

*Department of Defense*



# CONGRESSIONALLY DIRECTED MEDICAL RESEARCH PROGRAMS

ANNUAL REPORT  
SEPTEMBER 30, 2001



U.S. Army Medical Research  
and Materiel Command

***CDMRP Vision***

*To be the preferred and responsive source for accessible research funding, shaping the future of health care to prevent, control, and cure diseases.*

***CDMRP Mission***

*To advance health care solutions in areas identified by Congress and the Department of Defense by funding excellent research, recognizing and mobilizing untapped opportunities, creating partnerships, and guarding the public trust.*



*Department of Defense*  
**CONGRESSIONALLY  
DIRECTED MEDICAL  
RESEARCH PROGRAMS**



**ANNUAL REPORT  
SEPTEMBER 30, 2001**

**Congressionally Directed Medical Research Programs**

**ATTN: MCMR-PLF**

**1077 Patchel Street**

**Fort Detrick, MD 21702-5024**

**Phone: (301) 619-7071 Fax: (301) 619-7796**

**<http://cdmrp.army.mil>**



**U.S. Army Medical Research  
and Materiel Command**



**DEPARTMENT OF THE ARMY**  
US ARMY MEDICAL RESEARCH AND MATERIEL COMMAND  
504 SCOTT STREET  
FORT DETRICK, MARYLAND 21702-5012

REPLY TO  
ATTENTION OF:

October 15, 2001

Office of the Commanding General

Dear Colleagues:

The Department of Defense has been directed by the U.S. Congress to execute targeted biomedical research programs. As the executive agent for many of these programs, the U.S. Army established the Office of the Congressionally Directed Medical Research Programs (CDMRP) to manage these initiatives within the U.S. Army Medical Research and Materiel Command.

We are currently experiencing an explosive growth in knowledge and technology across a diverse array of scientific disciplines. Therefore, we must continue to support basic and clinical research that uses this growth to fulfill our vision of eradicating specific diseases and improving the lives of affected individuals.

To that end, the CDMRP manages peer-reviewed research programs in breast, prostate, and ovarian cancers, neurofibromatosis, military health, and other specified areas.

This fiscal year 2001 Annual Report covers the history, management strategies, funding, and achievements of the CDMRP, including summaries of each of the core programs managed by the CDMRP. It represents the collective wisdom, dedication, and commitment of a unique public/private partnership that includes policymakers, the military, consumer advocates, scientists, and clinicians. By supporting innovative and highly meritorious basic and clinical research and identifying and filling gaps in scientific knowledge, this partnership is improving the health and quality of life of all individuals.

Sincerely,

A handwritten signature in black ink that reads "John S. Parker".

John S. Parker  
Major General, Medical Corps  
Commander



**DEPARTMENT OF THE ARMY**  
US ARMY MEDICAL RESEARCH AND MATERIEL COMMAND  
1077 PATCHEL STREET  
FORT DETRICK, MARYLAND 21702-5012

REPLY TO  
ATTENTION OF:

30 September 2001

Congressionally Directed Medical Research Programs

Dear Colleagues:

Although many improvements have been made during the past 50 years in the prevention, diagnosis, and treatment of human disease, there is still a critical need for disease-relevant medical research. The Department of Defense's (DOD) Congressionally Directed Medical Research Programs (CDMRP), which originated in the early 1990s, has become a leader in funding innovative, scientifically meritorious research in the fields of breast, prostate, and ovarian cancers, and neurofibromatosis. The CDMRP strives to complement other funding agencies by sponsoring research that fosters new directions for, addresses neglected issues in, and brings new investigators into targeted diseases. The programs currently being managed by the CDMRP are highlighted in this Annual Report.

The CDMRP was created in response to the concerns of those directly affected by breast cancer. The efforts of grassroots advocacy organizations resulted in Congress providing \$25M in FY92 for breast cancer research and \$210M in FY93 for the establishment of a "peer-reviewed breast cancer research program with the Department of the Army as executive agent." Based on recommendations from a 1993 Institute of Medicine (IOM) report, the CDMRP developed a unique proposal review model consisting of scientific (peer) review and programmatic review. While peer reviewers evaluate proposals primarily based on their scientific and technical merit, programmatic reviewers also consider factors such as programmatic relevance and innovation.

Since FY93, the CDMRP has acquired four additional core research programs, which focus on prostate cancer, ovarian cancer, neurofibromatosis, and biomedical issues directly relevant to military health. Each of these programs is executed according to the two-tier model described in the 1993 IOM report. Consumer advocates are an integral part of the review process and program execution, serving as full voting members on both peer and programmatic review panels. I believe that the alliance of consumer advocates, basic and clinical research scientists, and the DOD is critical to the success of the programs managed by the CDMRP.

I would like to express my deepest gratitude to the following individuals for their participation in the CDMRP:

- ◆ Disease survivors, family members, and consumers whose courage and commitment led to the creation of these programs. They continue to infuse the CDMRP with passion, inspiration, and vision.
- ◆ The scientists and clinicians funded by the program who are facing the challenges of improving the lives and health of all people. They are our greatest hope for preventing, controlling, and curing these diseases.
- ◆ Members of the CDMRP's Integration Panels (i.e., advisory committees), past and present, who crafted comprehensive programs over the past 10 fiscal years of funding. The dedication and skill of these panel members are evidenced by their many accomplishments, which include setting investment strategies and conducting programmatic review of proposals on a yearly basis.
- ◆ Members of the CDMRP's peer review panels, who have met the daunting task of reviewing more than 21,000 proposals since FY93. Without their expertise and perseverance, the CDMRP goal of funding highly meritorious research could not have been accomplished.

- ◆ The many members of the DOD, the U.S. Army Medical Research and Materiel Command, the CDMRP Program Management Teams, and support staff whose constant enthusiasm and diligence sustain the research programs on a daily basis.

I am grateful for the integrity, vision, and devotion shown by these dedicated individuals. They have crafted innovative and vital programs that continue to forge new pathways in the management and execution of biomedical research.

Sincerely,

A handwritten signature in black ink that reads "Kenneth A. Bertram". The signature is written in a cursive style with a large, prominent initial 'K'.

Kenneth A. Bertram, M.D., Ph.D.  
Colonel, US Army Medical Corps  
Director

# Contents

## **Executive Summary ..... vii**

### **I. Overview of the CDMRP**

History/Evolution .....	I-2
Programs Managed by the CDMRP .....	I-2
Program Execution .....	I-5
Partnerships .....	I-7
CDMRP Research Information Management and Dissemination .....	I-11

### **II. CDMRP Accomplishments**

Background .....	II-2
Advances in Management Execution Strategies .....	II-2
CDMRP Responsiveness through Award Mechanisms .....	II-4
Scientific Achievements .....	II-8

### **III. Breast Cancer Research Program**

The Disease .....	III-2
History of the BCRP .....	III-2
FY00 Program .....	III-4
FY01 Program .....	III-7
Scientific Achievements .....	III-7
Summary .....	III-12
FY01 Integration Panel Members .....	III-12

### **IV. Prostate Cancer Research Program**

The Disease .....	IV-2
History of the PCRP .....	IV-2
FY00 Program .....	IV-3
FY01 Program .....	IV-4
Scientific Achievements .....	IV-5
Summary .....	IV-9
FY01 Integration Panel Members .....	IV-9

### **V. Neurofibromatosis Research Program**

The Disease .....	V-2
History of the NFRP .....	V-3
FY00 Program .....	V-4
FY01 Program .....	V-5
Scientific Achievements .....	V-5
Summary .....	V-8
FY01 Integration Panel Members .....	V-8

### **VI. Ovarian Cancer Research Program**

The Disease .....	VI-2
History of the OCRP .....	VI-2
FY00 Program .....	VI-3
FY01 Program .....	VI-4
Scientific Achievements .....	VI-4
Summary .....	VI-8
FY01 Integration Panel Members .....	VI-8

### **VII. Peer Reviewed Medical Research Program**

Military Relevance .....	VII-2
History of the PRMRP .....	VII-2
FY00 Program .....	VII-3
FY01 Program .....	VII-4
Scientific Achievements .....	VII-5
Summary .....	VII-6
FY00-01 Joint Programmatic Review Panel Members .....	VII-6

### **VIII. Other Programs Managed by the CDMRP**

Background .....	VIII-2
Alcoholism Research .....	VIII-3
Cancer Center of Excellence .....	VIII-3
Cancer Research .....	VIII-3
Center for Prostate Disease Research .....	VIII-3
Cooperative Department of Defense/ Veterans Affairs Medical Research .....	VIII-4
Defense Women's Health Research .....	VIII-5
Diagnostic and Surgical Breast Imaging .....	VIII-6
Gallo Cancer Center .....	VIII-6
Lung Cancer .....	VIII-6
Osteoporosis Research .....	VIII-7
Post-Polio Syndrome Research .....	VIII-8

### **Appendix A**

Fiscal Years 92-00 Summary .....	A-1
----------------------------------	-----

### **Appendix B**

FY00 and FY01 Congressional Appropriations ....	B-1
---	-----

### **Appendix C**

USAMRMC Office of the Congressionally Directed Medical Research Programs Staff .....	C-1
---	-----

### **Appendix D**

Acronyms .....	D-1
----------------	-----

# *Section I.*

# *OVERVIEW*

# *OF THE CDMRP*



## **CONTENTS**

### **History/Evolution**

#### **Programs Managed by the CDMRP**

- Breast Cancer Research Program
- Prostate Cancer Research Program
- Neurofibromatosis Research Program
- Ovarian Cancer Research Program
- Peer Reviewed Medical Research Program

### **Program Execution**

#### **Partnerships**

- Consumers and the CDMRP
- Working with Special Populations
- Communication among Funding Agencies through a Common Scientific Outline
- Tri-Service Initiatives
- Small Business Innovation Research (SBIR)
- Fostering Collaboration through Award Mechanisms

#### **CDMRP Research Information Management and Dissemination**

- <http://cdmrp.army.mil>
- Advertisement of Funding Opportunities
- Publications
- Multidisciplinary Meetings

**CDMRP**





## History/Evolution

As a result of increased public awareness and the work of consumer advocates, the U.S. Congress directed the Department of Defense (DOD) to manage intramural and extramural research programs that focus on specific diseases. The U.S. Army Medical Research and Materiel Command (USAMRMC)<sup>1</sup> first received \$25 million (M) for breast cancer research in fiscal year 1992 (FY92). The following year, Congress appropriated \$210M for breast cancer research to be administered by the DOD. The Office of Congressionally Directed Medical Research Programs (CDMRP) was established within the USAMRMC to execute the FY93 appropriation and to assume oversight for the FY92 breast cancer awards. To effectively manage the FY93 appropriation, the Army sought the advice of the National Academy of Sciences (NAS). In response, the NAS Institute of Medicine (IOM) issued a report entitled *Strategies for Managing the Breast Cancer Research Program: A Report to the U.S. Army Medical Research and Development Command*.

The IOM committee made two major recommendations in this report. First, the IOM recommended an investment strategy that guided allocations of funds to best address current needs in breast cancer research. Second, the IOM recommended a two-tier review strategy consisting of scientific peer review and programmatic review. The CDMRP seeks the advice of an expert panel of scientists, clinicians and consumer advocates, and an Integration Panel (IP) for both programmatic review and the development of subsequent investment strategies. The IOM recommendations have been applied to most of the programs managed by the CDMRP since FY93. Further descriptions of IPs and the two-tier review process are in this section under Program Execution.

## Programs Managed by the CDMRP

The CDMRP currently manages 16 separate programs that total almost \$2 billion (B) in congressional appropriations. Five of the 16 programs are considered core programs because they have standing IPs and have received multiple appropriations. The other 10 programs received a one-time appropriation and/or are institutionally based programs. Although the programs within the CDMRP share many common features, each program is unique and emphasizes the specific needs of its research and advocacy communities. Highlights of each of the 5 ongoing core programs follow. See Section VIII for more information on other programs.

<sup>1</sup> Formerly known as the U.S. Army Medical Research and Development Command.



## —Breast Cancer Research Program

The DOD Breast Cancer Research Program's (BCRP) vision is to eradicate breast cancer. As the second largest funder of extramural breast cancer research in the world, the program has managed more than \$1.2B in appropriations from FY92–00. In addition, the BCRP is also a recognized leader in innovative program management. Over the past 10 years, a multidisciplinary research portfolio (Figure I–1) has been supported that encompasses a wide spectrum of prevention, detection, diagnosis, and treatment research projects. Research awards supported through this program are leading to the eradication of breast cancer by supporting innovative ideas, training future generations of scientists and clinicians, providing necessary infrastructure, and bringing bench research to the bedside. For the first 9 years of this program, the BCRP has received over 15,000 proposals and has made 2,837 awards. More detailed information regarding the BCRP is in Section III.

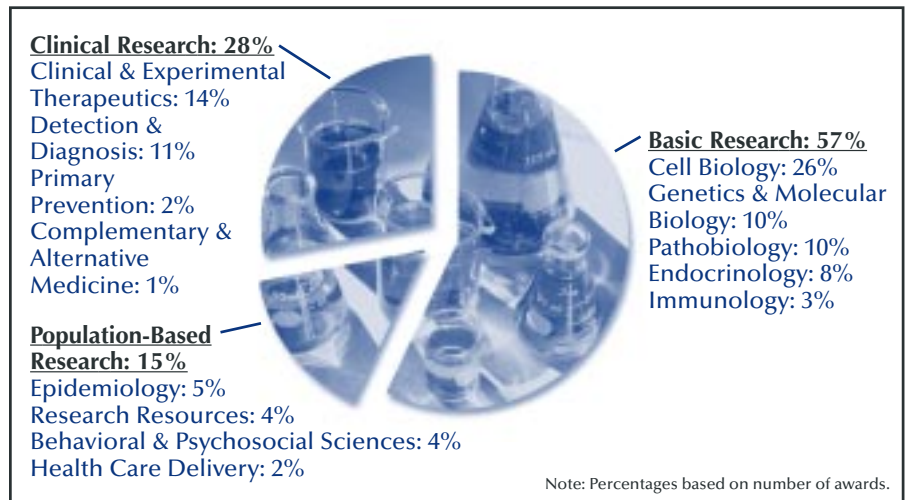


Figure I–1. FY92–00 BCRP Portfolio by Research Area

## —Prostate Cancer Research Program

The DOD Prostate Cancer Research Program's (PCRP) vision is to conquer prostate cancer. The PCRP, established in FY97, marks its fifth year in FY01. As a major funder of prostate cancer research, the PCRP has been responsible for the management of \$310M in appropriations. The PCRP has supported innovative, multidisciplinary basic and clinical research relevant to prostate cancer (Figure I–2). In addition, the PCRP is committed to addressing the significant disparities in the incidence and mortality of prostate cancer that exist among different ethnic groups, and it has designed award mechanisms to stimulate research in these areas. For the first 4 years of this program, 1,950 proposals have been received that have led to 439 awards. The PCRP is described in greater detail in Section IV.

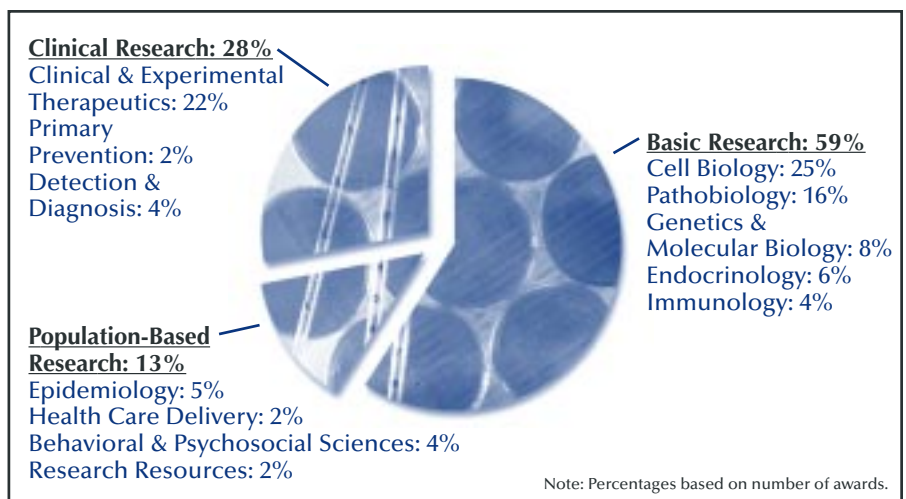


Figure I–2. FY97–00 PCRP Portfolio by Research Area

## —Neurofibromatosis Research Program

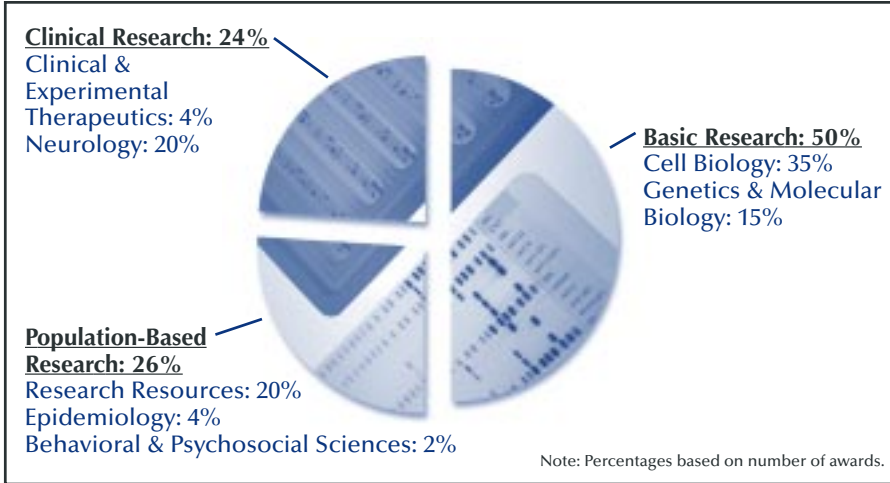


Figure I-3. FY96-00 NFRP Portfolio by Research Area

The DOD Neurofibromatosis Research Program's (NFRP) vision is to decrease the impact of neurofibromatosis (NF). As a leader in the support of NF research, the NFRP has managed \$69.3M in congressional appropriations for FY96-01. The NFRP has supported a multidisciplinary portfolio that encompasses basic, clinical, and population-based projects (Figure I-3) on both NF1 and NF2. In recent years, emphasis has been placed on increasing the number of clinical trials. Part of this clinical foundation includes large natural history studies/consortium awards and awards to support the development and

evaluation of preclinical model systems. For the first 5 years of this program, the NFRP has received 175 proposals that have led to 65 awards. Further details on the NFRP appear in Section V.

## —Ovarian Cancer Research Program

The DOD Ovarian Cancer Research Program's (OCRP) vision is to prevent ovarian cancer. Appropriations for the FY97-01 OCRP total \$51.5M. The OCRP has built a multidisciplinary portfolio (Figure I-4) that emphasizes ovarian cancer research infrastructure through Program Project Awards. These awards promote innovative research and collaborations across disciplines and institutions. In addition, Program Project Awards encourage new investigators to pursue research in the ovarian cancer field. Six research areas have been emphasized: etiology, prevention, early detection/diagnosis, preclinical therapeutics, quality of life, and behavioral studies as related to ovarian cancer and/or primary peritoneal carcinoma. In the first 4 years of the program, 345 proposals have been received and 40 awards have been made. More detailed information regarding the OCRP appears in Section VI.

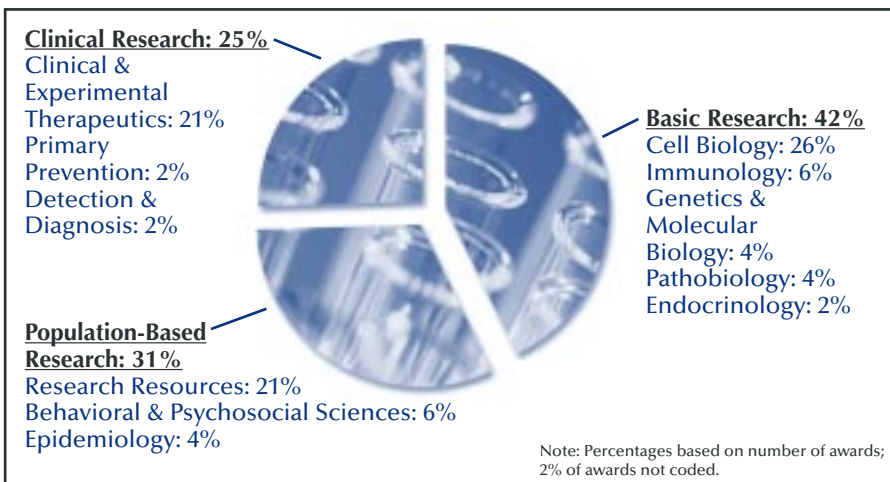


Figure I-4. FY97-00 OCRP Portfolio by Research Area

Table I-1. FY99-00 PRMRP Portfolio by Topic Area

Topic Areas	Number of Awards
Advanced Soft Tissue Modeling	2
Alcoholism/Alcohol Abuse Prevention Research	11
Chemical Weapons Treatment	1
Childhood Asthma/Pediatric Asthma	3
Defense and Veterans Head Injury Program	2
Dengue Fever Vaccine Research	1
Gulf War Illnesses	2
Healthcare Information Protection	1
Lung Research	1
Military Relevant Disease Management <sup>1</sup>	3
Sleep Management	2
Smoking Cessation	1
<b>Total</b>	<b>30<sup>2</sup></b>

<sup>1</sup> Topic area titled “Disease Management” in FY99.

<sup>2</sup> An additional FY99 award is managed by the USAMRMC, but not through the CDMRP.

### —Peer Reviewed Medical Research Program

The DOD Peer Reviewed Medical Research Program’s (PRMRP) mission is to support research on issues with direct relevance to military health. Appropriations for the FY99-00 PRMRP total \$44.5M. Since the program was established in FY99, the PRMRP has built a portfolio of research that covers 12 topic areas relevant to military health (Table I-1). An important feature in the execution of this program is the use of an advisory panel composed of representatives from the Army, Navy, Air Force, Marines, Department of Veterans Affairs, Office of the Assistant Secretary of Defense (Health Affairs), and U.S. Department of Health and Human Services to develop an investment strategy and conduct programmatic review. In the first 2 years of the program, 253 proposals have been received and 30 awards have been made. The PRMRP is described in more detail in Section VII.

## Program Execution

An important feature of the CDMRP is its ability to adapt to the current needs of the research, clinical, and consumer communities. The CDMRP can accomplish this because it utilizes, and has refined over the past 10 years, an effective program execution and management strategy.

The CDMRP uses a flexible 7-year execution and management cycle that spans all phases of program execution, from the development of a vision through the completion of research grants (Figure I-5). All programs within the CDMRP

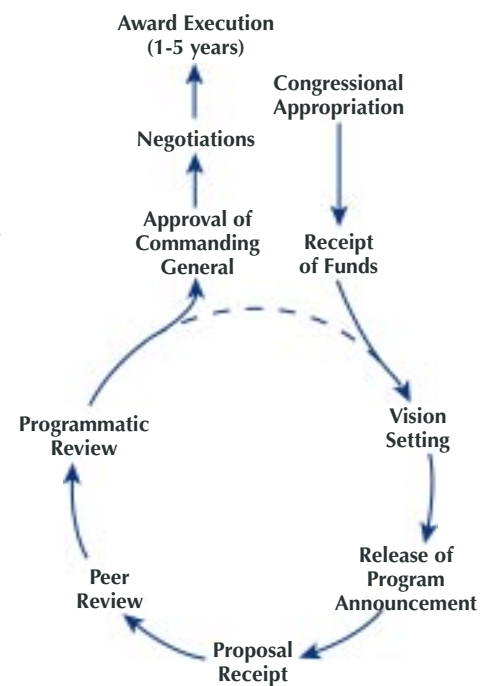


Figure I-5. CDMRP Flexible Execution and Management Cycle



depend upon yearly, individual congressional appropriations. These funds are not in the President's budget; Congress adds them annually to the DOD appropriation to fund new programs or to augment existing DOD or Army programs. The effectiveness 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.

Early in each fiscal year, after the congressional appropriation has been signed into law and funds have been received by the USAMRMC, an IP for each of the five core programs is convened to deliberate issues and concerns unique to the program and establish a vision and investment strategy for the coming year. The development of an annual investment strategy provides a high degree of flexibility. It allows each program to identify underfunded and underrepresented areas of research and to encourage research in those areas that are considered the most critical to patients, consumers, clinicians, and laboratory researchers. The investment strategy provides the framework and direction necessary to most effectively obligate each congressional appropriation in the most efficient manner possible. (See Appendices A and B for a summary of congressional appropriations by program.)

A critical component of the investment strategy is defining specific award mechanisms that capture the current needs of both the research and advocacy communities. Separate announcements outlining the award mechanisms offered for each program managed by the CDMRP are released each fiscal year. Award mechanisms cover a broad spectrum; for example, the BCRP pioneered the Idea Award mechanism that encourages the development of innovative ideas at a stage in research prior to the development of preliminary data. Other programs, such as the OCRP, have emphasized Program Projects to encourage infrastructure building. The CDMRP has utilized almost 40 different types of award mechanisms that fall into three categories: research, training and recruitment, and infrastructure.<sup>2</sup>

Proposals received in response to published announcements are subjected to a two-tier review. The two tiers are fundamentally different. The first tier is a scientific peer review of proposals against established criteria for determination of scientific merit. Panels organized by scientific discipline, specialty area, or award mechanism conduct scientific peer review. The primary responsibility of the scientific peer review panels is to provide unbiased, expert advice on the scientific and technical merit of proposals, based upon the review criteria published for each award mechanism. Consumers are members of scientific peer review panels; they strengthen the panels by bringing the patient perspective to the assessment of science and to the relevance of research. The second tier of the review process is programmatic review. Programmatic review is accomplished by the IP, the

<sup>2</sup> For a summary of many of the award mechanisms offered by the CDMRP, see the *DOD CDMRP Annual Report*, September 1999 (Appendix A).

advisors that recommend the initial investment strategy. Programmatic review is a comparison-based process in which proposals from multiple research areas compete in a common pool. Scientifically sound proposals that most effectively address the unique focus and goals of the program are then recommended to the Commanding General, USAMRMC, for funding.

Awards are made in the form of grants, contracts, or cooperative agreements, and the research is executed over 1 to 5 years, depending on the type of award mechanism. Funded investigators are required to submit annual and final progress reports to the USAMRMC. These reports are used for many purposes, the most important of which is to allow the CDMRP to monitor and evaluate progress, document publications and products, and harvest information on research accomplishments. Research accomplishments are included under the individual program sections, Sections III–VIII.

## Partnerships

Public, private, government, and military partnerships occur in all aspects of the programs and have been key to the success of the CDMRP. These effective partnerships are leading us closer toward finding cures for many diseases and are facilitating our ability to effectively address critical health issues.

### —Consumers and the CDMRP

The CDMRP is a recognized leader in integrating consumers in virtually all aspects of program execution. The value of consumers' involvement is derived from their firsthand experiences with the disease. This adds a perspective, passion, and a sense of urgency, which ensures that the human dimension is incorporated in program policy, investment strategy, and research focus. Consumers for the Breast, Prostate, and Ovarian Cancer Research Programs are cancer survivors and representatives of consumer advocacy organizations. Neurofibromatosis consumers are either individuals or their family members with neurofibromatosis and representatives of consumer advocacy organizations.

Consumers have been active partners since the CDMRP was established in FY93, in which they served on the first IP for the BCRP. Today, consumers serve on all CDMRP IPs, are voting members on scientific peer review panels, and are active participants in executing some research projects. For example, consumers are active members of research project advisory boards, assist in patient recruitment, and promote public education. Thus, it is evident that in the changing world of science administration and management, it is vitally important to foster partnerships among the research managers, scientists, and those who are ultimately most affected by policy and research.



The CDMRP has emphasized the publication and presentation of its experiences with consumer involvement. Recent publications include:

- ◆ “Impact of Including Consumers in the Scientific Review of Biomedical Research Proposals,” presented at the San Antonio Breast Cancer Symposium, December 7, 2000, San Antonio, Texas.
- ◆ “Department of Defense Recruitment of Minority Consumer Peer Reviewers,” presented at the Intercultural Cancer Council 7th Biennial Symposium on Minorities, the Medically Underserved, and Cancer, Washington, DC, February 9–13, 2000.
- ◆ “Consumer Inclusion in Breast Cancer Research Scientific Peer Review Panels.” Andejaski, Y., Alciati, M., Amende, L., Bisceglia, I., Breslau, E.S., Terry-Koroma, B., Valadez, A., and Young-McCaughan, S. *Breast Cancer Research and Treatment*, 57(1), 45 (Abstract), 1999.
- ◆ “Evaluation of the Inclusion of Consumers in Scientific Merit Review of Breast Cancer Research.” Andejaski, Y., Breslau, E.S., Hart, E., Lythcott, N., Alexander, L., Rich, I., Crawford, I., Smith, H., Visco, F., and the U.S. Army Medical Research and Materiel Command Fiscal Year 1995 Breast Cancer Research Program Integration Panel. *Journal of Women’s Health and Gender-based Medicine*. Accepted for publication, July 2001.

For more information on consumer involvement and serving as a consumer reviewer in peer review, see the consumer page on the CDMRP web site (<http://cdmrp.army.mil>).

### —Working with Special Populations



The Special Populations Program (SPP) was established in 1998 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>3</sup> in many of the diseases for which the CDMRP provides support. The foundation for the CDMRP’s SPP was the Minority Health Initiative.<sup>4</sup> This initiative was launched in 1997 to address CDMRP long-range goals in the area of minority health issues. The purpose of the SPP 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 by partnering with other agencies.

The BCRP and PCRP have used the recommendations from the Minority Health Initiative to guide their efforts in designing mechanisms that will (1) address the disparities in the incidence, prevalence, morbidity, and mortality rates among different ethnic groups, (2) attract proposals from investigators at Historically Black Colleges and Universities/Minority Institutions (HBCU/MI), and (3) increase research on minority populations. Since FY99, the BCRP has offered awards targeted at the individual and institutional level to encourage research at HBCU/

<sup>3</sup> American Cancer Society – *Cancer Facts and Figures 2001*.

<sup>4</sup> Details on the Minority Health Initiative can be found in the *DOD CDMRP Annual Reports* of September 1999 and of September 2000. A copy of the Executive Summary from the Minority Initiative Committee is available on the CDMRP web site (<http://cdmrp.army.mil>).

MI. The PCRP supported Minority Population Focused Collaborative Training Awards in FY98–00 to enable investigators to form collaborations and develop a prostate cancer research concept that focuses on the disparity in prostate cancer incidence and mortality among different ethnic groups. In FY01, the PCRP designed three new award mechanisms to support research at HBCU and to address the disparate burden of prostate cancer in African Americans.

Additionally, CDMRP has ensured the participation of minority scientists and consumers in its review panels. Relationships with minority scientists and consumers have been fostered by attendance at conferences sponsored by such groups as the Intercultural Cancer Council; Society for the Advancement of Chicanos and Native Americans; Asian-American and Pacific Islander Health Forum; and 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.

### *—Communication among Funding Agencies through a Common Scientific Outline*

To effectively work with other funding agencies and assimilate the vast amount of data being generated, it is critical to develop a method to share knowledge. The CDMRP has partnered with the National Cancer Institute (NCI) in an ongoing collaborative effort to develop a common system to classify funded research projects. The Common Scientific Outline (CSO) was initiated by the NCI to categorize its funded research projects in a scientific and disease-related manner. The CSO is divided into the following broad scientific areas: (1) Biology; (2) Etiology; (3) Prevention; (4) Early Detection, Diagnosis, and Prognosis; (5) Treatment; (6) Cancer Control, Survivorship, and Outcomes Research; and (7) Scientific Model Systems. These categories were chosen to reflect areas of science and scientific disciplines that many expert panels have identified as key to understanding the current state of the field.

The CDRMP was invited to participate in this effort in 1997 and has continued to work with the NCI to develop a working pilot model of the CSO. In 2000, eight additional cancer funding organizations were asked to join the efforts of the NCI and the CDMRP in evaluating the utility of the CSO as a tool to facilitate description of their respective portfolios and communication among funders. The participating organizations are the American Cancer Society, the California Breast Cancer Research Program, the California Cancer Research Program, the Cancer Research Campaign of the United Kingdom, CaP CURE, the Medical Research Council of the United Kingdom, the Oncology Nursing Society, and the Susan G. Komen Breast Cancer Foundation.





The CSO may be used in several ways to share knowledge and information among different funding agencies, including:

- ◆ identifying areas of research that have been funded,
- ◆ planning for the future by identifying research opportunities and gaps,
- ◆ helping to prevent funding of unnecessary duplicative research,
- ◆ identifying underrepresented areas of research, and
- ◆ responding to inquiries from Congress, consumer advocates, and others regarding the type of research being supported.

All 10 participating funding organizations, known collectively as the CSO Partnership, have publicly agreed that they will exchange information after they have completed classifying their funded portfolios. A common web site for CSO partners that will allow participating organizations to view each other's research portfolios is currently under consideration.

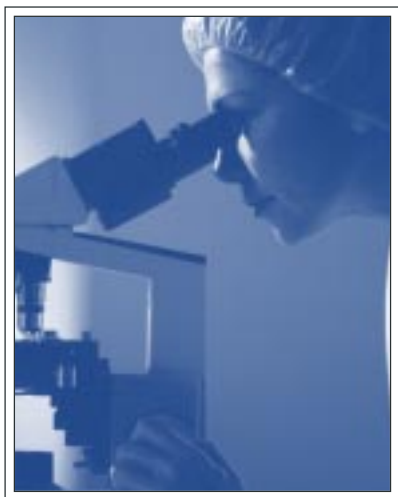
### —*Tri-Service Initiatives*

The military has always been a central partner, not only because of its overarching role in managing the CDMRP, but because of the unique military focus of one of the CDMRP's programs, the PRMRP. A PRMRP advisory panel, called the Joint Programmatic Review Panel, was established to ensure that all branches have a voice at the table. This panel is composed of representatives from the Army, Air Force, Navy, Marine Corps, Department of Defense Health Affairs, Department of Health and Human Services, and Department of Veterans Affairs.

### —*Small Business Innovation Research*

The goal of the Small Business Innovation Research (SBIR) Program<sup>5</sup> is to encourage scientific and technical innovation in specific topic areas identified by the DOD, through the support of research at small businesses. Through the SBIR Program, the Office of the CDMRP is working with others within the DOD to support research that benefits both the military and the targeted diseases supported by programs managed by the CDMRP.

In FY00, the DOD SBIR Program accepted two topic areas submitted by the CDMRP for inclusion in the program solicitation. A Phase I contract was awarded in each of the two topics areas sponsored: (1) Development of an Imaging Technique to Identify Angiogenesis, and (2) Development of a Vaccine for the Treatment and/or Prevention of Cancer. After 6 months of work, the Phase I recipients were evaluated to determine if additional Phase II support for up to 2 more years should be awarded. Both recipients in the CDMRP topic areas received Phase II support to pursue work on an imaging modality to identify angiogenesis and to develop a vaccine for treatment and/or prevention of cancer.



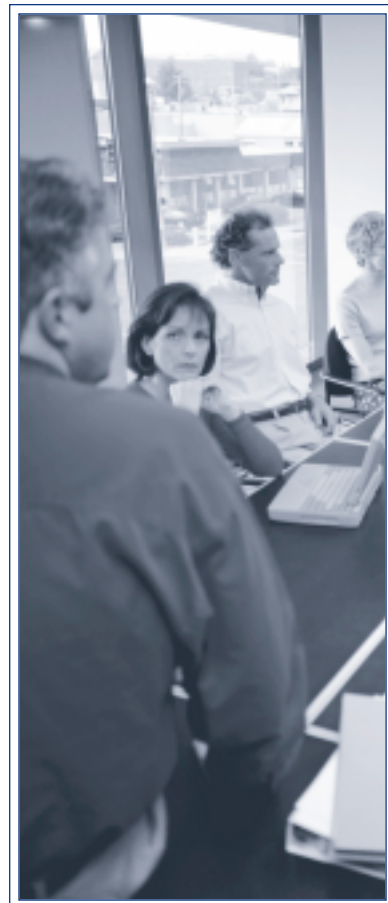
<sup>5</sup> The SBIR Program is mandated by Public Laws 97-219, 99-443, and 102-564.

The CDMRP also participated in the SBIR Program in 2001. Proposals were requested and received in four Phase I topic areas: (1) Development of an Imaging Technique to Identify Angiogenesis; (2) Development of Cellular Profiles Using Microarrays and Nanosensors for the Detection of Cancer; (3) Development of a Vaccine for the Treatment and/or Prevention of Cancer; and (4) Development of a Serum-Based Biomarker for the Detection of Cancer. Proposals are currently under review.

### —*Fostering Collaboration through Award Mechanisms*

The CDMRP also incorporates partnerships in several award mechanisms that have been offered. The IPs and CDMRP staff recognize that researchers working together toward a common goal create a synergistic environment conducive to important advances. Examples of promoting partnerships and collaborations through award mechanisms are evident in many of the individual CDMRP programs.

- ◆ Program Projects Awards, a hallmark of the OCRP, have been utilized over several fiscal years to encourage new partnerships and to build new ovarian cancer research foundations.
- ◆ Consortium Development Awards were offered by the PCRP in FY01 to promote multidisciplinary/multi-institutional collaborations that focus on a critical area of prostate cancer research.
- ◆ The BCRP has supported several different center awards to establish both multidisciplinary teams of researchers and consumers to develop new models for performing clinical trials, to examine important behavioral science questions, and to accelerate the solution of overarching problems in breast cancer.
- ◆ The NFRP has promoted multicenter Natural History Consortium Awards to generate the information needed to perform clinical trials.



## CDMRP Research Information Management and Dissemination

The CDMRP recognizes the importance of disseminating program information to the public and has supported several efforts to foster program awareness.

### —*<http://cdmrp.army.mil>*

The CDMRP web site disseminates program information to the public and research community (<http://cdmrp.army.mil>). This valuable resource is continually being updated. Additional details about the CDMRP web site appear on page I-12.

## CDMRP Web Site

The CDMRP web site is a primary means to quickly disseminate information. More than 90,000 visits were made to the web site in the first 8 months of 2001. The web site contains information on:

- ◆ Program Announcements
- ◆ Information on upcoming funding opportunities (if available)
- ◆ Lists of awards for each program every fiscal year, with associated abstracts and publications generated from those awards
- ◆ Search engines for posted awards that search by award mechanism, key words, research area, investigator, institution, or geographic location
- ◆ Frequently Asked Questions
- ◆ Electronic filing of Letters of Intent
- ◆ Information on consumer involvement
- ◆ Information on the SPP
- ◆ Research Highlights
- ◆ Other CDMRP-prepared documents including: Press Releases, Fact Sheets on individual programs, and Annual Reports
- ◆ Links to other related sites

The CDMRP updates the web site on a regular basis. For example, Fact Sheets on each program are updated quarterly, new awards are posted twice a month, Program Announcements are posted the day of release, and publications are updated several times a year. More recently, the CDMRP began posting highlights of research advances resulting from funded projects. ◆

## —Advertisement of Funding Opportunities

Programs within the CDMRP prepare and issue Program Announcements that provide details on the annual award mechanisms, the application process, and requirements for submitting proposals. The following publicity efforts are directed toward alerting the scientific research community when new Program Announcements are released.

- ◆ Posting the Program Announcement to the CDMRP web site to enable immediate access.
- ◆ Alerting over 200 institutional Sponsored Programs Offices of upcoming award opportunities.
- ◆ Advertising in broadly focused professional journals (e.g., *Science*) and in business journals (e.g., *Commerce Business Daily*).
- ◆ Targeted advertising for some new mechanisms that are aimed toward recruiting from new applicants or scientists in specific research areas. For example, the Undergraduate Summer Training Award mechanism was advertised in *Chronicle of Higher Education* and the NFRP advertised the release of its Program Announcement in *Nature Genetics* and *Neurology*.

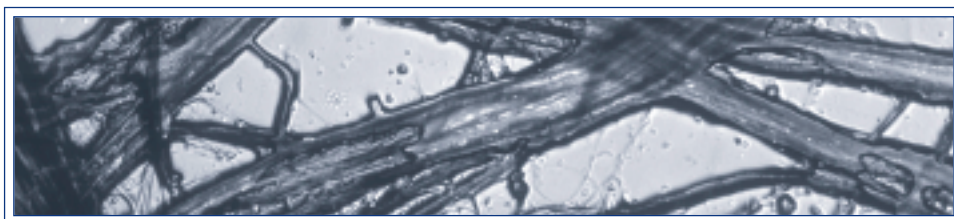


- ◆ Sending emails and postcards to prior applicants, scientific peer reviewers, and individuals who have requested that their names be placed on the CDMRP mailing list. For the FY01 programs, over 23,000 emails and postcards were sent to potential applicants.
- ◆ Sending press releases to *The Cancer Letter*, *Washington FAX*, *UniSci Daily*, *University Science News*, *Science Daily Magazine*, *The Blue Sheet*, etc.
- ◆ Notifying web sites that specialize in biomedical grant notification (e.g., Community of Science, Science: The Next Wave, and Texas Research Administrators Group database).
- ◆ Sending press releases to scientific professional associations (e.g., the American Association of Cancer Research [AACR], the American Society of Clinical Oncology), the military press, military research laboratories, other federal agencies, federal web sites maintaining funding information, and consumer advocacy organizations.
- ◆ Exhibiting the CDMRP display at national scientific meetings such as the AACR and the Federation of American Societies for Experimental Biology.

## —Publications

The CDMRP encourages the exchange of published information. First, over 4,000 publications have resulted from the awards supported through the CDMRP. These publications are provided to the CDMRP by award recipients and are posted on the CDMRP web site. Second, the CDMRP staff has published articles and presented information at national scientific meetings. The following abstracts and manuscripts were published.

- ◆ “The Congressionally Directed Medical Research Programs: A Model for Peer Reviewed Funding of New Biomedical Technologies.” Poster presentation authored by Krosnick, S. H., Hall, C. K., Young-McCaughan, S., and Bertram, K. A. BioMEMs and Biomedical Nanotechnology WORLD 2000 Conference. Columbus, Ohio, September 23–26, 2000.
- ◆ “Innovative Science Management; Congressionally Directed Medical Research Programs; Army Acquisition, Logistics and Technology.” Bertram, K. A. and Raulin, L. A., May–June, 2000.



- ◆ “Department of Defense Offers Congressionally Directed Medical Research Programs.” Young-McCaughan, S. *Oncology Nursing Society, Special-Interest Group Newsletter* 10 (August 1999): 3.
- ◆ “Department of Defense: Congressionally Directed Medical Research Programs.” Cottingham, K. *The Next Wave* (June 1, 2001).
- ◆ “Three’s Company: The Army, Women with Cancer, and the Medical Community Have Joined Forces.” Haran, C. *MAMM* (January 2001): 38 - 43 & 57.

### —Multidisciplinary Meetings

Programs within the CDMRP seek to develop a balanced portfolio of meritorious research. Through multidisciplinary partnerships, solutions to complex disease problems can often be more easily solved. The BCRP has held two multidisciplinary Era of Hope meetings in 1997 and 2000 to provide a forum in which over 1,000 scientists, physicians, health care providers, and consumers communicated ideas with peers and a wide audience of stakeholders. The next Era of Hope is scheduled for fall 2002. The OCRP had a similar, though much smaller, meeting in November 2000, in which awardees from the FY97–98 programs presented their findings to each other and the OCRP IP. These open exchanges of information present a platform for developing future collaborations and are encouraged by the CDMRP.

