, 98, 00–01)	16	\$30.6M
Center of Excellence Pilot	BCRP (FY04)	1	\$0.1M
Collaborative-Clinical Translational Research	BCRP (FY99–00, 02)	3	\$5.5M
Mammography/Breast Imaging Equipment	BCRP (FY92)	2	\$4.1M
Natural History Development	TSCR (FY04)	1	\$0.1M
Natural History Study	NFRP (FY97)	2	\$5.9M
Prostate Cancer Consortium	PCRP (FY02)	2	\$19.9M
Prostate Cancer Consortium Development	PCRP (FY01)	5	\$0.7M
Research Resources	BCRP (FY93/94)	28	\$23.4M
Special Mammography Demonstration Project	BCRP (FY95)	8	\$11.4M
<b>Total</b>		<b>94</b>	<b>\$258.2M</b>



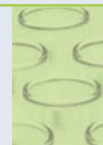


Table II-5. Summary of Awards from FY93–04 That Foster Novel Ideas

Award Mechanisms	Programs (Fiscal Years)	Number of Awards	Investment
Concept	BCRP (FY99–00, <sup>a</sup> 03–04)	704	\$68.7M
	NFRP (FY04)	9	\$0.9M
	TSCR (FY04)	7	\$0.7M
Era of Hope Scholar	BCRP (FY04)	10	\$34.7M
Exploration	BCRP (FY02)	20	\$4.4M
Hypothesis Development	PCR (FY03–04)	67	\$7.7M
	CMLRP (FY03–04)	22	\$2.2M
Idea/Idea Development	BCRP (FY93–04)	1,479	\$521.9M
	PCR (FY97–04)	589	\$301.4M
	NFRP (FY99–03)	26	\$10.6M
	OCR (FY99, 02–04)	46	\$24.5M
	NPRP (FY02)	17	\$7.8M
	TSCR (FY02–04)	12	\$4.5M
Innovator	BCRP (FY01–04)	12	\$54.4M
New Investigator	PCR (FY01–04)	289	\$91.6M
	NFRP (FY99–04)	27	\$13.6M
	OCR (FY99–00, 04)	28	\$13.6M
<b>Total</b>		<b>3,364</b>	<b>\$1,163.2M</b>

<sup>a</sup> Concept Awards offered by the FY99 BCRP were supported by both FY99 and FY00 appropriations.

ate for sharing—including tumor samples, cell lines, animal models, DNA probes, follow-up data on women diagnosed with breast cancer, information about ongoing clinical trials, and economic data to evaluate the cost of care.”<sup>2</sup> Based on this clear need in 1993, and the need for similar support identified by IPs in subsequent years, the CDMRP has funded research resources awards across most of its programs. These awards are designed to provide researchers with support to (1) create or obtain materials and data from multiple sources that would otherwise be difficult to acquire or (2) establish and support centers or consortia that can provide a foundation for future research. Table II-4 lists the award mechanisms that were designed to enable researchers to leverage their resources and expertise to accelerate disease eradication. Read additional information about the CDMRP’s investment in training/recruitment and innovative research under “Leveraging People to Cure Disease” and “Leveraging Ideas to Cure Disease,” respectively.

### Electronic Proposal Submission and Review

The CDMRP has been a leader in advancing electronic technology from disseminating funding opportunities through award notification. These strategies have improved and streamlined program management, thus saving time, saving money, and improving quality. To begin, funding opportunities for individual programs and award mechanisms



<sup>2</sup> Institute of Medicine, Strategies for Managing the Breast Cancer Research Program: A Report to the U.S. Army Medical Research and Development Command, *The National Academies Press*, 1993.



are immediately posted online and prior submitters to the CDMRP are notified electronically when program announcements are released. Additionally, an innovative online proposal submission website (i.e., eReceipt website) was developed by the CDMRP for applicants to electronically submit new proposals using a simple and integrated approach to proposal submission. This eReceipt website is also used by applicants and the CDMRP to manage in-progress and past proposals. To date, over 15,800 proposals have been received electronically. Further, to facilitate the proposal review process, participants in both tiers of review receive the necessary materials in electronic format prior to the review meeting. At the meeting, electronic innovations have streamlined the review process. For instance, scientific peer reviewers utilize an electronic-based scoring system, eliminating the cost of printing, sorting, distributing, and correcting paper score sheets. Programmatic reviewers use a programmatic review database to make and track funding decisions. This database provides instantaneous information, including a relevant tally of available dollars, portfolio balance, applicant information, and proposal demographics. Summary statements and award notifications for each proposal are disseminated electronically to applicants via the eReceipt website. Finally, data pertaining to electronic proposal submission and review are linked to the Electronic Grants System (EGS),<sup>3</sup> a database that enables the CDMRP to access, integrate, manage, and securely share the increasing volume of data associated with each proposal. Read more about this novel database system in the section that follows.

### **Information Management**

The CDMRP EGS was launched in FY02 to enable real-time electronic management of CDMRP proposals from proposal receipt to award closeout. EGS is a customized and integrated business system and state-of-the-art database that securely allows multiple users within the U.S. Army Medical Research and Materiel Command (USAMRMC) to input data, download reports, and manage daily administrative tasks associated with grants. The implementation of EGS has allowed CDMRP to virtually eliminate paper processing of grants, which not only saves time and money but also increases the accuracy of data management processes. In 2003, the search capability on the CDMRP website became linked to EGS, thus providing visitors to the CDMRP website with real-time data.

## **LEVERAGING IDEAS TO CURE DISEASE**

In 1993, a recommendation was made to the USAMRMC by the IOM to “create an environment in which creative ideas and first-rate research can flourish and in which investigators are not afraid



<sup>3</sup> Formerly known as the Enterprise Data System.

to gamble on risky but alluring ideas.”<sup>4</sup> Today, the CDMRP’s central philosophy is innovation. The CDMRP fills research gaps by funding high-risk, high-gain research that other agencies will not venture funding. Many of the award mechanisms offered by the CDMRP emphasize support for exploration of revolutionary ideas and concepts that could ultimately lead to a critical discovery or major development in the battle to cure disease. While each mechanism has different award requirements, all share the common goal of advancing innovative ideas, creative solutions, and breakthrough technologies. Read about one CDMRP-funded investigator’s support for the organization’s emphasis on innovation on page II-10.

Through FY04, the CDMRP has funded 3,364 awards across seven mechanisms that specifically encourage innovative scientific ideas and approaches to disease eradication. These awards have made significant contributions to our understanding of disease processes, the development of therapeutics, and the improvement of quality of life. Table II-5 summarizes the number of awards made and the dollars invested from FY93 through FY04 for support of novel ideas.

## LEVERAGING COLLABORATIONS TO CURE DISEASE

Public, private, government, and military partnerships occur in all aspects of the programs and are central to the success of the CDMRP. We believe that these effective partnerships are leading us closer to finding cures for many diseases and are facilitating our ability to effectively address critical health issues. Illustrated in Figure II-2 are some of the collaborative efforts of the CDMRP that have played a key role in helping to shape the future of health care to prevent, control, and cure diseases. These efforts are summarized as follows.

### Collaborative Research Mechanisms

The CDMRP has supported several different award mechanisms that foster strong partnerships and collaborations in the scientific community. Since 1997, \$172.7M has been invested across the programs to establish 46 Consortia, Centers, and Program Projects. Some common features of these award mechanisms include building lasting collaborations, establishing both multidisciplinary and multi-institutional teams of researchers and consumers, addressing overarching problems in disease and accelerating solutions, establishing synergistic research efforts,



Figure II-2. Leveraging Collaborations to Cure Disease

<sup>4</sup> Institute of Medicine, Strategies for Managing the Breast Cancer Research Program: A Report to the U.S. Army Medical Research and Development Command, *The National Academies Press*, 1993.



and fostering real-time communication and data sharing. In addition, 78 awards totaling \$27.2M were also awarded to Historically Black Colleges and Universities/Minority Institutions (HBCU/MI) under different mechanisms that support collaboration. Combined, these award opportunities are enabling research communities to pool and leverage their resources and knowledge to move us one step closer to disease eradication.

## **BRIDGING THE GAP: HEALTH DISPARITY RESEARCH INITIATIVES**

*Adapted from an abstract presented by Simons VH, Carey TE, DeKernion J, et al. from the American Association for Cancer Research 96th Annual Meeting entitled “Bridging the Gap: Health Disparity Research Initiatives through the Department of Defense (DOD) Congressionally Directed Medical Research Programs (CDMRP) Prostate Cancer Research Program (PCRP).” The full abstract is accessible on the CDMRP website at <http://cdmrp.army.mil>.*

In FY97, the CDMRP launched the Minority Health Initiative to increase the quantity and quality of CDMRP-funded cancer research on minority populations and to address the disparities in the incidence, prevalence, morbidity, and mortality rates of prostate cancer. In response to this initiative, the PCRP developed numerous health disparity and HBCU/MI awards to create collaborative partnerships and direct research toward elucidating disease mechanisms in underserved populations and building resources at HBCU/MI. Through FY03, approximately \$36M was awarded toward the PCRP’s health disparity research initiatives, with another \$5.9M earmarked in FY04. Through FY03, 20 awards were made to 11 HBCU totaling \$7.7M, and 46 awards were made to 7 MI. In FY04, an additional \$2.2M and \$5.2M were allocated toward HBCU and MI, respectively. Combined, these investments are strengthening the nation’s prostate cancer research portfolio by encouraging investigators to address the needs of minorities and other underserved populations in their research protocols and to encourage minority investigators and institutions to participate in the grant process.

### ***Working with Minority and Underserved Populations***

In 1998, the CDMRP established the Minority and Underserved Populations Program<sup>5</sup> to enhance the ability of the CDMRP to address the significant disparities that exist in the incidence, morbidity, and mortality among different ethnic groups<sup>6</sup> for many of the diseases against which the CDMRP provides support. The purpose of the Minority and Underserved Populations Program is to address disparities in underserved, understudied, and underrepresented communities. Its mission is to enhance the CDMRP’s efforts in this area by creating new award mechanisms, reaching out to communities through improved communication, and partnering with other agencies. For example, the BCRP and Prostate Cancer Research Program (PCRP) have developed numerous health disparity and HBCU/MI partnership awards to cre-

<sup>5</sup> Formerly called the Special Populations Program.

<sup>6</sup> American Cancer Society, Cancer Facts and Figures, 2005.





ate collaborative partnerships and direct research toward elucidating disease mechanisms in underserved populations and building resources at HBCU/MI. In total, the CDMRP has made 78 health disparity and HBCU/MI partnership awards totaling \$27.2M.

To effectively disseminate funding opportunities in these areas, the Minority and Underserved Populations Program has established and maintains a contact list of investigators conducting research at HBCU/MI and on minority populations. These intensive efforts have resulted in meaningful partnerships to address health disparities among ethnic groups. Additionally, relationships with minority scientists and consumers have been fostered by attendance at conferences sponsored by such groups as the Intercultural Cancer Council, the Society for the Advancement of Chicanos and Native Americans, the Department of Defense (DOD) HBCU/MI Technical Assistance Conference, and the Minority Health Professions Foundation. The CDMRP has also formed affiliations with organizations such as the Hispanic Association of Colleges and Universities and the National Association of Native American Physicians.

### ***International Cancer Research (ICR) Partners***

Under the direction of the National Cancer Institute (NCI) and the CDMRP, a group called the ICR Partners was formed in 2000 to impact cancer research through global collaboration and coordination. Today, the ICR Partners represent U.S.- and U.K.-based cancer funding organizations that have come together to classify their respective research portfolios using a common coding scheme as well as to facilitate communication among cancer researchers, cancer funding organizations, health care policymakers, health care professionals, cancer survivors, and anyone with an interest in the most current cancer research. ICR Partners is comprised of eight U.S. cancer funding organizations including the NCI, CDMRP, American Cancer Society, California Breast Cancer Research Program, Oncology Nursing Society, Prostate Cancer Foundation, California Cancer Research Program, and Susan G. Komen Breast Cancer Foundation as well as 18 funding organizations that are members of the U.K. National Cancer Research Institute. The ICR Partners adopted a unified coding scheme initiated by the NCI called the Common Scientific Outline for categorizing funded research of its members in a scientific and disease-related manner. The ICR Partners created a relational database of cancer research supported by its members called the International Cancer Research Portfolio (ICRP). The ICRP enables users to browse, search, and/or sort research portfolios by many data fields including type of cancer, funding organization, and research area. The ICRP is made available to the public via the website <http://www.cancerportfolio.org/>.





## **BREAST CANCER RESEARCH: WHAT'S SO SPECIAL ABOUT THE DOD ARMY GRANTS?**

*Written by George Prendergast, Ph.D.*

*FY99 BCRP New Investigator Award and FY02 BCRP Idea Award Recipient*

...Ideas drive experiments which, in turn, drive new ideas. This fundamental cycle of scientific discovery in breast cancer has gradually advanced methods for diagnosis and treatment. However, we still have far to go to reach the goal of eradicating breast cancer—we need to continue to encourage new ideas and research, which form the wellspring of hope to defeat this deadly disease.

Given the emphasis on innovation in biomedical science, many people may think that research funds are readily available to investigate exciting new ideas about breast cancer. Actually, this is not usually the case. Why? The chief reason stems from the organization and values of our academic research culture. The major sources of support for academic research are federal grants from the National Institutes of Health (NIH). Competition for these grants is intense. Awards are made to support mature and well-established lines of work that expert peer review committees can agree are sound, important, and already supported by strong preliminary results. These committees do not tend to favor ideas that are new, untested, or challenging, because without the approval afforded by previous scientific consensus, it is usually difficult to judge what is a good idea and what is not. The good news is that this system supports robust research, helping make U.S. biomedical science very reliable and sound. However, the bad news is that this system does not favor new or challenging ideas.

This is precisely the gap that is filled by the DOD [BCRP]. The chief demand of this program is innovation—only exciting and challenging new ideas with high payoff potential toward the goal of eradicating breast cancer are funded. Additionally, the DOD [BCRP] tries to attract researchers from outside the field to work on their new ideas. As someone who came to work on breast cancer in this way, my experience may be illustrative.

Through two [awards] from the DOD, my laboratory was able to pursue work on a new gene called *Bin1* that we had discovered and found to suppress cancer. Taking our findings forward in studies of breast cancer, we were able to gain sufficient understanding to develop a radically new kind of drug therapy that stimulates the immune system to attack breast cancer cells, when it is combined with the traditional chemotherapy received by most patients. This year, after 6 years of critical DOD sponsorship, we finally obtained our first major NIH grant for continuing this work. Without the DOD support, which acted as a bridge to fund the innovation at an early stage of research, this unique “gene to drug” project would never have happened....

### ***Prostate Cancer Funders' Group***

The Prostate Cancer Funders' Group is composed of 14 prostate cancer funding organizations that collectively strive to eliminate prostate cancer. Some of the goals of this group are to pool resources and knowledge, establish collaborations, open the lines of communication, identify roadblocks to progress, and implement international initiatives to move prostate cancer research forward, specifically in the areas of tissue bank protocols, biomarker validation, bone metastasis, and clinical trials.



### ***Gynecological Cancer Foundation Allied Support Group***

The CDMRP is a member of the Gynecological Cancer Foundation Allied Support Group, a group composed of 8 major ovarian cancer funders and 14 advocacy organizations to facilitate synergy among organizations that share goals of prevention and early detection of gynecological cancers. This group collaborates on educational, advocacy, and research projects including the following:

- ◆ Educational kits/brochures for medical professionals and the lay public
- ◆ An ovarian cancer product guide
- ◆ Newspaper/magazine articles
- ◆ Efforts to increase consumer participation in gynecological clinical trials

### ***Era of Hope Meetings***

The BCRP has sponsored four major international scientific meetings, called the Era of Hope, to provide a forum for thousands of scientists, clinicians, health care providers, and consumers to communicate ideas and promising new directions in breast cancer research. These meetings have provided unprecedented opportunities for developing future collaborations and disseminating program information. The most recent Era of Hope meeting was held June 8–11, 2005 in Philadelphia, Pennsylvania. This meeting brought together over 1,600 scientists, physicians, military personnel, and breast cancer survivors to present and discuss the latest BCRP-funded scientific research on the prevention, detection, diagnosis, and treatment of breast cancer; new directions in research; as well as understudied issues. Read more about the Era of Hope 2005 on pages II-13–II-15 and IV-5.

### ***Military Health Research Forum***

The Peer Reviewed Medical Research Program (PRMRP) sponsored its first Military Health Research Forum in April 2004 to provide a means for investigators funded by the program to present their research findings, products, and technologies and to develop future collaborations related to military health research. In addition, the forum emphasized ways to expedite transition from research to rapid, field-usable products/methods. The success of the first meeting has led to the planning of the next Military Health Research Forum, scheduled for May 2006.





## LEVERAGING TECHNOLOGY FOR PRODUCT DEVELOPMENT TO CURE DISEASE

The CDMRP's vision is to find and fund the best research to eradicate diseases and support the warfighter for the benefit of the American public. As highlighted throughout this section and in the subsequent program-specific sections, the CDMRP has designed a number of cutting-edge award mechanisms and subsequently funded 6,193 research grants, contracts, and cooperative agreements (see Table II-1) to enable the nation to cure disease. Approximately, 11,680 publications and 130 patents/licensures (including applications) have been produced by CDMRP-funded investigators. Examination of the CDMRP portfolio already shows a return on our investment. Highlighted in the following section (Section III) is a snapshot of some of the exciting products and technologies resulting from CDMRP support that have impacted global health issues such as breast, prostate, and ovarian cancers; neurofibromatosis; military health; and prion diseases.

In addition, the Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) programs have been used to leverage research and product development not supported elsewhere by the CDMRP. The CDMRP has participated in the SBIR program since FY00, while FY04 marked the first year of CDMRP participation in the STTR program. The SBIR/STTR programs are designed to harness the innovative talents of U.S. small businesses for our country's military and economic strength. The SBIR/STTR programs fund early-stage research and development efforts to support projects that fulfill a DOD need and have the potential for commercialization in the military and private sector markets. These programs are product driven with the intent that a technology, product, or service will be developed that the government can potentially use and that the small business or research institution can commercialize outside the SBIR/STTR programs.

The SBIR/STTR programs fund product-driven research in three phases of development: Phase 1 is proof-of-principle, Phase 2 is project development to prototype, and Phase 3 is commercialization. This system reflects the high degree of technical risk involved in developing and commercializing cutting-edge technologies.

Through CDMRP's 6 years of participation in the SBIR/STTR programs, the CDMRP has supported an additional \$11.3M of research and product development across breast, prostate, ovarian, and lung cancers, as well as work in military health-related disciplines such as angiogenesis and wound healing, prion-related diseases such as "mad cow disease," and detection of biological and chemical agents. Negotiations of another nine Phase 1 contracts totaling \$780,000 for prostate and ovarian cancers, and antemortem detection of prion-related diseases are under way.



## SHAPING TOMORROW

Solving today’s health crises remains an ambitious challenge, but the CDMRP believes that by continuing to leverage resources, diseases will be cured. In 2006, the CDMRP will continue to change the landscape of science in targeted diseases. Together, we will enable the nation to cure.

## IN THE NEWS—ERA OF HOPE

**June 30, 2005**

By Nancy K. Crevier, *Newtown Bee*

### **Adapted from “Breast Cancer Research: Entering an Era of Hope”**

“There is so much to be excited for,” says Marty LaMarche of her recent involvement in the Department of Defense Breast Cancer Research Program’s Era of Hope symposium held June 8–11 at the Philadelphia Convention Center.

As a consumer reviewer for the DOD BCRP, Ms. LaMarche had traveled to Washington DC, in August of 2002, where a panel consisting of herself, two other consumer reviewers (lay cancer experts with first-hand knowledge of the disease), and 20 scientists reviewed 60 breast cancer research proposals.

The BCRP is a program that unites military, scientific, medical, and breast cancer survivors, as well as advocacy communities, in developing research to end breast cancer.

The Era of Hope meeting gave Ms. LaMarche the opportunity to hear the results of the research she has continually reviewed for the past 3 years. One of the stipulations of research funded by the DOD is that the results must be presented to the public.

Says Ms. LaMarche, “They want scientists to have public contact. It helps scientists put a face on their research.”

The research selected by the panel is cutting edge in nature and the DOD is the only program that funds this kind of research. It is, according to Ms. LaMarche, a breast cancer survivor, research that if successful, “can move breast cancer research light-years ahead.”

What she found at the June symposium was a new perspective on how scientists are approaching the issue of breast cancers.

“This is the first time I heard of breast cancer referred to as the ‘spectrum of breast cancer diseases,’” she said. “You’re not just looking for a lump.”

Scientists, she continued, are starting to believe they have been treating symptoms, and not the disease. One of the lines of investigation that





Ms. LaMarche found intriguing referred to tumors as abnormal organs coming from abnormal cells. What it means is that cancer cannot be halted unless the abnormal stem cells are killed. Scientists are now beginning to think this is one reason why cancer can recur in other parts of the body despite conventional treatment, she explained.

Nanotechnological applications in which ultrasmall particles deliver drugs into spaces previously not accessible are being actively researched, as scientists delve into the stem-cell implications....

Other remarkable breakthroughs to breast cancer treatment, such as gene silencing systems and phase contrast imaging of cellular components, were presented to the conventiongoers, who Ms. LaMarche estimates numbered more than 1,000. Experimental handheld screening devices that would allow women to perform their own “mammograms” at home, the role of exercise in breast cancer recovery, and genetic profiling technologies allowing researchers to identify different breast cancer “types” were just a few of the 1,200 other projects and presentations touched on at this gathering.

Because the input of patients, survivors, and others affected by this research is highly valued, consumer recruitment is ongoing. Cancer survivors who are interested in becoming consumer reviewers can log onto [cdmrp.army.mil/bcrp/era/default.htm](http://cdmrp.army.mil/bcrp/era/default.htm) for information on doing so.

Hearing the repeated mantra, “210,000 women will be diagnosed with breast cancer this year in the U.S., and 40,000 will die of the disease,” was a constant reminder of the importance of the outside-the-box research being undertaken, says Ms. LaMarche. “It seemed every other speaker started out with that [statistic].”

That being said, the most important message she believes she returns home with is the importance of continuing this unique research....

### June 23, 2005

By Karen Fleming-Michael, [dcmilitary.com](http://dcmilitary.com), *The Journal*

#### **Adapted from “Combating breast cancer team effort”**

Much has been done, but there’s much more to be done.

Such was the prevailing sentiment at the 2005 Era of Hope Meeting for the Department of Defense Breast Cancer Research Program held June 8–11 in Philadelphia.

Scientists, clinicians, and advocates gathered for those four days to report on their research results, both through poster and conference sessions, to explore controversial issues, forge alliances with other researchers and advocates, and challenge each other in searching for a cure for breast cancer.

“This meeting will tell us where we are with breast cancer and where we need to go,” said Fran Visco of the National Breast Cancer Coalition who is also chair of the 2005 Breast Cancer Research Program Integration Panel and co-chair of the technical planning committee for this conference.

This year’s conference was the fourth held since the DOD Breast Cancer Research Program began in 1992. Since [the program’s] inception, breast cancer advocates and survivors have participated in the research proposal review to help identify the best ideas that deserve funding, said [COL] Janet Harris, director of the U.S. Army Medical Research and Materiel Command’s Congressionally Directed Medical Research Programs since April.

Advocates’ participation is deliberate: their lobbying efforts with Congress for additional funding for breast cancer research created the program.

“This keeps me alive and kicking,” said Sandy Blank of the Florida Breast Cancer Resource Network.

At the meeting, advocates for breast cancer research and education conveyed their message that “time is of the essence” to researchers both in person and on message boards. They asked scientists to come up with less toxic treatments, targeted therapies and better diagnostics and challenged the healthcare system to treat every woman facing the disease, no matter her ability to pay....

With more than 1,280 poster presentations and more than 315 speakers, the conference addressed every facet of breast cancer and encouraged collaborations between researchers and breast cancer survivors and advocates. Breast cancer survivor participation, a hallmark of the BCRP in all processes, was tremendous with over 270 breast cancer survivors from 95 advocacy organizations attending, 48 survivors co-chairing or moderating sessions, and 10 survivors presenting....

This entire feature article can be accessed at [http://www.dcmilitary.com/army/standard/12\\_13/health/35453-1.html](http://www.dcmilitary.com/army/standard/12_13/health/35453-1.html).

