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Congressionally Directed Medical Research Programs: Background and Issues for Congress

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Committees of Congress

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SUMMARY

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Bryce H. P. Mendez
Analyst in Defense Health Care Policy

Congressionally Directed Medical Research Programs: Background and Issues for Congress

Since fiscal year (FY) 1992, Congress has appropriated funds to the Department of Defense (DOD) explicitly for use in conducting medical research. This appropriation is also known as the Congressionally Directed Medical Research Programs (CDMRP). The U.S. Army Medical Research and Development Command (MRDC), in coordination with the Defense Health Agency, administers the program using a competitive grant process. CDMRP funding is to be used only for medical research on congressionally identified medical research topics (e.g., breast cancer, gulf war illness, cancer, or other medical conditions). Both intramural (DOD) and extramural (non-DOD) researchers are eligible to apply for CDMRP funding, as long as applicants meet the requirements and criteria established by CDMRP grant administrators.

DOD does not request CDMRP funding as part of its annual budget request process. Instead, Congress inserts CDMRP funding in the annual DOD appropriations act, typically under the Research, Development, Test, and Evaluation (RDTE) budget activities of the Defense Health Program (DHP) and Department of the Army accounts. The explanatory statement accompanying the annual DOD appropriations act typically provides further congressional direction on how DOD is to spend CDMRP funding. Only Members of Congress may submit such requests for specific medical research topics and funding amounts to be included in CDMRP appropriations. A request is typically of interest to a Member or his/her constituency; requests may also be submitted on behalf of an advocacy organization. In general, the House and Senate use similar processes to solicit, receive, and consider Members' annual funding requests for CDMRP.

Since its inception, annual congressional appropriations for CDMRP have grown from $25 million in FY1992 to $1.55 billion in FY2022. In recent years, CDMRP funding has accounted for at least half of the DHP RDT&E account. CDMRP has supported more than 50 unique research programs or topics. Cumulatively, the largest CDMRP research topics are the

- Breast Cancer Research Program ($4.09 billion);
- Peer-Reviewed Medical Research Program (PRMRP; $3.45 billion);
- Prostate Cancer Research Program ($2.15 billion);
- Psychological Health/Traumatic Brain Injury Research Program ($1.61 billion); and
- Peer-Reviewed Cancer Research Program (PRCRP; $784.80 million).

During the annual appropriations process, CDMRP presents certain issues that may be of interest to Congress, such as

- historical growth in DOD medical research spending;
- military relevancy of CDMRP topics;
- research continuity challenges;
- duplication and overlap with other federal research entities; and
- military health system reform.

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Introduction

The Department of Defense (DOD) receives annual appropriations explicitly for the conduct of medical research on topics specifically identified by Congress; these funds are administered as the Congressionally Directed Medical Research Programs (CDMRP). Since its establishment in fiscal year (FY) 1992, Congress has continued to appropriate annual funding for CDMRP, which has managed and funded numerous DOD medical research programs and projects.

This report provides an overview of CDMRP and describes how Congress manages CDMRP funding requests and assigns annual appropriations. It also reviews how DOD administers CDMRP funding and presents several potential issues for Congress, including medical cost growth, military relevancy of CDMRP topics, research continuity challenges, Military Health System (MHS) reform, congressional earmarks, and unauthorized appropriations.

Appendix A provides a list of acronyms used throughout this report.

Background

Under Title 10, Section 2358 of the *U.S. Code* (U.S.C.), DOD administers a wide-range of research and development (R&D) programs. DOD receives the largest amount of federal funding for R&D, which primarily focuses on "basic research, applied research, advanced research, and development projects" that are

- necessary to the responsibilities of such Secretary's department in the field of research and development; and either
  - relate to weapon systems and other military needs; or
  - are of potential interest to the DOD.[1]

In general, DOD conducts medical research based on the "needs of the National Defense Strategy and the Joint Capabilities Integration and Development System."[2] Numerous DOD components perform or sponsor medical research activities, including the Defense Health Agency (DHA), the military departments, Defense Advanced Research Projects Agency, and the Defense Threat Reduction Agency. DOD organizes its medical research efforts under the following focus areas:

- biomedical informatics and health information systems and technology;
- clinical and rehabilitative medicine;
- combat casualty care;
- medical chemical and biological defense;
- medical radiological defense;

[1] 10 U.S.C. §2358. In FY2022, DOD requested $62.8 billion total R&D. For more DOD research and development programs and historical funding amounts, see CRS Report R46869, *Federal Research and Development (R&D) Funding: FY2022*, coordinated by John F. Sargent Jr.; and CRS Report R44711, *Department of Defense Research, Development, Test, and Evaluation (RDT&E): Appropriations Structure*, by John F. Sargent Jr.

[2] DOD, Department of Defense Strategic Medical Research Plan, p. 6, https://health.mil/Reference-Center/Congressional-Testimonies/2019/04/08/Strategic-Medical-Research-Plan. For more on the National Defense Strategy, see CRS Report R45349, *The 2018 National Defense Strategy: Fact Sheet*, by Kathleen J. McInnis. For more on the Joint Capabilities Integration and Development System, see pp. 3-4 of CRS Report RL34026, *Defense Acquisitions: How DOD Acquires Weapon Systems and Recent Efforts to Reform the Process*, by Heidi M. Peters.

- military infectious diseases; and
- military operational medicine.[3]

To reduce unnecessary duplication of work, DOD components participate in the Armed Services Biomedical Research Evaluation and Management (ASBREM) community of interest.[4] The ASBREM serves as the primary coordination body for DOD's medical research community, while individual DOD components resource and perform (or sponsor) medical research projects.

DOD generally has the second-largest departmental expenditures on medical research, after the National Institutes of Health (NIH), U.S. Department of Health and Human Services.[5] Each year, DOD submits its budget request for medical R&D activities and projects in accordance with its statutory mission. Congress evaluates, adjusts, and appropriates such funds. Congress may also include additional funding for R&D activities that DOD may or may not have requested.

Origin of CDMRP

In the early 1990s, women's health issues and the inclusion of women in federal medical research were rising topics in the United States and attracted the attention of some Members of Congress.[6] At the time, certain advocacy groups (e.g., National Breast Cancer Coalition, American Cancer Society, Susan G. Komen Foundation) also lobbied Congress to increase federal spending on breast cancer research, a condition most prevalent among women.[7] In FY1992, Congress accordingly appropriated $25 million to DOD to use specifically for breast cancer research.[8]

In considering appropriations for FY1993, Members' interest in increasing federal funding for breast cancer research remained. Some Members explored redirecting "$29 billion in unobligated funds from prior years for the development of weapons systems planned before the collapse of the Soviet Union in 1991" to domestic programs such as the National Cancer Institute for breast cancer research activities.[9] However, certain provisions in the Budget Enforcement Act of 1990

[3] DOD, Department of Defense Strategic Medical Research Plan, p. 6.

[4] The role of the Armed Services Biomedical Research Evaluation and Management (ASBREM) is to "promote the coordination and synergy of the DoD biomedical R&D efforts to provide medical products and information" required to protect and sustain servicemembers. For more on the ASBREM, see Department of Defense (DOD), *Integrated DoD Biomedical Research and Development Strategy*, Medical Innovation for the Future Force, December 2017, p. iii, https://defenseinnovationmarketplace.dtic.mil/wp-content/uploads/2018/04/ASBREM_Integrated_RD_Strategy_2017.pdf.

[5] Research America, *U.S. Investments in Medical and Health Research and Development, 2016-2020*, January 2022, p. 8, https://www.researchamerica.org/sites/default/files/Publications/Research%21America-Investment%20Report.Final.January%202022.pdf.

[6] See Richard M. Steingart, Milton Packer, and Peggy Hamm, et al., "Sex Differences in the Management of Coronary Artery Disease," *New England Journal of Medicine*, vol. 325 (July 25, 1991), pp. 226-230; "Effective Lobbying Increases U.S. Funds for Breast Cancer Research," *New York Times*, October 19, 1992, p. A15; and Institute of Medicine, *Strategies to Leverage Research Funding: Guiding DOD's Peer Reviewed Medical Research Programs*, 2004, pp. 13-15, https://www.nap.edu/catalog/11089/strategies-to-leverage-research-funding-guiding-dods-peer-reviewed-medical.

[7] See "Effective Lobbying Increases U.S. Funds for Breast Cancer Research," *New York Times*, October 19, 1992, p. A15; and U.S. Centers for Disease Control and Prevention, "Deaths from Breast Cancer—United States, 1991," *Morbidity and Mortality Weekly Report*, April 22, 1994, pp. 279-281, https://www.cdc.gov/mmwr/preview/mmwrhtml/00026281.htm#:~:text=In%201991%2C%2043%2C583%20women%20died,for%20white%20women%20(26.8).

[8] U.S. Congress, House Committee on Appropriations, *Department of Defense Appropriations Act, 1992*, Conference report accompanying H.R. 2521, 102nd Cong., 1st sess., November 18, 1991, H.Rept. 102-328, p. 134.

[9] See Institute of Medicine, *Strategies to Leverage Research Funding: Guiding DOD's Peer Reviewed Medical Research Programs*, 2004, p. 14; and Sen. Arlen Specter, "Departments of Labor-HHS-Education Appropriations Act,

(P.L. 101-508) prohibited breaches in established discretionary spending categories and constrained such transfers from defense to domestic accounts (or vice-versa).[10] In FY1993, Congress appropriated $210 million to DOD for breast cancer research, required such research to be "peer reviewed," and designated the Department of the Army as the executive agent of the "breast cancer research program."[11] DOD later began the practice of referring to the unrequested funds for use on specified medical research topics as CDMRP. Typically, CDMRP funded-topics are in addition to already established DOD medical research focus areas.

Annual Congressional Appropriations

DOD does not request funding for CDMRP as part of the President's annual budget submission. Instead, Congress inserts CDMRP funding into the Defense Health Program (DHP) account of the annual defense appropriations bill. Typically, CDMRP funding is organized under the Research, Development, Test, and Evaluation (RDT&E) budget activity and assigned to the funding line for *Undistributed Medical Research* (see **Appendix B**). While the DHP account encompasses the bulk amount of CDMRP funding, Congress may also assign such funding to other defense accounts. Historically, the Army RDT&E budget activity has included several CDMRP funding lines, such as "peer-reviewed neurotoxin exposure treatment" as related to Parkinson's disease, "peer-reviewed neurofibromatosis research," and "peer-reviewed military burn research" (See **Appendix C**).[12]

Specific details on the medical research topics and funding amounts appropriated for CDMRP are not included in the text of the annual defense appropriations bill. Rather, they are incorporated in accompanying congressional documents (i.e., conference reports or explanatory statements). Congress typically allows DOD no more than two fiscal years to obligate CDMRP funds, in keeping with the two-year obligation period generally authorized for other DOD R&D funding.[13]

Congressional Request Processes

Each year, the House Appropriations Committee (HAC) and Senate Appropriations Committee (SAC) typically issue guidance to Members that outline the procedures for submitting requests

1993," Senate debate, *Congressional Record*, vol. 138, part 17 (September 16, 1992), p. S25264.

[10] Ibid. The Budget Enforcement Act of 1990 (P.L. 101-508) established certain caps (also referred to as "firewalls") on "defense, international, and non-defense discretionary spending." These caps also restricted discretionary defense spending from being "further reduced in order to increase spending for non-defense programs if it would cause total non-defense spending to exceed its cap level." For more, see U.S. Congress, Senate Committee on the Budget, *The Congressional Budget Process: An Explanation*, committee print, prepared by Senate Committee on the Budget, 105th Cong., 2nd sess., December 1998, S.Prt. 105-67 (Washington: GPO, 1998), pp. 17-18.

[11] U.S. Congress, House Committee on Appropriations, *Department of Defense Appropriations Act, 1993*, Conference report accompanying H.R. 5504, 102nd Cong., 2nd sess., October 5, 1992, H.Rept. 102-1015 (Washington: GPO, 1992), p. 10 and p. 119.

[12] U.S. Congress, House Committee on Appropriations, *Committee Print of the Committee on Appropriations, U.S. House of Representatives on H.R. 1158/*P.L. 116-93, committee print, prepared by Legislative Text and Explanatory Statement, 116th Cong., 1st sess., January 2020, H.Prt. 38-678 (Washington: GPO, 2020), p. 298, https://www.govinfo.gov/content/pkg/CPRT-116HPRT38678/pdf/CPRT-116HPRT38678.pdf.

[13] 10 U.S.C. §3131. DOD defines an *obligation* as a "legally binding agreement or action that will result in outlays, immediately or in the future." For example, when a DOD authorized employee places an order, signs a contract, awards a grant, purchases a service, or takes other "actions that require the Government to make payments to the public or from one Government account to the other," DOD incurs an obligation. For more on obligations, see DOD 7000.14-R, Federal Management Regulation, Vol 3, Ch 8, Section 0803, February 2020, p. 8-11.

for consideration in the appropriations process.[14] Only Members of Congress may submit such requests for specific medical research topics and funding amounts to be included in CDMRP appropriations. A request is typically of interest to a Member or his/her constituency; requests may also be submitted on behalf of an advocacy organization. In general, the House and Senate use similar processes to solicit, receive, and consider Members' funding requests for CDMRP.

Currently, each Chamber administers an electronic submission system to collect Member requests and accompanying documentation (e.g., justification or support letters). Committee guidance generally directs Members to rank the priority of their funding requests. Though guidance can periodically change, a general overview of each appropriations committee's request process is described below.

House Appropriations Process for CDMRP Funding Requests

The HAC requires the submission of Member requests via an electronic submission system.[15] The committee requires Members to prioritize and assign rankings to funding requests, by HAC subcommittee. For example, multiple funding requests for most defense-related programs are to be prioritized and ranked against each other since they would be under the jurisdiction of the HAC's Subcommittee on Defense. Additionally, Members may prioritize and assign rankings to their overall funding requests without regard to the specific appropriations bill or appropriations subcommittee of jurisdiction.

When considering Member requests for CDMRP funding, professional staff members of the HAC's Subcommittee on Defense generally use the following criteria when reviewing submitted documentation:

- military relevance;
- past precedent and history of CDMRP funding;
- number of Member requests for a specific medical research topic;
- a Member's ranking of his/her overall funding requests (including requests for CDMRP);
- potential outcomes from investing in a specific medical research topic; and
- DOD practicability to execute research funding.[16]

Senate Appropriations Process for CDMRP Funding Requests

The SAC requires the submission of Member requests via an electronic submission system, called *Legi-Mate*.[17] When considering Member requests for CDMRP funding, professional staff members of the SAC's Subcommittee on Defense generally use the following criteria when reviewing submitted documentation:

- military relevance;
- past precedent and history of CDMRP funding;

[14] For a general overview of the congressional appropriations process, see CRS Report R42388, *The Congressional Appropriations Process: An Introduction*, coordinated by James V. Saturno.

[15] The electronic submission system is available on the House intranet at https://AppropriationsSubmissions.house.gov.

[16] Based on CRS discussions with HAC-D professional staff members, February 7, 2020.

[17] The electronic submission system is available on the Senate intranet at https://appro-requests.senate.ussenate.us.

- a Member's ranking of his/her overall funding requests (including requests for CDMRP);
- potential risks or outcomes from investing in a specific medical research topic; and
- DOD practicability to execute research funding.[18]

Considering Member Requests

Professional staff members of the HAC and SAC review Member requests and consider the inclusion of funding based on each committee's established criteria, discretionary spending parameters outlined in the budget resolution, and congressional prerogative.[19] Though not required, some Members opt to submit additional justification or letters of support to the respective appropriations committee or the conference committee for their consideration of a specific CDMRP funding request. When considering CDMRP funding requests, the HAC, SAC, or conference committee may opt to add, remove, or consolidate research topics, or adjust the assigned funding amounts.

Once the committee recommends and approves its version of the defense appropriations bill, proposed CDMRP funding lines and eligible research topics are typically assigned in the DHP RDT&E budget activity, with further details on eligible research topics included in the accompanying committee report. If permitted by Chamber rules, the House or Senate may amend the CDMRP funding amounts and eligible research topics during the floor consideration process.[20]

Congressional Ban on Earmarks

CDMRP funding is described as congressionally directed spending; however, it appears not to be currently considered an *earmark* by Congress. Since the 112th Congress, the House and Senate began observing a so-called *earmark ban*. The ban does not exist in House or Senate chamber rules, but has been established by party rules and committee protocols and is enforced by chamber and committee leadership through their agenda-setting power.[21]

While the earmark ban is not in House and Senate rules, the chamber rules do include a definition of earmarks as congressionally directed spending, tax benefits, or tariff benefits intended for a "specific entity or state, locality, or congressional district."[22] The definitions also suggest that when executed through a "statutory or administrative formula driven or competitive award process," provisions would not be considered to be earmarks.[23] Presumably, since MRDC uses a competitive award process (i.e., grants) to execute CDMRP funds, such appropriations are not technically considered earmarks under current House and Senate practices.

[18] Based on CRS discussions with SAC-D professional staff members, February 14, 2020.

[19] Based on CRS discussions with HAC-D professional staff members on February 7, 2020; SAC-D professional staff members, February 14, 2020; and CRS In Focus IF10514, *Defense Primer: Defense Appropriations Process*, by James V. Saturno and Brendan W. McGarry.

[20] For more on the House or Senate floor consideration process, see pp. 6-7 of CRS Report R42843, *Introduction to the Legislative Process in the U.S. Congress*, by Valerie Heitshusen.

[21] For a summary of each Chamber's definition of *earmark*, see ibid., p. 1.

[22] CRS Report R45429, *Lifting the Earmark Moratorium: Frequently Asked Questions*, by Megan S. Lynch.

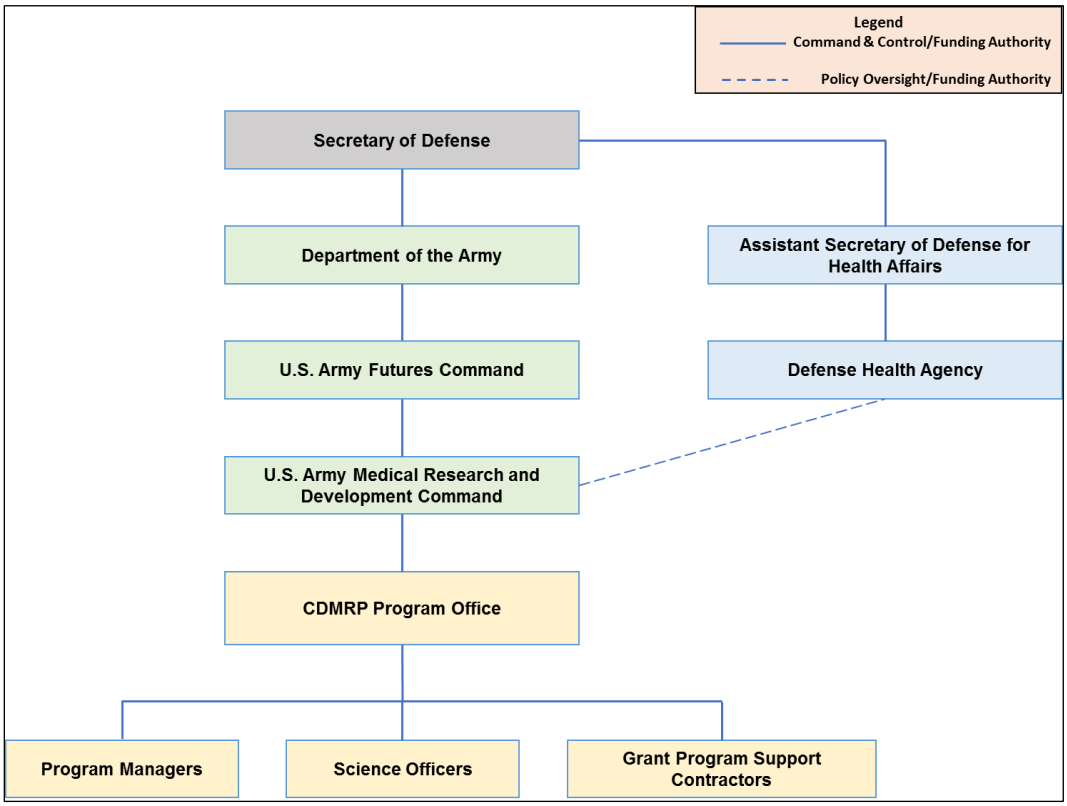
[23] House Rules XXI, clause 9 and Senate Rules XLIV, paragraph 5.

Administration of CDMRP Funding

DOD Program Administration

Ultimately, the Secretary of Defense is accountable for executing congressional appropriations for CDMRP. The U.S. Army Medical Research and Development Command (MRDC) is the DOD-designated executive agent for CDMRP and other medical research activities funded by the DHP and Department of the Army RDT&E budget activities.[24] MRDC and DHA exercise primary responsibility for CDMRP oversight, program execution, grant management, follow-on research, and implementation science activities (see **Figure 1**).

Figure 1. DOD Governance of CDMRP



Source: CRS graphic based on DOD, *Department of Defense Strategic Medical Research Plan,* pp. 29-30; and CDMRP, *About Us*, "Our Team," accessed September 28, 2020, https://cdmrp.army.mil/about/ourteam.

CDMRP Grants

MRDC uses a competitive grant process to award CDMRP funds. When Congress appropriates funds for a new CDMRP research topic, MRDC convenes a meeting of stakeholders (e.g., DOD and non-DOD clinicians, scientists, consumers, industry representatives, academicians, and other

[24] DOD, *Department of Defense Strategic Medical Research Plan*, January 29, 2019, pp. 29-30. The U.S. Army Medical Research and Development Command is formerly the U.S. Army Medical Research and Materiel Command. The name change took place in 2019. For more, see C.J. Lovelace, "Army Logistics Leaders Focus on Medical Materiel's Role in Readiness," *Army Medical Logistics Command*, September 10, 2019, https://amlc.army.afpims.mil/News/Article/1956385/army-logistics-leaders-focus-on-medical-materiels-role-in-readiness.

interested parties) to discuss the current research landscape and identify certain research gaps and opportunities. Stakeholder-developed recommendations influence the *vision setting* process, which determines the program's specific research goals, investment strategy, and award mechanisms and amounts. A programmatic panel of civilian and military medical and scientific experts, as well as consumers, conducts the vision setting process. Established CDMRP programs periodically repeat these processes to revise their research goals based on new or existing gaps and opportunities and to integrate congressional direction, if any.[25]

Based on the goals and programmatic details established during the vision setting process, MRDC issues periodic program announcements or *broad agency announcements* to alert researchers of CDMRP grant opportunities.[26] The announcements typically include detailed descriptions of funding mechanisms, evaluation criteria, anticipated award amounts, submission requirements, and deadlines. MRDC publishes grant announcements on the Grants.gov website or the CDMRP website.[27] Grants are made available to intramural (within DOD) and/or extramural (non-DOD) researchers. Depending on the details included in each grant announcement, the Grants.gov website or the electronic biomedical research application portal (eBRAP) are the designated application submission portals.[28]

Reviewing and Selecting CDMRP Grant Applications

MRDC uses a two-tiered review process when considering CDMRP grant applications.

- **Peer Review.** This review evaluates a proposal based on certain grant announcement evaluation criteria and determines whether a proposal is of "absolute" scientific merit.[29] Peer reviewers typically include at least two scientific experts that focus on a specific health condition or aspect thereof, and at least one consumer reviewer.[30]
- **Programmatic Review.** This review evaluates a proposal based on certain grant application evaluation criteria, relevance to the DHP and the specific research program's goals, in comparison with other proposals.[31]

At the conclusion of these two reviews, the CDMRP Director validates the eligibility and funding amounts available for each recommended application.[32] Once the DHA R&D Director and the MRDC Commanding General conduct a final review of the recommended applications and issue a concurrence, MRDC then notifies individual researchers of their selection status and publishes a list of selected applications on the CDMRP website.

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[25] CDMRP, "2019 Annual Report: Congressionally Directed Medical Research Programs," September 30, 2019, p. 7, https://cdmrp.army.mil/pubs/annreports/2019annrep/2019annreport.pdf.

[26] A *Broad Agency Announcement* (BAA) is a method that allows federal departments and agencies to solicit for the "acquisition of basic and applied research…not related to the development of a specific system or hardware procurement." For more on BAAs, see Federal Acquisition Regulation (FAR) §35.016.

[27] The CDMRP website is available at http://cdmrp.army.mil/.

[28] For more on eBRAP, see http://ebrap.org/.

[29] CDMRP, About Us, "CDMRP's Two-Tiered Review Process," accessed September 28, 2020, https://cdmrp.army.mil/about/2tierRevProcess.

[30] Individuals affiliated with other federal departments or agencies, academia, industry, or advocacy organizations may participate in the peer review process.

[31] National Academies of Science, Engineering, and Medicine, "Programmatic Review," in *Evaluation of the Congressionally Directed Medical Research Programs*, pp. 92-93, https://www.nap.edu/catalog/23652/evaluation-of-the-congressionally-directed-medical-research-programs-review-process.

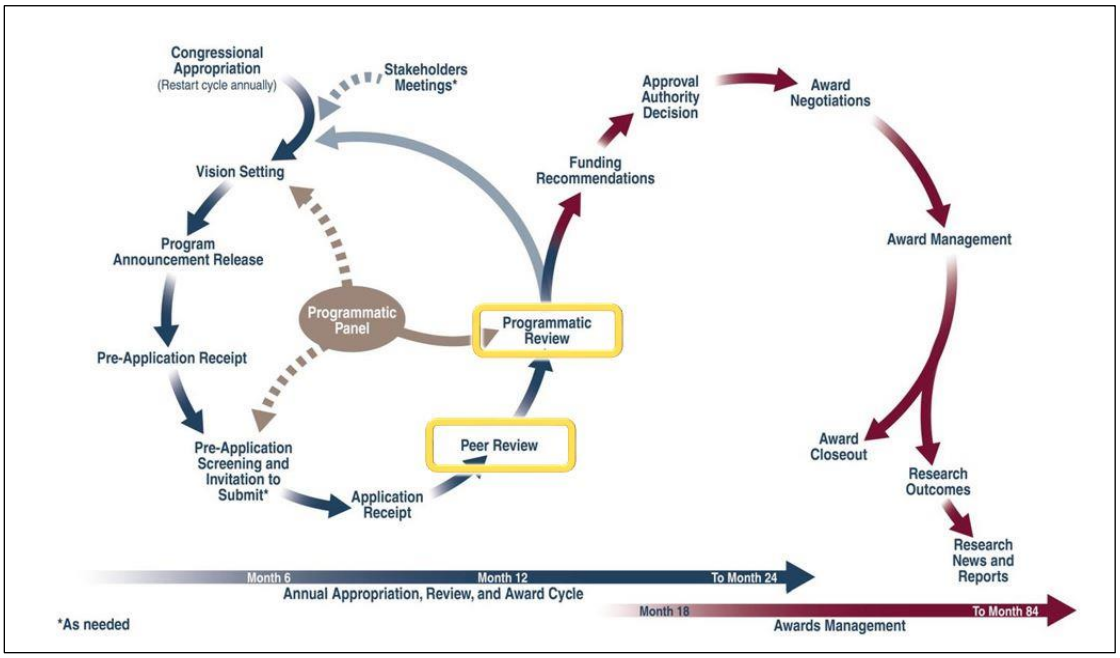
[32] Ibid., pp. 95-96.

CDMRP Award Management

MRDC typically disburses CDMRP awards in increments. Awardees receive these increments when meeting certain programmatic or administrative milestones negotiated prior to the initial distribution of funds. Throughout the duration of the award management period, which can span several years, MRDC requires researchers to provide periodic financial statements and progress reports. At the conclusion of the award management period, researchers are to submit a final report on their overall findings, financial accounting, and transition plans for follow-on research, if applicable. MRDC flags additional follow-up items, such as significant discoveries, patents, invention disclosures, publications, or need for additional funding support.

Figure 2 summarizes the overall CDMRP grant process, from when Congress appropriates funds to grant closeout and research publication.

Figure 2. CDMRP Grant Process



Source: CDMRP, *About Us*, "Funding Process," accessed September 28, 2020, https://cdmrp.army.mil/about/funding process.

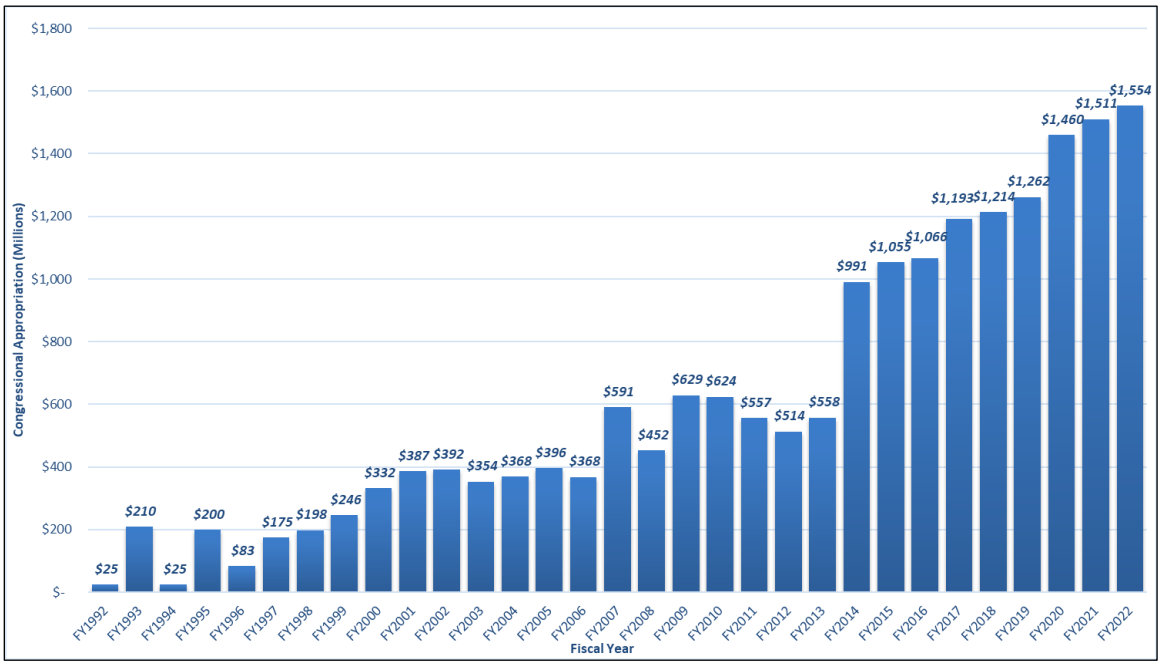
Historical Funding Trends

Congress's initial appropriation for CDMRP was $25 million in FY1992. With the addition of other medical research topics and funding amounts over time, annual appropriations have grown drastically. In FY2022, CDMRP received $1.55 billion in congressional appropriations.[33] **Figure 3** shows historical CDMRP appropriation amounts.

[33] DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory; and DHP and Department of the Army RDT&E accounts included in the explanatory statement accompanying the Department of Defense Appropriations Act, FY2022. Between FY1992 and FY2022, congressional appropriations for CDMRP grew 18.5 times its initial appropriation amount (adjusted for inflation to FY2022 dollars using DOD's deflators for the Defense Health Program and excluding pay and fuel).

Figure 3. Congressional Appropriations for CDMRP, FY1992-FY2022

(in nominal dollars)



Source: CRS analysis of DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory; and explanatory statements accompanying the Department of Defense Appropriations Act, FY1992-FY2022.

Note: Nominal dollars, not adjusted for inflation.

CDMRP Research Programs

CDMRP funding has supported more than 50 unique research programs or topics (see **Appendix E**). The largest programs (by cumulative funding amounts between FY1992 and FY2022) are the:

- Breast Cancer Research Program ($4.09 billion);
- Peer-Reviewed Medical Research Program (PRMRP; $3.45 billion);
- Prostate Cancer Research Program ($2.15 billion);
- Psychological Health/Traumatic Brain Injury Research Program ($1.61 billion); and
- Peer-Reviewed Cancer Research Program (PRCRP; $784.80 million).[34]

Peer-Reviewed Medical Research Program (PRMRP)

Since FY1999, Congress has included a funding line for PRMRP, which appropriates funds for medical research activities on any of the eligible topics identified by Congress. MRDC may competitively award grants for any of the eligible topics designated for a fiscal year. Between FY1999 and FY2018, the PRMRP has awarded 1,385 grants, resulting in 2,700 peer-reviewed

[34] CRS analysis of DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory; and explanatory statements accompanying the Department of Defense Appropriations Act, FY1992-FY2022.

publications and 243 patent applications or issuances.[35] **Appendix F** lists the historical PRMRP eligible research topics.

Peer-Reviewed Cancer Research Program (PRCRP)

Since FY2009, Congress has included a funding line for PRCRP, which appropriates funds for medical research activities on any of the eligible cancer-related topics identified by Congress. MRDC may competitively award grants for any of the eligible topics designated for a fiscal year. Between FY2009 and FY2017, the PRCRP has awarded approximately 502 grants resulting in at least 143 peer-reviewed publications.[36] **Appendix G** lists the historical PRCRP eligible cancer-related research topics.

Issues for Congress

DHP RDT&E Cost Growth

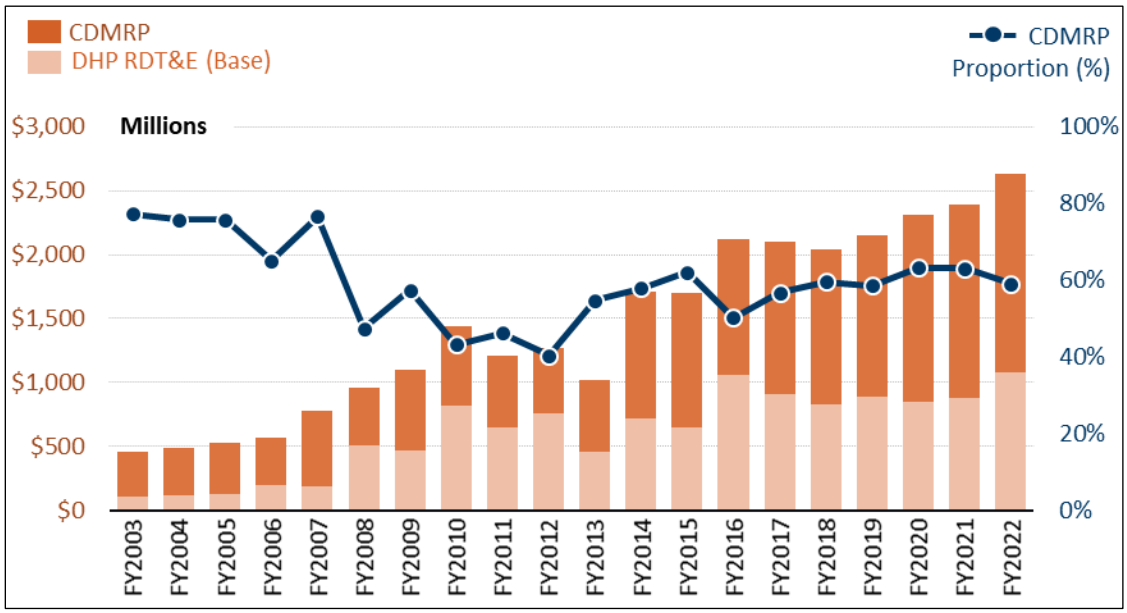
In recent years, CDMRP funding has accounted for at least half of the DHP RDT&E budget activity (see **Figure 4**). On average, between FY2003 and FY2022, the base budget (non-CDMRP) for DHP RDT&E increased by 7% per year. Concurrently, CDMRP funding also increased by an average of 6% per year. Since FY2015, annual congressional appropriations for CDMRP have exceeded $1 billion.

[35] CDMRP, "Peer Reviewed Medical Research Program Strategic Plan," 2019, p. 2, https://cdmrp.army.mil/prmrp/pbks/PRMRP%20Strategic%20Plan.pdf.

[36] CDMRP, "Peer Reviewed Cancer Research Program Strategic Plan," 2018, p. 2 and p. 8, https://cdmrp.army.mil/prcrp/pdf/PRCRP%20Strategic%20Plan.pdf.

Figure 4. DHP RDT&E and CDMRP Funding Proportions and Amounts

FY2003-FY2022



Source: CRS analysis of DOD, Defense Health Program Fiscal Year Budget Estimates, Volume 1, Section 2, FY2004-FY2023, https://comptroller.defense.gov/Budget-Materials/FY2023BudgetJustification/#defhealthprog; and DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory.

In most years since FY2003, CDMRP funding exceeded DOD's actual request for medical research funding.[37] Some Members of Congress have noted that this trend with CDMRP funding may be potentially unnecessary growth in the DHP RDT&E budget activity and poses certain risks to other defense programs subject to certain statutory budget caps on discretionary spending.[38] For example, the conference report accompanying the FY2018 NDAA (P.L. 115-91) references these concerns and suggests that DOD medical research focus only on military-relevant topics:

> Annual funding for CDMRP has more than doubled since 2013, when budget caps mandated by the Budget Control Act of 2011 (P.L. 112-25) took effect. This funding, neither authorized by Congress nor requested by DOD, is increasing at a time when other vital programs critical to the nation's defense are dangerously underfunded. As long as the budget caps remain in place under the Budget Control Act, additional funds placed in the CDRMP will directly compete with other budget priorities in the Department. While the conferees agree that DOD has a proper and vital role to play in medical research related to combat readiness, especially in areas like prosthetics, traumatic brain injury, and spinal cord injury, additional funding for medical research unrelated to unique military needs should be allocated elsewhere in the federal government. Therefore, the conferees encourage funding only those medical research and development projects that protect and

[37] CRS analysis of DOD, Defense Health Program Fiscal Year Budget Estimates, Volume 1, Section 2, FY2004-FY2023, https://comptroller.defense.gov/Budget-Materials/FY2021BudgetJustification/#defhealthprog; and DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory.

[38] For more on the defense-related discretionary spending caps, see CRS Report R44039, *The Defense Budget and the Budget Control Act: Frequently Asked Questions*, by Brendan W. McGarry.

> enhance military readiness or restore the health and safety of members of the Armed Forces.[39]

Observers also note that some CDMRP funds, particularly topics with limited or seemingly no military relevance, should be excluded from the DOD budget or reinvested toward a research area more applicable to military needs.[40] In doing so, DOD could curb its growing medical costs and eliminate nonmilitary-related activities from the defense budget. Alternatively, increases to the DHP RDT&E budget activity (including CDMRP) could serve as an option to continue medical research activities in lieu of potentially declining or fluctuating funding at other federal agencies.[41] Congress could consider potential options to constrain or further optimize funding and outcomes of DOD's medical research programs.

Military Relevance

While funding for CDMRP has generally increased each year since the program's inception, numerous stakeholders and observers have noted that certain CDMRP research topics do not directly relate to DOD's statutory mission, military operations, or national security. In 2016, Congress considered a restriction on DOD's use of CDMRP funds unless the Secretary of Defense determined that such research project would "enhance, or restore the health and safety of members of the Armed Forces."[42] The proposed restriction was included as Section 756 of the Senate-passed version of the NDAA for Fiscal Year 2017. While the provision was not included in the enacted NDAA (P.L. 114-328), the conferees noted their concern on:

> … the amount of congressional funding for medical research in the Department of Defense's (DOD) Congressionally Directed Medical Research Program. Since 1992, Congress has appropriated almost $10 billion for medical research—most of it outside of the DOD's core medical research mission and not requested in the Department's annual budget requests.[43]

In contrast, other observers have welcomed the use of CDMRP funds for a broad range of research topics that support both DOD's mission and the general medical community. During a 2013 congressional hearing on the Defense Health Program budget, then-Assistant Secretary of Defense for Health Affairs (ASD[HA]) Jonathan Woodson thanked Congress for "supporting Congressionally-directed research programs" and also noted that such funds added "value to military medicine but obviously American medicine by the advances that are made."[44] Certain advocacy organizations (e.g., the National Breast Cancer Coalition) also note that outcomes from some CDMRP research topics also affect service members, veterans, and military families, in addition to the general public, because they are also at risk for those medical conditions.[45]

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[39] See pp. 861-862 of H.Rept. 115-404.

[40] See Heritage Foundation, "The Budget Book: 106 Ways to Reduce the Size & Scope of Government," *050 National Defense: Cut Funding for Non-Combat Related Research*," accessed October 5, 2020, https://budgetbook.heritage.org/national-defense/cut-funding-for-non-combat-related-research/.

[41] See Research America, "U.S. Investment in Medical and Health Research and Development: 2013-2018," Fall 2019, https://www.researchamerica.org/sites/default/files/Publications/InvestmentReport2019_Fnl.pdf.

[42] Senate-passed National Defense Authorization Act for Fiscal Year 2017, S. 2943, 114th Congress, 2nd Session.

[43] H.Rept. 114-840, p. 1089.

[44] U.S. Congress, House Committee on Appropriations, Subcommittee on Defense, *Department of Defense Appropriations for 2013*, 112th Cong., 2nd sess., March 8, 2012, H. Hrg. 79-874 (Washington: GPO, 2013), p. 255, https://www.govinfo.gov/content/pkg/CHRG-112hhrg79874/pdf/CHRG-112hhrg79874.pdf.

[45] For example, see Testimony of the National Breast Cancer Coalition President Fran Visco, in U.S. Congress, House Committee on Appropriations, Subcommittee on Defense, April 8, 2020, https://www.stopbreastcancer.org/resources/

The Constitution authorizes Congress to make appropriations regardless of whether those funds are relevant to a federal agency's mission or responsibilities.[46] Utilizing the constitutional "power of the purse," Congress could continue to consider the ad-hoc or permanent practice of including CDMRP funding in the annual DOD appropriations act, as well as consider restrictions on the use of medical research funding for perceived nonmilitary related purposes.

Research Continuity

CDMRP research areas are contingent on annual congressional appropriations and are not static. For example, Congress provided annual funding for tick-borne disease research from FY2016 to FY2020, but provided no associated funds in FY2015. Unclear funding certainty can challenge DOD medical research leaders during the vision-setting process. Without a clear timeline on congressional appropriations for a specific topic, it is difficult to establish an investment strategy and to prioritize short-term and long-term research goals. Though awarded CDMRP grants help to define and contribute scientific insight on individual research questions relating to a funded topic, it can sometimes be unclear if the grant helped to meet DOD's overarching goals or if any research findings directly contributed to the development of new technology, biologics, pharmaceuticals, therapies, or clinical treatments for the military's needs.

For example, Congress appropriated a total of $4.4 million in FY2009 and FY2010 for a "Genetic Studies of Food Allergies Research Program" (GSFARP).[47] MRDC awarded nine grants to explore a "highly innovative new concept or untested theory" and "innovative ideas and high-impact research approaches" using scientifically meritorious genetic research focused on food allergies.[48] At the conclusion of the grant periods, GSFARP awardees produced 17 articles in peer-reviewed medical journals discussing their findings.[49] However, DOD has not clearly described whether, or how, those findings contributed to military medicine, or if continued research would have likely been valuable for DOD's purposes or the broader healthcare community.

Since FY1992, there have been 19 CDMRP research topics funded for four years or less.[50] It is possible that DOD could have found additional value from continued research if such topics were funded for a longer period. Congress may have stopped funding of those topics after realizing other federal entities could more appropriately conduct that research. Congress could consider incorporating certain CDMRP research topics into DOD's RDT&E base budget, exploring multi-year appropriations, or utilize congressional authorizations to establish and sustain a long-term

testimony-of-fran-visco-before-the-house-appropriations-subcommittee-on-defense-april-8-2020/; National Multiple Sclerosis Society, Congressional Talking Points, "MS Congressionally Directed Medical Research Program (CDMRP) Funding," August 2016, http://www.nationalmssociety.org/NationalMSSociety/media/MSNationalFiles/Advocacy/NEW-MS-CDMRP-Talking-Points,-August-Recess-201671816_1.pdf; and Lupus Foundation of America, "Department of Defense: Lupus Research Program," accessed October 4, 2020, https://www.lupus.org/lupus-research-program.

[46] Article I, Section 9, Clause 7, U.S. Constitution.

[47] Explanatory statements accompanying the Department of Defense Appropriations Act, 2009 (P.L. 110-329), and Department of Defense, 2010 (P.L. 111-118).

[48] CDMRP, "Genetic Studies of Food Allergies Research Program," October 2010, https://cdmrp.army.mil/prevfunded/gsfarp/pbks/gsfarppbk.pdf.

[49] CRS analysis of CDMRP grant awards and publications for the GSFARP, available at https://cdmrp.army.mil/search.aspx.

[50] CRS analysis of historical CDMRP funding, available at DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory.

medical research agenda across federal agencies to mitigate the funding challenges and uncertainties affecting research continuity.

Duplication and Overlap with other Federal Research Entities

Aside from DOD's medical research enterprise, other federally administered and/or funded entities also conduct medical research that may overlap certain CDMRP research topics. These include

- NIH;
- U.S. Centers for Disease Control and Prevention;
- Agency for Toxic Substances and Disease Registry;
- Biomedical Advanced Research and Development Agency;
- Food and Drug Administration;
- Veterans Health Administration of the Department of Veterans Affairs (VA);
- National Science Foundation; and
- Department of Agriculture.

MRDC prohibits "unnecessary duplication of funding, or accepting funding from more than one source for the same research."[51] During the CDMRP application, review, and award management process, research duplication is assessed. MRDC terminates CDMRP grants identified as unnecessarily duplicative and awardees are required to refund the government for any previously disbursed funds. DOD's process to monitor and identify unnecessary duplication is the responsibility of "research applicants and their institutional business officials."[52] Because the onus is primarily on the researcher, such overlap may go unreported or be misidentified.

Recent evaluations of CDMRP also identified opportunities to reduce the likelihood of research duplication and overlap with other federal entities. In 2012, the Government Accountability Office (GAO) found that "NIH, DOD, and VA each lack comprehensive information on health research funded by the other agencies, which limits their ability to identify potential areas of duplication in the health research they fund."[53] GAO recommended that the three federal departments "determine ways to improve access to comprehensive electronic information on funded health research shared among agency officials and improve the ability of agency officials to identify possible duplication."[54] DOD concurred with GAO's findings, while NIH noted they do coordinate and have access to other agencies' publicly available research databases to check for duplicative research efforts and projects.[55] Currently, CDMRP and certain other DOD medical research programs share its grant award data with the *Federal RePORTER* database to promote

[51] CDMRP, "Funding Opportunities," *Research Duplication*, accessed October 4, 2020, https://cdmrp.army.mil/funding/researchDup.

[52] DOD, *Department of Defense Strategic Medical Research Plan*, January 29, 2019, p, 50.

[53] U.S. Government Accountability Office, *2012 Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue*, GAO-12-342SP, February 2012, p. 97, https://www.gao.gov/assets/590/588818.pdf.

[54] Ibid., p. 100.

[55] Ibid., p. 100 and p. 393.

"transparency" of "federal science research investments;" however, it is unclear how the database is utilized to reduce duplication or overlap among federal agencies.[56]

In 2016, the National Academies of Science, Engineering, and Medicine evaluated the CDMRP review processes and recommended CDMRP have a "formal mechanism to coordinate with these entities in a predictable, consistent, and standardized manner each year to learn of substantial or new areas of research on the health condition being funded or considered for funding by those other organizations."[57] Though DOD invites representatives from other federal entities (e.g., VA, NIH) to participate in certain grant development and review processes, the processes are not standardized. For example, programmatic panels for certain research topics do not include a VA representative, even if the topic may affect the veteran population.

GAO reviewed CDMRP again in 2021 and found that "DOD officials coordinate with NIH and VA counterparts on CDMRP-funded research programs throughout their cyclical program and project management process."[58] The organization also found that DOD's coordination activities, like querying an interagency database of research projects, helps CDMRP avoid and mitigate "overlap and duplication of biomedical research efforts across DOD, NIH, and VA."[59]

Comprehensive interagency coordination occurs on certain topics to establish unique research priorities without duplication or overlap, while other topics are coordinated on an ad hoc basis, or not at all. Congress may consider enhancing the interagency coordination process by exploring opportunities to designate a lead federal agency or further define an agency's scope and responsibility for conducting research activities on certain topics.

Military Health System Reform

The MHS is undergoing numerous congressionally directed reforms intended to reorganize the internal structure of the DHA and how military treatment facilities are managed and administered.[60] In 2019, Congress directed DOD to consolidate most of its medical research and public health programs under the DHA, with a deadline of September 30, 2022.[61] While the military departments are to retain certain medical research and public health responsibilities, the DHA is to be responsible for coordinating all DHP RDT&E and public health funds, including CDMRP.[62]

In June 2019, MRDC restructured and realigned certain responsibilities under two separate DOD entities: the DHA and Army Futures Command.[63] Depending on the research mission (DHP

[56] The *Federal RePORTER* database is an interagency data repository of federal research and development investments. The database is administered by NIH and the National Science Foundation and includes federal partners, such as: DOD, Department of Agriculture, Environmental Protection Agency, VA, Department of Education, and the National Aeronautics and Space Administration. For more, see https://federalreporter.nih.gov/.

[57] National Academies of Science, Engineering, and Medicine, "Programmatic Review," in *Evaluation of the Congressionally Directed Medical Research Programs*, p. 122.

[58] U.S. Government Accountability Office, *Biomedical Research: Observations on DOD's Management of Congressionally Directed Medical Research Programs*, GAO-22-105107, January 31, 2022, p. 7, https://www.gao.gov/assets/gao-22-105107.pdf.

[59] Ibid.

[60] For more on MHS reform, see CRS In Focus IF11273, *Military Health System Reform*, by Bryce H. P. Mendez.

[61] P.L. 115-232 §711.

[62] For more on the Congressionally Directed Medical Research Programs (CDMRP), see CRS In Focus IF10349, *Congressionally Directed Medical Research Programs Funding for FY2022*, by Bryce H. P. Mendez.

[63] The U.S. Army Medical Research and Development Command was previously the U.S. Army Medical Research and

requirements vs. service-specific requirements), MRDC resources were also reallocated accordingly.[64] MRDC, a Department of the Army entity, executes most of the annual DHP RDT&E funds. However, the FY2019 NDAA requires DHA's R&D directorate to be "comprised of the Army Medical Research Materiel Command [now known as MRDC] and such other medical research organizations and activities of the armed forces as the Secretary considers appropriate."[65] The FY2020 NDAA (P.L. 116-92) also stipulated that MRDC is to retain certain resources for its service-based research mission and is to transfer its DHP RDT&E accounts to the DHA on October 1, 2022.[66]

In December 2019, the Secretary of the Army relayed certain concerns with transferring MRDC to the DHA in a memorandum to the Deputy Secretary of Defense, noting that DHA and the Office of the Assistant Secretary of Defense for Health Affairs have "failed to provide a clear path forward with respect to policy and budget."[67] The Secretary of the Army also requested support for "Army's legislative proposal to repeal the portion of the NDAA FY19 legislation, which transfers Army Public Health and Medical Research and Material to DHA."[68]

Given the military services' lingering concerns with required MHS reform efforts, Congress may consider enacting further legislation or conduct oversight activities to clarify or emphasize its intent regarding DHA's and the services' roles and responsibilities with regard to CDMRP funding.

Congressional Outlook

With more than $18 billion in funding since FY1992, CDMRP has been a significant contributor to both DOD's R&D mission, as well as the overall U.S. medical research enterprise. As future appropriations and authorizations for DOD's medical RDT&E programs are considered, Congress may opt to reflect on overall federal medical research investments and the departments and agencies administering those funds. In doing so, Congress could potentially enhance how federal medical research is administered, realign medical research efforts with capable federal entities, and/or maximize the benefits of federal medical research investments to taxpayers.

Materiel Command. C.J. Lovelace, "Army Logistics Leaders Focus on Medical Materiel's Role in Readiness," Army Medical Logistics Command, September 10, 2019, https://amlc.army.afpims.mil/News/Article/1956385/army-logistics-leaders-focus-on-medical-materiels-role-in-readiness/. For more on the Army Futures Command, see CRS Insight IN10889, *Army Futures Command (AFC)*, by Andrew Feickert.

[64] Ibid.

[65] P.L. 115-232 §711(b).

[66] P.L. 116-92 §737.

[67] A copy of the memorandum was obtained and published in Scott Maucione, "Internal memo shows Army wants to halt MTF transfers to DHA," *Federal News Network*, January 17, 2020, https://federalnewsnetwork.com/army/2020/01/exclusive-internal-memo-shows-army-wants-to-halt-mtf-transfers-to-dha/.

[68] Ibid. DOD's legislative proposals for FY2021 did not include any draft legislative text that would repeal Section 711 of the FY2019 NDAA.

Appendix A. Acronyms

Glossary of Acronyms

ASD(HA)	Assistant Secretary of Defense for Health Affairs
BAA	Broad Agency Agreement
CDMRP	Congressionally Directed Medical Research Programs
DHA	Defense Health Agency
DHP	Defense Health Program
DOD	Department of Defense
eBRAP	Electronic Biomedical Research Application Portal
FY	Fiscal Year
GAO	Government Accountability Office
GSFARP	Genetic Studies of Food Allergies Research Program
HAC	House Appropriations Committee
HAC-D	House Appropriations Committee – Subcommittee on Defense
MHS	Military Health System
NASEM	National Academies of Science, Engineering, and Medicine
NDAA	National Defense Authorization Act
NIH	National Institutes of Health
PRCRP	Peer-Reviewed Cancer Research Program
PRMRP	Peer-Reviewed Medical Research Program
R&D	Research and Development
RDT&E	Research, Development, Test, and Evaluation
SAC	Senate Appropriations Committee
SAC-D	Senate Appropriations Committee – Subcommittee on Defense
MRDC	United States Army Medical Research and Development Command
VA	Department of Veterans Affairs

Appendix B. CDMRP Funding – DHP RDT&E Budget Activity

Figure B-1. CDMRP Funding Assigned to the DHP RDT&E Budget Activity

Department of Defense Appropriations Act, 2020

372

(IN THOUSANDS OF DOLLARS)

		BUDGET REQUEST	FINAL BILL
	DEFENSE HEALTH PROGRAM		
	OPERATION AND MAINTENANCE		
10	IN-HOUSE CARE	9,570,615	9,285,415
20	PRIVATE SECTOR CARE	15,041,006	14,975,181
30	CONSOLIDATED HEALTH SUPPORT	1,975,536	1,941,936
40	INFORMATION MANAGEMENT	2,004,588	1,956,738
50	MANAGEMENT ACTIVITIES	333,246	330,246
60	EDUCATION AND TRAINING	793,810	750,860
70	BASE OPERATIONS/COMMUNICATIONS	2,093,289	2,081,289
	SUBTOTAL, OPERATION AND MAINTENANCE	31,812,090	31,321,665
	PROCUREMENT		
150	INITIAL OUTFITTING	26,135	18,484
160	REPLACEMENT AND MODERNIZATION	225,774	225,774
170	JOINT OPERATIONAL MEDICINE INFORMATION SYSTEM	314	---
180	MILITARY HEALTH SYSTEM - DESKTOP TO DATACENTER	73,010	73,010
180	DOD HEALTH MANAGEMENT SYSTEM MODERNIZATION	129,091	129,091
	SUBTOTAL, PROCUREMENT	454,324	446,359
	RESEARCH DEVELOPMENT TEST AND EVALUATION		
80	RESEARCH	12,621	12,621
90	EXPLORATORY DEVELOPMENT	84,266	84,266
100	ADVANCED DEVELOPMENT	279,786	279,786
110	DEMONSTRATION/VALIDATION	128,055	128,055
120	ENGINEERING DEVELOPMENT	143,527	101,749
130	MANAGEMENT AND SUPPORT	67,219	67,219
140	CAPABILITIES ENHANCEMENT	16,819	16,819
150	UNDISTRIBUTED MEDICAL RESEARCH	---	1,615,600
	SUBTOTAL, RESEARCH DEVELOPMENT TEST AND EVALUATION	732,273	2,306,095
	TOTAL, DEFENSE HEALTH PROGRAM	32,998,687	34,074,119

Source: Explanatory statement accompanying the Department of Defense Appropriations Act, 2020, as incorporated in the Consolidated Appropriations Act, 2020, H. Comm. Prt. 38-678, p. 372, https://www.govinfo.gov/content/pkg/CPRT-116HPRT38678/pdf/CPRT-116HPRT38678.pdf.

Appendix C. CDMRP Funding – Army RDT&E Budget Activity

Figure C-1. CDMRP Funding Assigned to the Army RDT&E Budget Activity

Department of Defense Appropriations Act, 2020

298

R-1		Budget Request	Final Bill
18	AIR AND MISSILE DEFENSE TECHNOLOGY	50,771	95,771
	Program increase - sustainable energy materials and manufacturing		12,000
	Program increase - high-energy laser hardware in the loop		20,000
	Program increase - COE in high-energy laser and optical technology		3,000
	Program increase - cybersecurity and supply chain risk management		10,000
40	MEDICAL TECHNOLOGY	99,155	112,955
	Program increase - military force vector borne health protection		5,000
	Program increase - heat stress on female soldiers		2,000
	Program increase - burn patient transfer system		2,000
	Program increase - musculoskeletal injury and bone and muscle adaptation for military physical training		4,800
42	MEDICAL ADVANCED TECHNOLOGY	42,030	83,030
	Program increase - peer-reviewed neurotoxin exposure treatment Parkinson's		16,000
	Program increase - peer-reviewed neurofibromatosis research		15,000
	Program increase - peer-reviewed military burn research		10,000
50	ARMY ADVANCED TECHNOLOGY DEVELOPMENT	63,338	66,338
	Program increase - sensor and wireless communications denial capabilities		3,000
51	SOLDIER LETHALITY ADVANCED TECHNOLOGY	118,468	135,968
	Program increase - subterranean warfighter advanced technology		1,500
	Program increase - rapid safe advanced materials		6,000
	Program increase - multi-spectral sensor mitigation		5,000
	Program increase - helmet pad suspension systems		5,000

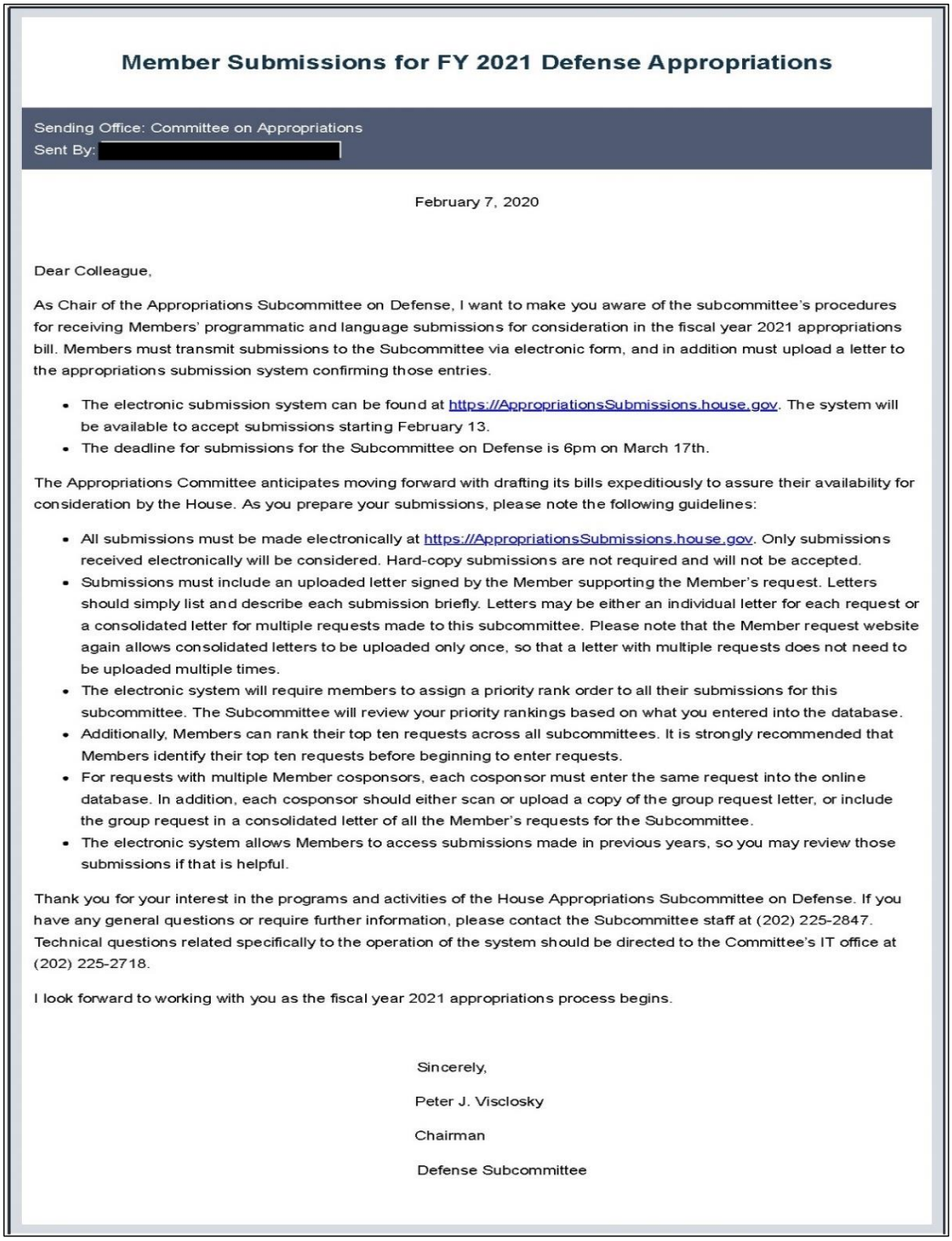
Source: Explanatory statement accompanying the Department of Defense Appropriations Act, 2020, as incorporated in the Consolidated Appropriations Act, 2020, H. Comm. Prt. 38-678, p. 298, https://www.govinfo.gov/content/pkg/CPRT-116HPRT38678/pdf/CPRT-116HPRT38678.pdf.

Note: RDT&E = Research, Development, Testing, and Evaluation.

Appendix D. Example of a Call for Member Funding Requests, House of Representatives

Figure D-1. Example of a Call for Member Funding Requests

House of Representatives



Member Submissions for FY 2021 Defense Appropriations

Sending Office: Committee on Appropriations
Sent By: [redacted]

February 7, 2020

Dear Colleague,

As Chair of the Appropriations Subcommittee on Defense, I want to make you aware of the subcommittee's procedures for receiving Members' programmatic and language submissions for consideration in the fiscal year 2021 appropriations bill. Members must transmit submissions to the Subcommittee via electronic form, and in addition must upload a letter to the appropriations submission system confirming those entries.

- The electronic submission system can be found at https://AppropriationsSubmissions.house.gov. The system will be available to accept submissions starting February 13.
- The deadline for submissions for the Subcommittee on Defense is 6pm on March 17th.

The Appropriations Committee anticipates moving forward with drafting its bills expeditiously to assure their availability for consideration by the House. As you prepare your submissions, please note the following guidelines:

- All submissions must be made electronically at https://AppropriationsSubmissions.house.gov. Only submissions received electronically will be considered. Hard-copy submissions are not required and will not be accepted.
- Submissions must include an uploaded letter signed by the Member supporting the Member's request. Letters should simply list and describe each submission briefly. Letters may be either an individual letter for each request or a consolidated letter for multiple requests made to this subcommittee. Please note that the Member request website again allows consolidated letters to be uploaded only once, so that a letter with multiple requests does not need to be uploaded multiple times.
- The electronic system will require members to assign a priority rank order to all their submissions for this subcommittee. The Subcommittee will review your priority rankings based on what you entered into the database.
- Additionally, Members can rank their top ten requests across all subcommittees. It is strongly recommended that Members identify their top ten requests before beginning to enter requests.
- For requests with multiple Member cosponsors, each cosponsor must enter the same request into the online database. In addition, each cosponsor should either scan or upload a copy of the group request letter, or include the group request in a consolidated letter of all the Member's requests for the Subcommittee.
- The electronic system allows Members to access submissions made in previous years, so you may review those submissions if that is helpful.

Thank you for your interest in the programs and activities of the House Appropriations Subcommittee on Defense. If you have any general questions or require further information, please contact the Subcommittee staff at (202) 225-2847. Technical questions related specifically to the operation of the system should be directed to the Committee's IT office at (202) 225-2718.

I look forward to working with you as the fiscal year 2021 appropriations process begins.

Sincerely,

Peter J. Visclosky

Chairman

Defense Subcommittee

Source: e-Dear Colleague email from U.S. House of Representatives, Committee on Appropriations, Subcommittee on Defense, "Member Submissions for FY 2021 Defense Appropriations," sent on February 7, 2020.

Appendix E. CDMRP Programs and Cumulative Funding, FY1992-FY2022

Figure E-1. CDMRP Programs and Cumulative Funding

FY1992-FY2022

Research Topics	Cumulative Total (millions)	Research Topics	Cumulative Total (millions)
Alcohol and Substance Abuse Disorders	$ 32	Multiple Sclerosis	$ 113
Amyotrophic Lateral Sclerosis	$ 189	Myeloproliferative Disorders	$ 4
Autism	$ 134	National Prion	$ 43
Bone Marrow Failure	$ 57	Neurofibromatosis***	$ 403
Breast Cancer	$ 4,086	Neurotoxin Exposure Treatment Parkinson's***	$ 144
Breast Cancer Research Semipostal	$ 27	Orthotics and Prosthetics Outcomes	$ 110
Chronic Myelogenous Leukemia	$ 22	Osteoporosis	$ 5
Chronic Pain Management	$ 25	Ovarian Cancer	$ 451
Combat Readiness-Medical	$ 25	Pancreatic Cancer	$ 6
Defense Women's Health	$ 40	Peer Reviewed Alzheimer's	$ 129
Deployment Related Medical	$ 102	Peer Reviewed Cancer	$ 785
DOD/VA Medical	$ 7	Peer Reviewed Medical	$ 3,451
Duchenne Muscular Dystrophy	$ 60	Peer Reviewed Orthopaedic	$ 489
Epilepsy	$ 74	Prostate Cancer	$ 2,150
Genetic Studies of Food Allergies	$ 4	Rare Cancers	$ 8
Gulf War Illness	$ 236	Reconstructive Transplant	$ 99
Hearing Restoration	$ 60	Scleroderma	$ 5
Institutionally Based Programs	$ 486	Spinal Cord Injury	$ 398
Joint Warfighter Medical	$ 474	Tick-Borne Disease	$ 41
Kidney Cancer	$ 185	Toxic Exposures	$ 30
Lung Cancer	$ 196	Trauma Clinical Research Repository	$ 5
Lupus	$ 45	Tuberous Sclerosis Complex	$ 105
Melanoma	$ 30	Vision	$ 149
Military Burn	$ 78		
CDMRP-supported DOD Programs/Projects			
Armed Forces Institute of Regenerative Medicine II	$ 31	Psychological Health/Traumatic Brain Injury	$ 1,614
Armed Forces Institute of Regenerative Medicine III	$ 20	Rapid Innovation Fund	$ 36
Centers of Excellence	$ 20	Small Business Innovation Research/Small Business Technology Transfer	$ 64
Defense Medical RDT&E	$ 943	Trauma Clinical	$ 70
Defense Medical RDT&E CSI Restoral	$ 180	Vision Prosthesis	$ 1
Medical Technology Enterprise Consortium	$ 26		

Source: CRS analysis of DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory.

Appendix F. PRMRP Eligible Research Topics, FY1999-FY2022

Figure F-1. PRMRP Eligible Research Topics

FY1999-FY2022

Acellular Human Tissue Matrix	*Dystonia*
Acupuncture	*Early Trauma Thermal Regulation*
Acute Lung Injury	*Eating Disorders*
Advanced Prosthetics	*Ehlers-Danlos Syndrome*
Advanced Proteomics	*Emerging Infectious Diseases*
Advanced Soft Tissue Modeling	*Emerging Viral Diseases*
Alcoholism	*Endometriosis*
Amyotrophic Lateral Sclerosis	*Epidermolysis Bullosa*
Anti-Diarrhea Supplement	*Epilepsy*
Antimicrobial Resistance	*Eye and Vision*
Anti-radiation Drug Development	*Familial Hypercholesterolemia*
Army Nutrition	*Fibromyalgia*
Arthopod-transmitted Infectious Diseases	*Fibrous Dysplasia*
Arthritis	*Friedreich's Ataxis*
Augmented Care in the Chain of Survival (ACCESS)	*Focal Segmental Glomerulosclerosis*
Autism	*Food Allergies*
Autoimmune Diseases	*Fragile X*
Biological Hazard Detection System/Biosensor Microchip	*Freeze-Dried Platelets*
Blood Cancer	*Frontotemporal Degeneration*
Bone-related Disease	*Fungal & Bacterial Infections*
Burn Pit Exposure	*Fungi Free - topical agent for Onychomycosis*
Cardiomyopathy	*Geneware Rapid Vaccines*
Cardiovascular Health	*Guillain-Barre Syndrome*
Casualty care	*Hanta Virus*
Cell Response to Anti-cancer Agents	*Health Information Protection*
Cerebellar Ataxia	*Health System Information Technology*
Cervical Cancer - Self-Test/Screening Methods	*Healthcare Informatics*
Chemical Weapons	*Healthcare-acquired Infection Reduction*
Chemo-preventative Approaches to Smoking-related Illnesses	*Hemorrhage Control*
Childhood Asthma	*Hepatitis B*
Childhood Cancer	*Hepatitis B and C*
Chiropractic Care	*Hereditary Angioedema*
Chronic Kidney Disease	*High Risk Infectious Disease*
Chronic Migrane & Post-Traumatic Headache	*Human Imaging Institute/Magnetoencephalography Lab*
Chronic Pain Management	*Hydrocephalus*
Closed Loop Frozen Blood Processing Systems	*Hypercholesterolemia*
Complex rAD-Vector Vaccine for MGBV	*Hypertension*
Composite Tissue Transplantation	*Illnesses related to Radiation Exposure*
Congenital Heart Disease	*Immunomonitoring of Intestinal Transplants*
Conjugate Vaccines for Shigellosis	*Infectious Disease Tracking System*
Constrictive Bronchiolitis	*Infectious Disease Vaccines*
Counter Narcotics Tactical Operations Medical Support Program (CONTOMS)	*Inflammatory Bowel Disease*
Defense & Veterans Head Injury Program	*Influenza*
Dengue	*Integrated Tissue Hypoxia*
Diabetes	*Integrative Medicine*
Diarrheal Diseases	*Interstitial Cystitis*
Digital Mammography	*Interventional Cardiovascular MRI Technologies*
Disease Management	*Kidney Cancer*
DNA Vaccine Technology for Postexposure Prophylaxis	*Laser Eye Injury/Eye Cancer*
Drug Abuse	*Leshmaniasis*
Duchenne's Disease	*Limb Loss and Paralysis*

Source: CRS analysis of DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory; and explanatory statements accompanying various DOD Appropriations Acts, FY1999-FY2022.

Note: Additional PRMRP eligible research topics continued on next page.

Figure F-2. PRMRP Eligible Research Topics (Continued)

FY1999-FY2022

Listeria Vaccine for Infectious Disease & Cancer	*Personal Intelligent Medical Assistant*
Low Vision	*Pheochromocytoma*
Lung	*Plant-based Vaccines*
Lung Cancer - CAT Scan Technology	*Platelet-Like Cell Production*
Lung Injury	*Polycystic Kidney Disease*
Lupus	*Post-traumatic Osteoarthritis*
Lymphoma	*Post-traumatic Stress Disorder/Gulf War Illness*
Malaria	*Pre-clinical/Clinical activities of the Novonex/Ex-rad Drugs*
Medical Digital Assistance	*Pressure Ulcers*
Medical Records Management	*Providence Cancer Research*
Medical Surgery Technology	*Prsotate Diagnostic Imaging*
Melanoma	*Psychotropic Medications*
Mesothelioma	*Pulmonary Fibrosis*
Metabolic Disease	*Pulmonary Hypertension*
Metabolically Engineered Tissue for Trauma Care	*Quantum Optics*
Metals Toxicology	*Radiation Protection*
Microbiology for Cancer	*Real-time Heart Rate Variability*
Microsurgery & Robotic Surgery	*Remote Emergency Medicine Ultrasound*
Military Medical Informatics	*Reserve Component Medical Training*
Miniature Renal Assist Devices	*Resilience Training*
Mitochondrial Disease	*Respiratory Health*
Molecular Signatures in Tumors	*Retinal Display Technology*
Mt. Sinai Cancer Research Program	*Rett Syndrome*
Multiple Myeloma	*Rheumatoid Arthritis*
Multiple Sclerosis	*Scleroderma*
Muscle Function	*Segmental Bone Defects*
Muscular Dystrophy	*Sleep Disorders*
Musculoskeletal Disorders	*Sleep Management*
Musculoskeletal Health	*Smoking Cessation*
Mustard Gas Antedote	*Social Work Research*
Myalgic Encephalomyelitis/Chronic Fatigue Syndrome	*Spinal Muscular Atrophy*
Myotonic Dystrophy	*Stem Cell Research*
Nanomaterials for Bone Regeneration	*Suicide Prevention*
Nanomedicine for Drug Delivery Science	*Sustained Release Drug Delivery*
Natural Toxin Detection Technology	*Tinnitus*
Nephrotic Syndrome	*Tissue Regeneration*
Neuroblastoma	*Trauma*
Neurological Examination Equipment	*Traumatic Brain Injury*
Neuroprosthetics	*Tuberculosis*
Neuroscience	*Vancomycin-resistant Enterococcus Infection*
Non-opioid Pain Management	*Vascular Malformations*
Nutrition Optimization	*Venus 3D Technology Program*
Obesity-related Disease Prevention	*Vitamin D*
Orthopaedic extremity Trauma	*Volume Angio CAT (VAC)*
Osteoarthritis	*Volumetrically controlled Manufacturing*
Osteoperosis and related Bone Disease	*West Nile Virus*
Paget's Disease	*Women's Heart Disease*
Pancreatitis	
Pathogenic-inactivated Blood Products	
Pediatric Cancer	
Peripheral Neuropathy	

Source: CRS analysis of DOD, "About Us," *Funding History*, accessed June 15, 2022, https://cdmrp.army.mil/about/fundinghistory; and explanatory statements accompanying various DOD Appropriations Acts, FY1999-FY2022.

Appendix G. PRCRP Eligible Research Topics, FY2009-FY2022

Figure G-1. PRCRP Eligible Research Topics

FY2009-FY2022

	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Adrenal Cancer										•				
Bladder Cancer								•	•	•	•	•	•	•
Blood Cancers				•	•	•				•	•	•	•	•
Brain Cancer									•	•	•	•	•	•
Cancer in Children, Adolescents and Young Adults									•	•	•	•	•	•
Cancers associated with the use of Beryllium													•	
Cancers related to Radiation Exposure						•								
Colorectal Cancer				•	•	•	•	•	•	•	•	•	•	•
Deployment-related Skin Cancer	•													
Endometrial Cancer													•	•
Esophageal Cancer												•	•	•
Genetic Cancer Research	•			•	•	•	•							
Germ Cell Cancer													•	•
Head and Neck Cancer												•	•	•
Immunotherapy								•	•	•	•	•		
Kidney Cancer				•	•	•	•	•						
Listeria Vaccine for Cancer				•	•	•	•	•	•	•	•			
Liver Cancer							•	•	•	•	•	•	•	•
Lymphoma								•	•	•	•		•	•
Melanoma and other Skin Cancers				•	•	•	•	•	•	•				
Mesothelioma	•			•	•	•	•	•	•	•	•	•	•	•
Metastatic Cancers												•	•	•
Myeloma										•				•
Myeloproliferative Disorders						•	•							
Neuroblastoma					•	•	•	•	•	•	•	•	•	•
Non-Invasive Cancer Research using Nano Particles	•													
Pancreatic Cancer				•	•	•	•	•	•	•	•			
Pediatric Brain Tumors	•			•	•	•		•	•	•	•	•	•	•
Rare Cancers											•			
Sarcoma													•	•
Scleroderma and Cancer Links													•	
Stomach Cancer							•	•	•	•	•	•	•	•
Thyroid Cancer													•	•
Von Hippel-Lindau Disease														•

Source: CRS analysis of DOD, "About Us," *Funding History*, accessed April 11, 2022, https://cdmrp.army.mil/about/fundinghistory; and explanatory statements accompanying various DOD Appropriations Acts, FY1999-FY2022.

Notes: For FY2010 and FY2011, Congress appropriated funds for the PRCRP, however did not identify specific research topics.

Author Information

Bryce H. P. Mendez
Analyst in Defense Health Care Policy

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