



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

To: OVERSIGHT COMMITTEE MEMBERS
From: WAYNE ROBERTS, CHIEF EXECUTIVE OFFICER
**Subject: FY 2016 REPORT ON MERIT AND PROGRESS OF PROGRAMS
PURSUANT TO TEXAS HEALTH & SAFETY CODE § 102.260(C)**
Date: FEBRUARY 8, 2017

Summary

Fiscal year 2016 marked the halfway point in CPRIT's constitutional funding authorization. Texas' decision in 2007 decision to provide \$3 billion for cancer research and prevention remains the only such commitment in the United States. Key metrics indicate that CPRIT is affecting Texas' national standing in both cancer research and the biomedical industry. In FY 2016 (FY 2016), the Oversight Committee approved 143 grants totaling \$274,260,908.¹ Texas Health and Safety Code § 102.260(c) requires the Chief Executive Officer to report at least annually to the Oversight Committee on the progress and continued merit of each research program. CPRIT's Academic Research Program, Prevention Program and Product Development Research Program showed progress and merit in FY 2016.

This report provides an overview illustrating the progress made in advancing CPRIT's mission to create and expedite innovation in cancer research and cancer prevention. Aligning program activities with the program priorities adopted by the Oversight Committee is a good gauge of progress and merit. This report highlights each program's implementation of the FY 2016 program priorities. CPRIT's FY 2016 *Annual Report* and quarterly *Achievements Report* provide more information on CPRIT awards.

With regard to progress made by individual grant projects within each of CPRIT's three programs, Texas Administrative Code § 703.21 requires all CPRIT grantees to submit progress reports at least annually. Outside experts evaluate these progress reports to ensure that the grantee has made sufficient progress and should continue work under the grant. To the extent that an expert reviewer determines that a grant project is not making sufficient progress, CPRIT may take a number of actions, including contract termination. CPRIT did not terminate any award during FY2016 for lack of sufficient progress.

¹ Unless specifically noted, all grant awards and amounts discussed in this report reflect the awards approved by the Oversight Committee in FY 2016 that are either under contract with a grantee or the grantee has not declined the award as of the date of this memo.

Academic Research Program

CPRIT's Academic Research Program supports innovative and meritorious projects that are discovering new information about cancer that can lead to prevention, early detection, and cures; translating new and existing discoveries into practical advances in cancer diagnosis and treatment; and increasing the prominence and stature of Texas in the fight against cancer.

In FY 2016, CPRIT's Academic Research Program awarded 51 Individual Investigator Research Awards, 21 High Impact-High Risk research grants, 6 Core Facilities Support Awards, 7 Multi-Investigator Research Awards, 4 Research Training Awards, and 25² Recruitment Awards to Texas institutions. The total amount of Academic Research awards approved by the Oversight Committee in FY 2016 and under contract was \$211,602,887.

Academic Research Program Priorities

The Oversight Committee adopted the following FY 2016 program priorities for the Academic Research Program:

- A broad range of innovative, investigator-initiated academic research projects;
- Prevention and early detection;
- Computational biology and analytic methods;
- Rare and intractable cancers, including childhood cancers;
- Population disparities and cancers of importance in Texas (Lung, Cervix, Liver); and
- Recruit outstanding cancer researchers to Texas.

This was the second full year that the Oversight Committee's program priorities have been in place. These priorities have influenced Requests for Applications (RFAs) and funding decisions. For example, childhood and adolescent cancers research comprises 10% of CPRIT's research portfolio grants, which is more than twice the national rate. This is one result of the Oversight Committee's decision to prioritize rare and intractable cancers, including childhood cancers. Similarly, the number of Academic Research grants awarded for research to improve prevention and early detection of cancer in Texas has increased to \$23 million.

The table below shows the program priorities met by the Academic Research Program grants.

² As of August 31, 2016, 17 recruitment contracts were executed and eight contracts were pending acceptance.

Academic Research Program Priorities	# Grants*	Award Totals
A broad range of innovative, investigator- initiated academic research projects	84	\$91,000,814
Recruit outstanding cancer researchers to Texas	25	\$76,520,000
Childhood cancers	20	\$26,984,209
Prevention and early detection	17	\$23,272,828
Computational biology and analytic methods	9	\$24,600,567
Rare and intractable cancers	31	\$42,255,865
Population disparities and cancers of importance in Texas (Lung, Cervix, Liver)	38	\$32,982,826

* Some grants address more than one priority.

Seventeen recruits accepted positions at Texas institutions, for a total of \$49 million in recruitment grant awards. CPRIT is building a critical mass of cancer researchers in Texas by supporting recruitment of cancer scientists and clinicians as cancer research scholars to academic institutions in Texas. Since its inception through August 31, 2016, CPRIT has supported the recruitment of 113 outstanding cancer researchers to 17 academic institutions throughout Texas. This program has been highly successful in enhancing Texas' cancer research efforts and increasing the external visibility of the state in this field, which ultimately benefits the life sciences infrastructure in Texas.

Prevention Program

Experts report that we are able to prevent nearly half of all cancers. However, the ability to reduce cancer rates depends, in part, on more broadly applying evidence-based prevention strategies currently available. CPRIT's Prevention Program supports effective, evidence-based prevention programs to underserved populations in the state. Prevention Program grants help Texans reduce the risk of getting cancer, identify cancers earlier, and assist people in finding cancer treatment. These efforts ease the burden of cancer in Texas. Comparing 2008 data to the latest information available in 2013, Texas has seen a drop in cancer death rates by 13%, which translates to more than 3,300 deaths prevented.

There were 79 Prevention Program projects active throughout Texas in FY 2016. The Oversight Committee approved 26 new grants during the fiscal year totaling \$26,938,196. By the end of FY 2016, CPRIT has supported \$169.1 million in Prevention Program grants to provide more than 3.1 million education and clinical prevention services in all 254 counties since 2010. These services include tobacco cessation, genetic testing and counseling, vaccinations and survivor care services. Cumulatively, through FY 2016, Texans have received more than 1.74 million clinical prevention services. Screenings and diagnostics for breast, cervical, colorectal, and liver cancer

account for more than 726,264 of the clinical services. Also, the CPRIT-funded screenings detected 4,833 cancer precursors and found 2,280 cancers. More than 288,403 recipients have received their first cancer screenings from CPRIT projects. These numbers highlight the impact CPRIT has in Texas communities.

In addition to the impact on the health of people in Texas, the Prevention Program grants also improve the healthcare system and foster greater collaborations. Health system improvements include reducing wait times for diagnostic testing, reducing the number of people lost to follow-up, implementing patient reminder systems, enhancing electronic medical records, and training a cadre of community health care workers to help educate and navigate people through the system. These grants stimulate greater collaboration among academic institutions, community organizations, and clinics.

Prevention Program Priorities

The Oversight Committee adopted the following FY 2016 program priorities for the Prevention Program:

- Prioritize populations and geographic areas of greatest need, greatest potential for impact;
- Focus on underserved populations; and
- Increase targeting of preventive efforts to areas where significant disparities in cancer incidence or mortality in the state exist.

CPRIT released six Prevention Program RFAs in FY 2016 including one on Colorectal Cancer Prevention Coalitions and another on Cancer Prevention and Navigation to Clinical Services. The table below reflects how active projects in FY 2016 address Prevention Program priorities.

Prevention Program Priorities	# Grants*	Total Amount
Prioritize populations and geographic area of greatest need, greatest potential for impact	60	\$91,000,814
Focus on underserved populations	76	\$101,305,994
Increase targeting of preventive efforts to areas where significant disparities in cancer incidence or mortality in the state exist	41	\$53,027,117

* Some grants address more than one priority.

Product Development Research Program

CPRIT's Product Development Research Program funds innovative and scientifically meritorious product development projects with the potential of translating research discoveries into commercial products that can benefit cancer patients. During FY 2016, the Oversight Committee approved three Product Development Research awards totaling \$53,933,366.

CPRIT has 20 company grants active in FY 2016. Twelve CPRIT-funded company projects conducted clinical trials in FY 2016, reaching cancer patients in Texas with innovative, early stage treatments. The Product Development Research program benefits not only cancer patients, but like CPRIT's recruitment grants, the Product Development Research awards are an important component in building the life sciences infrastructure and community in Texas.

Since 2010 through August 31, 2016, CPRIT companies raised \$1.28 billion in follow-on funding from other investors, indicating private sector confidence in the high quality, merit-based peer review and due diligence review process. During FY 2016, two CPRIT-funded companies received FDA Orphan Drug Designation status and a third gained FDA fast track designation for its lead candidate. Orphan drug status means that the drug has a longer period of government exclusivity, therefore attracting more investment. One product development grantee was added to the NASDAQ Biotech Index and another raised \$43.7 million with its initial public offering in April. These follow-on investments and activities testify to the quality of the CPRIT-funded projects and CPRIT's review process.

Product Development Research Program Priorities

The Oversight Committee adopted the following FY 2016 priorities for the Product Development Research Program:

- Funding projects at Texas companies and relocating companies that are most likely to bring important products to the market;
- Providing funding that promotes the translation of research at Texas institutions into new companies able to compete in the marketplace; and
- Identifying and funding projects to develop tools and technologies of special relevance to cancer research, treatment, and prevention.

The table below depicts the program priorities fulfilled by the three Product Development Research grants awarded in FY 2016.

Product Development Program Priorities	# Grants	Award Totals
Funding projects at Texas companies and relocating companies that are most likely to bring important products to the market	3	\$53,933,966
Providing funding that promotes the translation of research at Texas institutions into new companies able to compete in the marketplace	1	\$18,668,717
Identifying and funding projects to develop tools and technologies of special relevance to cancer research, treatment, and prevention	N/A	N/A

The three companies funded in FY 2016 work in Texas to bring important products to market. Two companies awarded grants in FY 2016 relocated to Texas: Aravive Biologics (formerly Ruga Corporation, from San Francisco to Houston) and Salarius Pharmaceuticals (from Connecticut to Houston). The third company, Pelican Therapeutics will transition from a virtual company to a bricks and mortar company in Texas. One of the company projects approved in FY 2016 plans a collaboration with academic institutions in Texas, promoting the translation of research into Texas-based companies. The company specializes in developing novel drugs for rare pediatric cancers, including Ewing’s Sarcoma.

Conclusion

CPRIT’s three programs show merit and progress and should continue operations. The work conducted under the purview of CPRIT’s programs is part of an iterative cycle with observations emerging from the laboratory making their way to the public and back again to the laboratory. Essential players in this cycle are basic scientists, physician scientists, clinical researchers, product development entrepreneurs, public health professionals, health care providers, patients, community organizations, early stage companies, and research institutions across Texas.