

Section VIII.
***OTHER PROGRAMS
MANAGED BY THE
CONGRESSIONALLY
DIRECTED MEDICAL
RESEARCH PROGRAMS***



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Background

Increased public interest in health care issues has influenced scientific research. In addition to the \$1.5 billion that Congress appropriated to the Department of Defense (DOD) between FY92 and FY00 for intramural and extramural research programs directed toward breast cancer, prostate cancer, ovarian cancer, peer-reviewed medical research, and neurofibromatosis, Congress has directed the DOD to manage numerous targeted research initiatives.

During FY00, the U.S. Army Medical Research and Materiel Command's (USAMRMC) Office of the Congressionally Directed Medical Research Programs (CDMRP) managed the following targeted medical research programs: FY97–99 Advanced Cancer Detection; FY00 Alcoholism Research; FY99 and FY00 Center for Prostate Disease Research; FY99 and FY00 Cooperative DOD/Veterans' Affairs (VA) Medical Research; FY95 Defense Women's Health Research; FY99 Diagnostic and Surgical Breast Imaging; FY00 Gallo Cancer Center; FY00 Lung Cancer; FY95 Osteoporosis; and FY99 and FY00 Post-Polio Syndrome.

The overall goal of the CDMRP in managing these programs is to fund outstanding research that addresses the topic areas specified by Congress. Proposals submitted to these programs are externally peer reviewed for scientific merit using criteria characteristic of the other programs managed by the CDMRP; the review process does not always include consumer participation. A second level of review is conducted by program staff.

Advanced Cancer Detection

The Advanced Cancer Detection (ACD) research program was initiated to establish an Advanced Cancer Detection Center for military personnel, dependents, and retired service members. Funds were used to network military sites, Department of Veterans Affairs hospitals, a regional TRICARE provider, and a medical facility with a focused cancer center.¹ The overall goals of the ACD research initiative are to conduct coordinated screening for cancer detection and treatment, to train military cancer specialists, and to develop improved cancer detection equipment and technology. The advanced cancer detection research program has continued from FY98 to FY00 with additional appropriations of \$3.5 million (M) per year. The CDMRP worked with the University of South Florida to fully obligate the FY98 and FY99 funds for continuation of both basic and clinical research and for developing the H. Lee Moffitt Cancer Center network as a telemedicine and teleconferencing educational tool for health care providers.



Alcoholism Research

In FY00, Congress appropriated \$7M for alcoholism research. These funds are directed toward continuing study of the neurological effects of alcohol on the brain. The major research disciplines encompassed by these projects include cell

¹ Congress appropriated \$3.5M in FY97 to establish the ACD Center. The DOD Naval Medical Research and Development Command awarded a grant to the University of South Florida to establish the ACD Center at the H. Lee Moffitt Cancer Center and Research Institute.

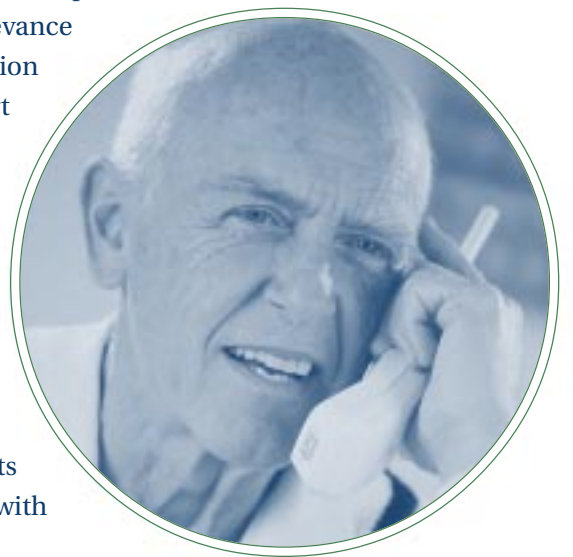
and molecular biology, behavioral pharmacology, neurophysiology, and invertebrate genetics. Five proposals have been received and are currently under scientific review. Congress appropriated an additional \$8.5M in FY01 for continuing the study of alcoholism at the Gallo Center for Alcoholism Research.

Center for Prostate Disease Research

The Center for Prostate Disease Research (CPDR) received congressional appropriations totaling \$16.5M during FY97–99 and \$7.5M during FY00.² The CPDR was initially established in response to a growing concern over the incidence of prostate cancer and the controversy over treatment choices at the various stages of the disease. The program is administered under the auspices of the Uniformed Services University of the Health Sciences at the Walter Reed Army Medical Center. The CPDR has been devoted to the study of prostate disease and cancer, focusing on both basic and clinical research programs that strive to fight diseases of the prostate as well as fostering training in basic sciences and clinical research. Research during FY00 has focused on identifying prostate-specific genes to improve the accuracy of diagnosis and treatment. The clinical research program currently has more than 60 ongoing clinical trials, including tissue and serum bank protocols. The Tri-Service Multicenter Prostate Cancer Longitudinal Disease Database involving 12 Army, Navy, and Air Force medical centers is continuing as part of the CPDR.

Cooperative Department of Defense/ Veterans' Affairs Medical Research

The USAMRMC Office of the CDMRP executed the FY99 and FY00 Cooperative DOD/VA Medical Research Programs. This program was patterned after the successful Breast Cancer Research Program to include external peer review for scientific merit and programmatic review for program relevance and portfolio balance. The \$6.8M received by USAMRMC for execution of the FY99–00 programs was awarded to nine institutions to support research complementing the existing DOD and VA research efforts on the health of active-duty military personnel and veterans. The research supported by these awards includes generating therapeutics against emerging Hantaviruses; determining the impact of isokinetic strength training and deconditioning on bone health in military women; evaluating the predictors and consequences of situational insomnia; developing prostheses for muscle repair; and developing orthopedic footwear using biomechanical information. Emphasis on collaborative research efforts is reflected in the fact that seven of the nine projects were affiliated with DOD or VA institutions.



² Congress appropriated funding (\$2M) in FY92 to establish the CPDR. The USAMRMC, but not the CDMRP, managed the FY92–95 appropriations.

Defense Women's Health Research Program

The Defense Women's Health Research Program (DWHRP) was established by public law (Section 251, P.L. 103-106) to address the critical health and performance issues specific to women in the military since little research concerning health care and risks for military women was available. The CDMRP managed the FY95 appropriation of \$40M while another office within USAMRMC managed the FY94 program.

Using the guiding framework of the Institute of Medicine's recommendations published in *Recommendations for Research on the Health of Military Women*, the CDMRP developed a research program on military women's health and performance issues. The goals of the DWHRP were to equip the U.S. Armed Forces with the technology and information required to sustain forces during conflict and peacetime, to protect and sustain service women and men from battle and nonbattle health threats; to sustain optimal military performance and survival; and to provide the world's best combat casualty care.

To date, 34 articles have been published, and 52 abstracts have been presented at international and national meetings. The DWHRP also sponsored the Forum on the Health of Women in the Military, which was held in June 1996 at the Uniformed Services University of the Health Sciences. Research results have been forthcoming in the areas of operational effectiveness of military women; psychological and health issues resulting from the integration of women into a hierarchical male environment; health promotion and disease prevention; and access to delivery of health care for military women. For example, research supported by the FY95 DWHRP has shown that: metabolic expenditure to cold is similar in men and women; women, although smaller and having less absolute strength than men, can greatly increase their strength and endurance through resistance and aerobic training and can perform military tasks traditionally allocated to men; jet fuel and propellants are not teratogenic; and self-administered swabs to detect sexually transmitted diseases (STDs) are equal in results to clinic-administered tests. In addition, a self-test kit for urinary tract infections was developed and evaluated. Another related study examined mechanisms of adherence of different uropathic bacteria to vaginal and bladder epithelium for the development of contraceptive jellies for protection against STDs.

Diagnostic and Surgical Breast Imaging

In FY99, Congress appropriated \$2M for Diagnostic and Surgical Breast Imaging (DSBI). The goal of DSBI is to fund scientifically meritorious research in the area of diagnostic and surgical breast imaging. Four proposals that aim to improve the detection of breast cancer were recently funded. Two of these studies propose to develop techniques to enhance sensitivity to detect ductal carcinoma in situ, which is believed to be the early stage of breast cancer. A third study plans to improve the resolution of ultrasound to enable visualization of breast cancer in dense glandular breasts. The final project aims to develop a tool that measures tissue stiffness and to combine this palpation imaging with ultrasound for enhanced detection.



Gallo Cancer Center

Congress appropriated \$3M in FY00 to provide for the initiation of a cancer center dedicated to prostate cancer research. The proposed infrastructure includes a transgenic core, a microarray facility, clinical trials support service, and recruitment of and research support for new faculty. A proposal to develop the infrastructure required to support a prostate cancer research center has been received and is currently under scientific review. Congress appropriated an additional \$4M in FY01 to continue the support of the cancer research center.

Lung Cancer

The lung cancer program was initiated in FY00 with a congressional appropriation of \$7M. The CDMRP is managing the FY00 Lung Cancer Research Program, and a proposal is currently under scientific review. The program's goals focus on the congressional directive to explore multiple avenues of research, prevention, diagnosis, and therapy that would yield new treatment options for lung cancer. Congress appropriated an additional \$4.5M in FY01 for continuation of this research at The University of Texas M. D. Anderson Cancer Center.



Osteoporosis

Congress appropriated \$5M in FY95 for peer-reviewed osteoporosis research. The DOD Osteoporosis Research Program (ORP) was managed in FY95 by the CDMRP.³ The overall goal of the ORP is to support innovative basic and clinical research directed toward reducing the incidence and enhancing the quality of life for individuals affected by osteoporosis. For more information on the ORP, see the DOD CDMRP Annual Report, September 1999.

Five research studies that address prevention, early detection, and/or treatment were funded with the FY95 appropriation. Researchers at Northwestern University are determining methods to prevent osteoporosis by studying the relationship between excessive thyroid hormone levels and osteoporosis. In this study, it was determined that an insulin-like growth factor mediates some of the thyroid hormone's effects and may therefore play a role in the development of osteoporosis. Researchers at the State University of New York at Buffalo are determining risk factors for osteoporosis by examining the relationship between osteoporosis and oral bone loss, periodontal bone loss, and tooth loss; bone loss in the hip or spine has been correlated with bone loss in the jaw. Researchers at the New England Research Institute are conducting a longitudinal study of bone density and bone turnover in women of different ethnicities as they experience menopause. To date, they have found that ethnicity is a statistically significant predictor of bone mineral density, with baseline bone mineral density highest in African American women. In an attempt to detect the origin of osteoporosis at the level of the gene, researchers at the Jackson Laboratory are identifying locations



³ The USAMRMC, but not the CDMRP, managed FY94, 96, and 97 osteoporosis appropriations.

on genes that affect bone mineral density in mice. Finally, researchers at the American Red Cross are modifying fibroblast growth factor-1 (FGF-1), a growth factor for bone cells, to enable it to be used for the treatment of osteoporosis and bone fracture.

ORP-funded investigators have published their findings in prestigious scientific journals (including *Bone*, *Journal of Bone and Mineral Research*, *Mammalian Genome*, and *Journal of Periodontology*) and have presented their data at national and international scientific conferences (including annual meetings of the American Society of Bone and Mineral Research, the 1999 International Mouse Genetics Meeting, and the Tissue Engineering/Regenerative Healing/Stem Cell Biology Conference).

Post-Polio Syndrome



Congress appropriated \$2.3M for FY99 and FY00 in Post-Polio Syndrome research.⁴ The FY99 funds were awarded to the Moss Rehabilitation Research Institute, Albert Einstein Medical Center, in Philadelphia. The focus of the research effort is to develop diagnostic tools for determining the risk of post-polio survivors for reduced ability to perform daily tasks. In addition, an exercise regimen and other therapies to improve patient strength and enhance quality of life are a major aim of this work. The program for FY00 is currently under development.



◆ For more information about these and other programs managed by the CDMRP, visit <http://cdmrp.army.mil> ◆

⁴ Congress appropriated \$1M in FY94 for Post-Polio Syndrome research. The USAMRMC, but not CDMRP, awarded and managed the research.