

The Beau Biden Cancer Moonshot

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Initial Overall Goals of the Cancer Moonshot (January 2016)

- Accelerate progress in cancer, including prevention & screening
 - From cutting edge research to wider uptake of standard of care
- Encourage greater cooperation and collaboration
 - Within and between academia, government, and private sector
- Enhance data sharing

Blue Ribbon Panel: Members & Working Groups

- 28 Members
 - Clinicians, researchers, advocates, representatives from pharma and IT
 - Three face-to-face meetings to identify “Moonshot” recommendations
- 7 Working Groups (>150 members)
 - Clinical trials, enhanced data sharing, cancer immunology, tumor evolution, implementation science, pediatric cancer, precision prevention and early detection
 - Met weekly for 6 weeks to generate 2-3 recommendations/working group

Blue Ribbon Panel Goals

- Identify major scientific opportunities that are poised to be accelerated by additional emphasis and funding
- Identify major scientific and regulatory hurdles that can be overcome with additional emphasis and funding
- Develop ~10 recommendations of opportunities that would be pursued through the Cancer Moonshot
- Full report available at: cancer.gov/brp

Blue Ribbon Panel Recommendations

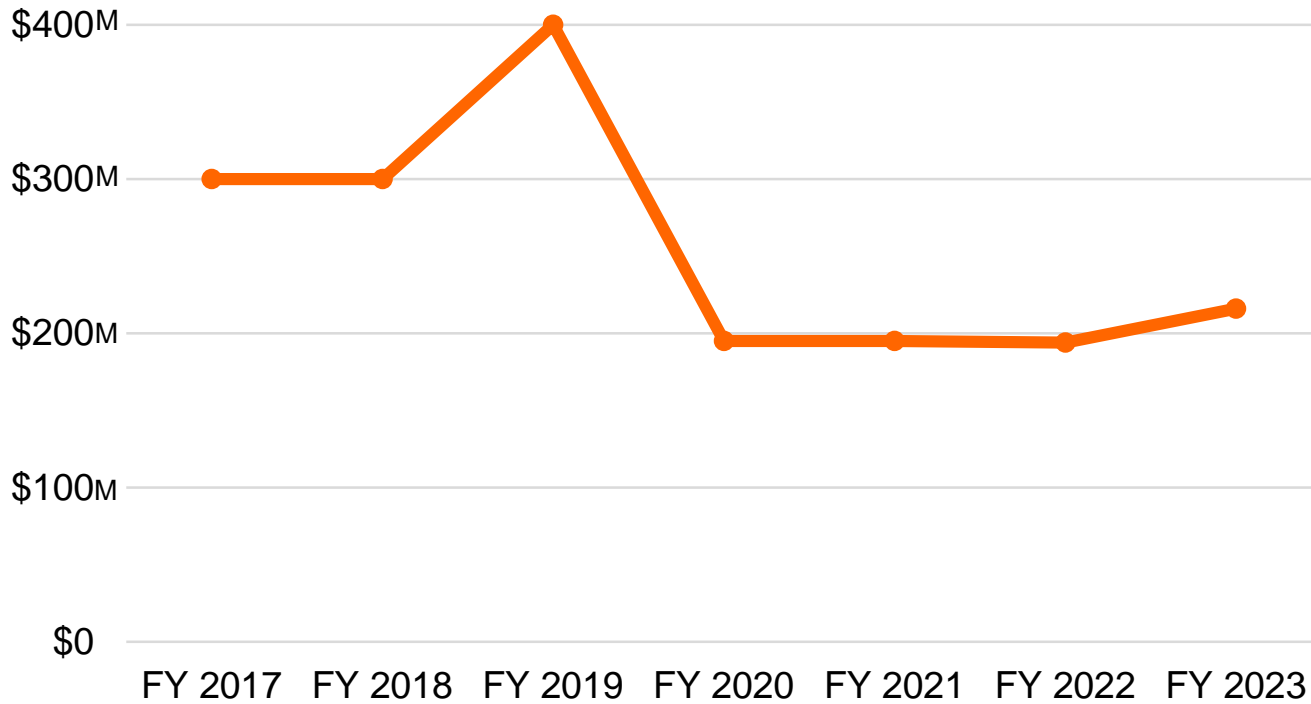
- A. Network for direct patient engagement
- B. Cancer immunotherapy translational science network
- C. Therapeutic target identification to overcome drug resistance
- D. Creation of a national cancer data ecosystem
- E. Fusion oncoproteins in pediatric cancer
- F. Symptom management research
- G. Precision prevention and early detection
- H. Retrospective analysis of biospecimens from patients treated with standard of care
- I. Creation of human tumor atlas
- J. Development of new enabling technologies

www.cancer.gov/brp

Cross-Cutting Themes

- National network of patient biological and clinical data
- Prevention
- Health disparities research
- Development of biomarkers, technology and preclinical models
- Data sharing, analytics and predictive computational modeling
- Collaborations, public-private partnerships

Funding Authorized for Beau Biden Cancer Moonshot in 21st Century Cures Act



Fiscal Year	Dollar in Millions
2017	\$300
2018	\$300
2019	\$400
2020	\$195
2021	\$195
2022	\$194
2023	\$216

NCI's Approach for Accelerating Research Utilizing 21st Cures Funding

- Initiate a large amount of new research in FY 2017 through FY 2019.
 - Some grant awards will use *multi-year funding* authority, to cover outyear costs
 - Additional efforts to accelerate research will be undertaken through:
 - contracts with the cancer community managed through the Frederick National Laboratory for Cancer Research (FNLCR)
 - core resources at FNLCR (estimated to be <\$10M)
- Enable new grant awards from the 21st Century Cures funds to be made in every year except for FY 2020 and FY 2021.
 - The inability to make new awards in those two years results from the sharp decrease in Moonshot funds that starts in FY 2020

Cancer Moonshot: estimated first year awards for each fiscal year

Fiscal Year	Cures Dollars (in Millions)	Estimated First Year Awards (in Millions)
2017	\$300	\$140
2018	\$300	\$105
2019	\$400	\$60
2020	\$195	\$0
2021	\$195	\$0
2022	\$194	\$30
2023	\$216	\$25

FY17 Research Activities Aligned with the Cancer Moonshot BRP Recommendations and the NIH Strategic Plan

Cancer Moonshot Alignment to NIH Strategic Plan		FY 17 Estimate as of March 20, 2017
NIH Strategic Plan Objective 1: Advance Opportunities in Biomedical Research		\$ 300
Fundamental Science		\$ 119
Technology Development	\$ 44	
Big Cancer Challenges	\$ 2	
Creation of Human Tumor Atlas	\$ 36	
Fusion Oncoproteins in Pediatric Cancer	\$ 10	
Therapeutic Target Identification to Overcome Drug Resistance	\$ 27	
Treatment and Cures		\$ 137
Network for Direct Patient Engagement	\$ 18	
Cancer Immunotherapy Translational Science Network	\$ 35	
FDA Oncology Center of Excellence	\$ 15	
Retrospective Analysis of Biospecimens from Patients Treated with Standard of Care	\$ 15	
Partnership for Accelerating Cancer Therapies	\$ 54	
Health Promotion and Disease Prevention		\$ 44
Symptom Management Research	\$ 6	
Implementation of Evidence-based Approaches to Prevention	\$ 26	
Creation of a Data Ecosystem for Sharing and Analysis	\$ 12	

For new awards in FY18 – FY23: Cancer Moonshot Implementation Teams

- 12 Implementation Teams aligned with BRP WG recommendations
- Comprised of NIH intramural and extramural scientists (includes staff from several IC's in addition to NCI)
 - For research with another IC, NCI proposes to provide twice as much funding as the other IC
- Charge to the Teams:
 - Develop and propose initiatives for FY18 and beyond that will achieve the goals of the Recommendation
 - Seek input from cancer research community, including organizing workshops, etc.
 - Provide oversight and coordination of the funded initiatives, including organizing meetings, providing supplements, etc.

New awards in FY18 – FY23: Extending Implementation of BRP Recommendations

- Expand foundational work initiated in FY17:
 - Pediatric and Adult Cancer Immunotherapy Translational Science Network
 - Therapeutic Resistance
 - Human tumor atlas
 - Retrospective analysis for risk stratification
 - Prevention and early detection
 - Fusion oncoproteins in pediatric cancer
 - Implementation science
 - Technology development
- Initiate efforts in BRP recommendation areas requiring longer term planning:
 - Network for Direct Patient Engagement
 - Creation of a Data Ecosystem
- Build collaborations with other NIH Institutes and Centers, as well as foundations, academia, and the private sector



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