

Cancer Moonshot 2017-2023 Looking Ahead



Joint NCAB/BSA Meeting
December 8, 2021

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Deputy Director, NCI

CANCER MOONSHOT

GOALS

- 1. Accelerate progress in our understanding of cancer**
- 2. Enhance data sharing**
- 3. Encourage greater cooperation & collaboration**

Blue Ribbon Panel Recommendations

Network for
Patient Engagement

Immuno-therapy
Network

Overcome
Drug Resistance

Cancer Data Ecosystem

Intensify Research on
Childhood Cancers

Symptom Management

Prevention & Detection
Strategies

Retrospective Analysis
of Biospecimens

Human Tumor
Atlases

New Cancer
Technologies

Partnerships



CANCER MOONSHOT

GOAL 1

Accelerate progress in our
understanding of cancer

Blue Ribbon Panel Recommendations

Implementation of Recommendations

2017

2018

2019

2020

2021

Network for
Patient Engagement

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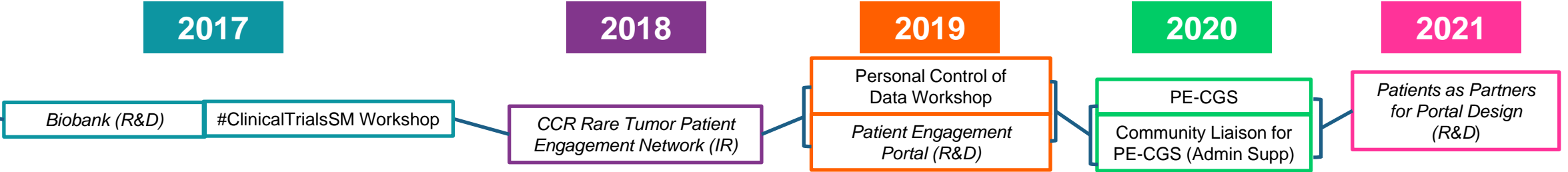
New Cancer
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Partnerships

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- Retrospective Analysis of Biospecimens
- Human Tumor Atlases
- New Cancer Technologies
- Partnerships

Implementation of Recommendations



MyPART
My Pediatric and Adult Rare Tumor Network

PE-CGS | Patient Engagement and Cancer Genome Sequencing Network

NCI-CONNECT

Blue Ribbon Panel Recommendations

Implementation of Recommendations

2017

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Overcome Drug Resistance

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Intensify Research on Childhood Cancers

Symptom Management

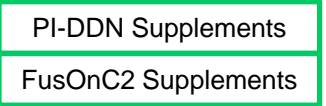
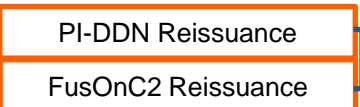
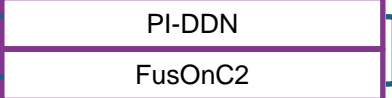
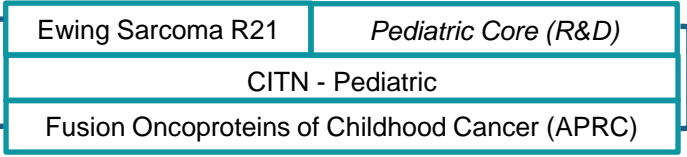
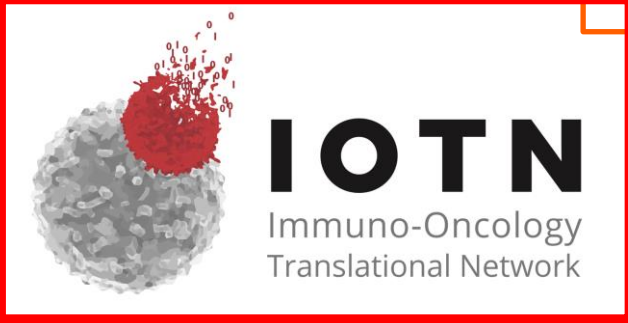
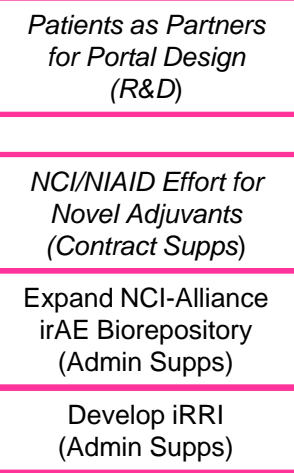
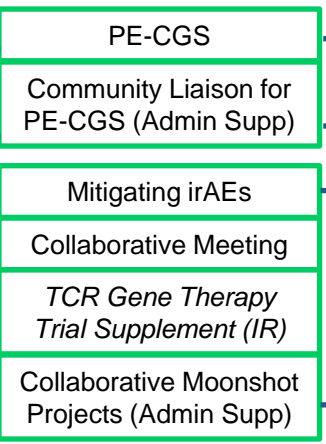
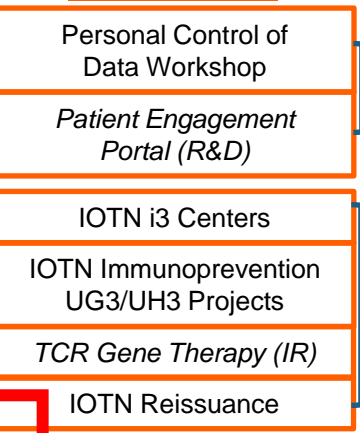
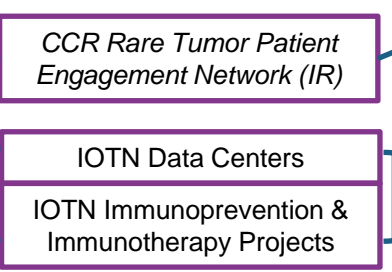
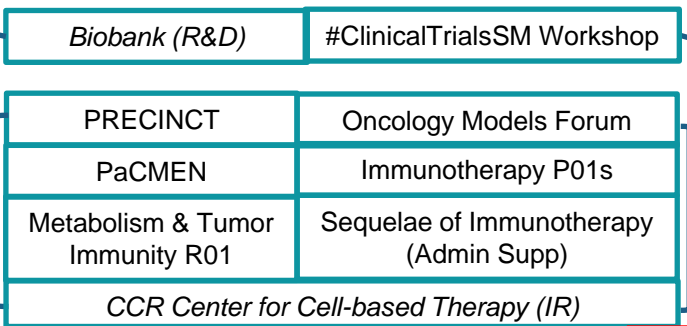
Prevention & Detection Strategies

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New Cancer Technologies

Partnerships



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Implementation of Recommendations

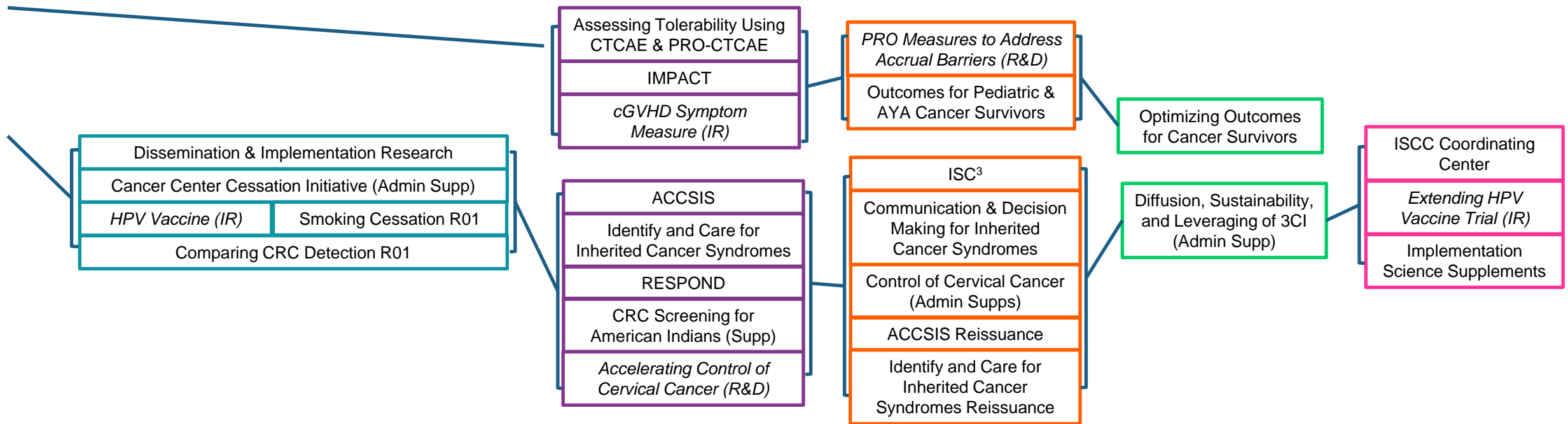
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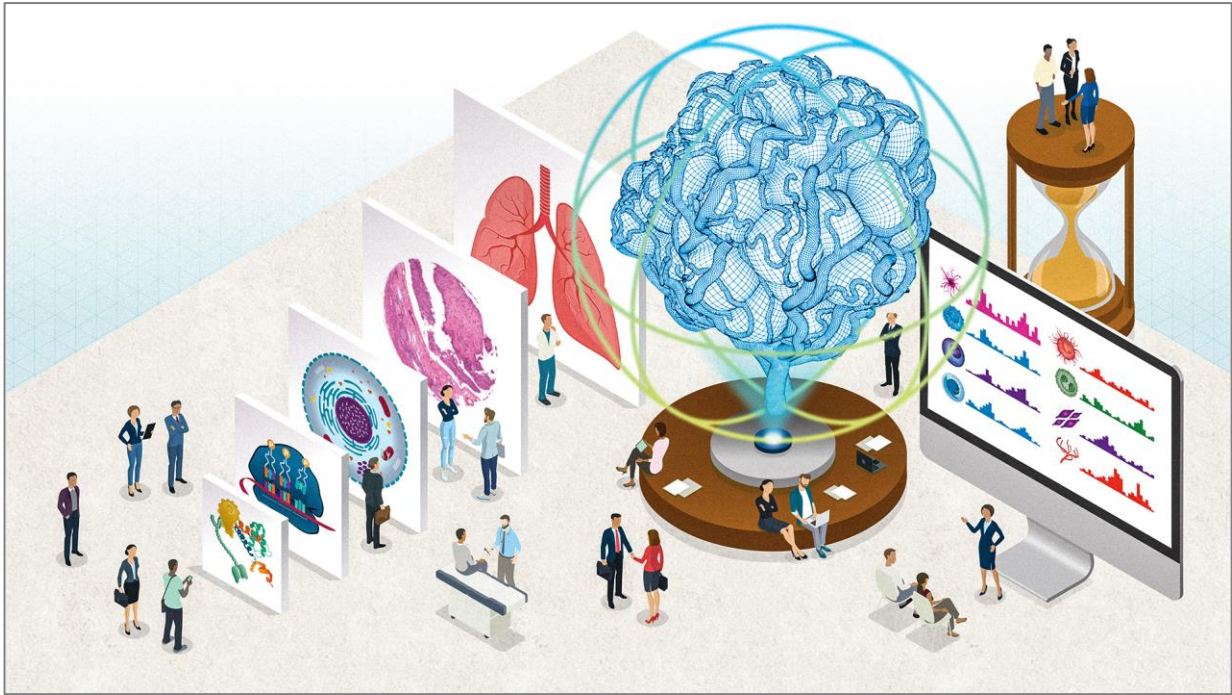
2017

2018

2019

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2021



Oncogenomics of Multiple Myeloma P01
Human Tumor Atlas Pilot Projects (R&D)

HTAN

HTAN Supplements

3D Technologies to Accelerate HTAN Efforts

HTAN Outreach Supplements

Blue Ribbon Panel Recommendations

Implementation of Recommendations

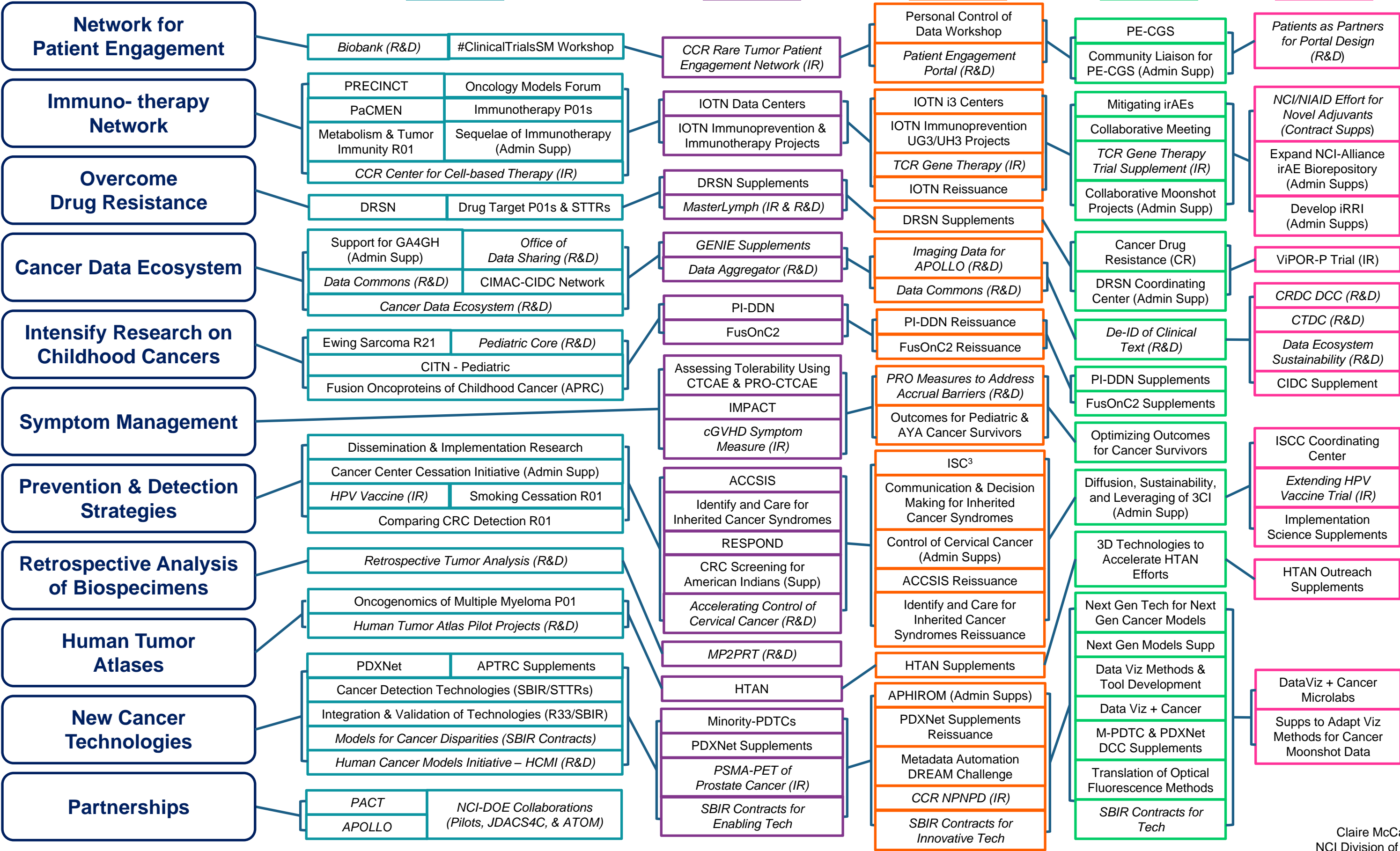
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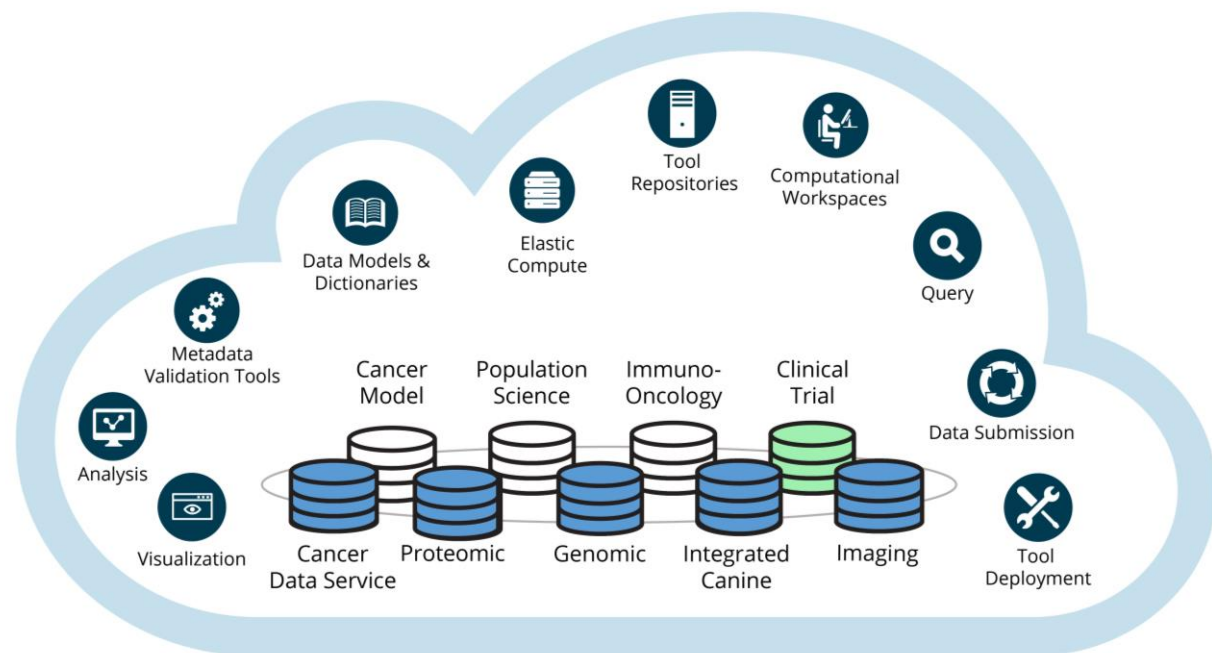
2020

2021



Cancer Research Data Commons

Moonshot Publications and Data



OPEN  **ACCESS**

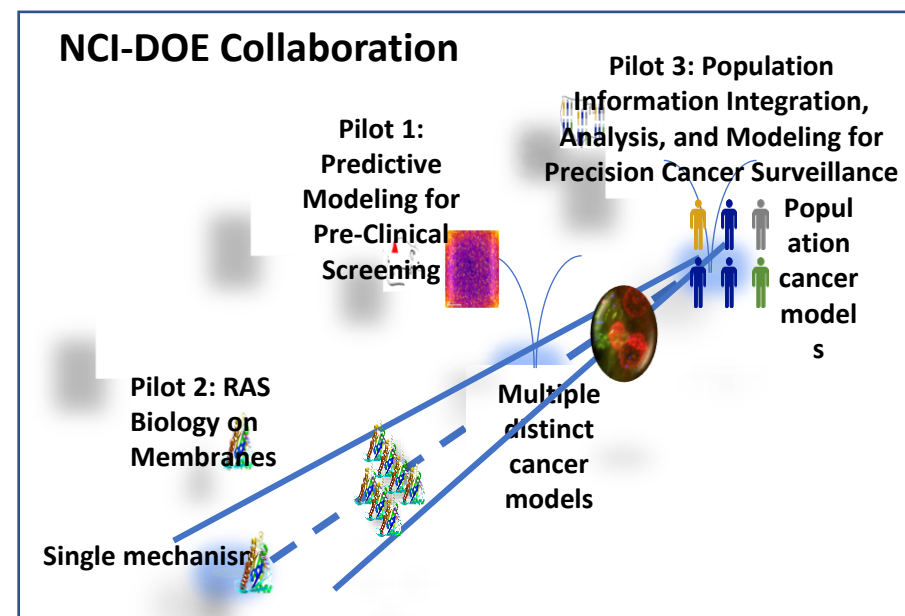
GOAL 3

Encourage greater cooperation & collaboration

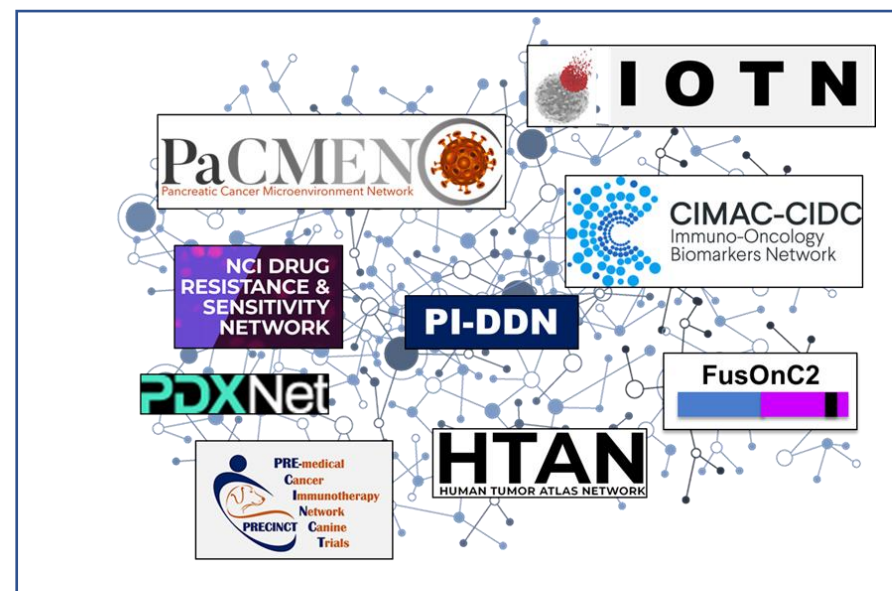
Networks



Partnerships



Collaborative Meetings



Seminar Series



Cancer Moonshot Assessment

FY17 FY19 FY21 FY23 FY25 FY27 and beyond

Moonshot Appropriation – began in FY17 and is expected to run through FY23



Initiatives – upfront funding and reservation of carryover funds means initiatives will remain active after funding stream ends



Impact - grows over time and important impacts will occur after initiatives are finished

Assessment – initial focus on evidence collection, monitoring, and interim reporting before a final assessment.

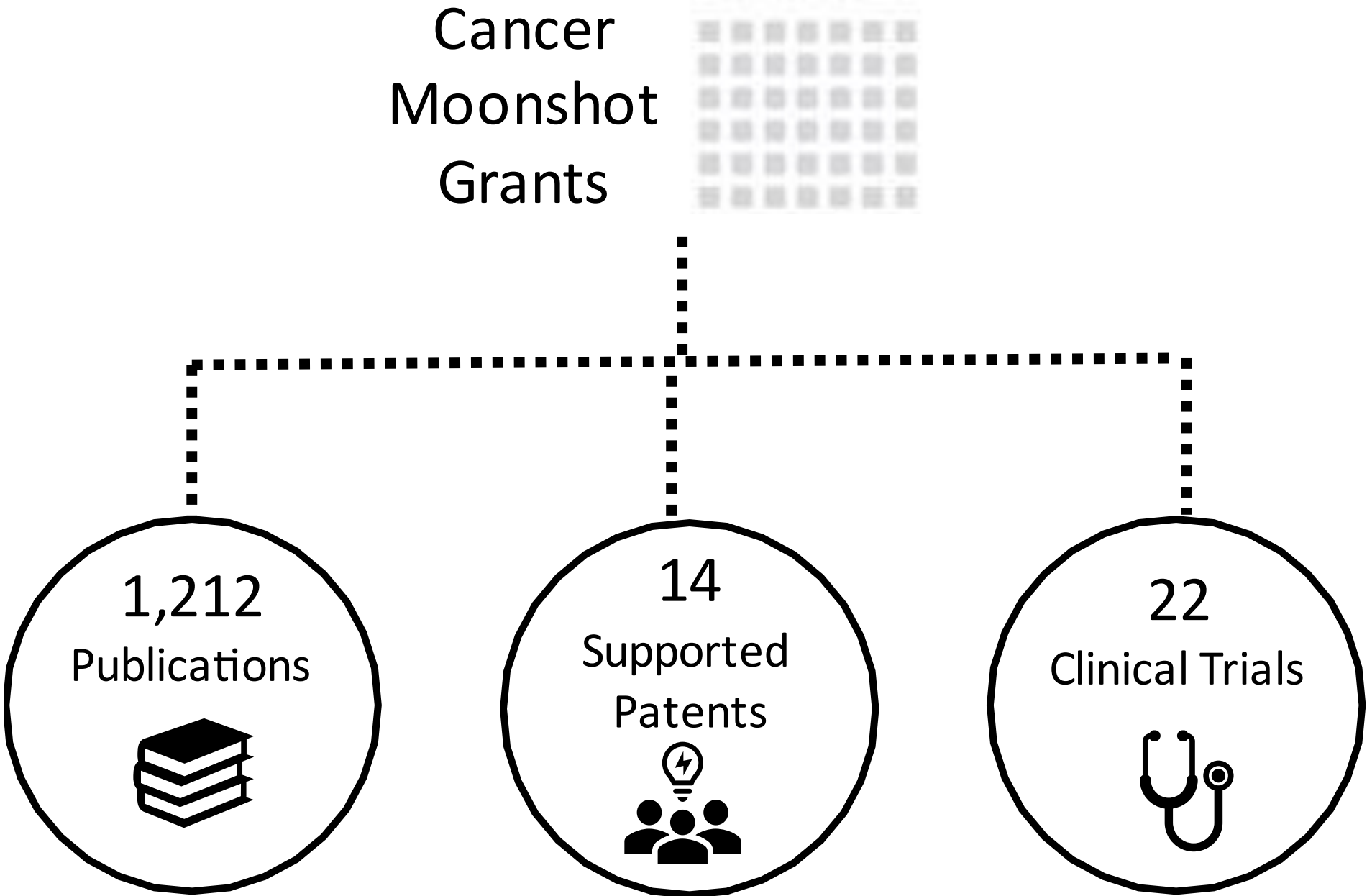


Phase 1: Data Collection, Monitoring, and Interim Reporting

Phase 2: Final Assessment

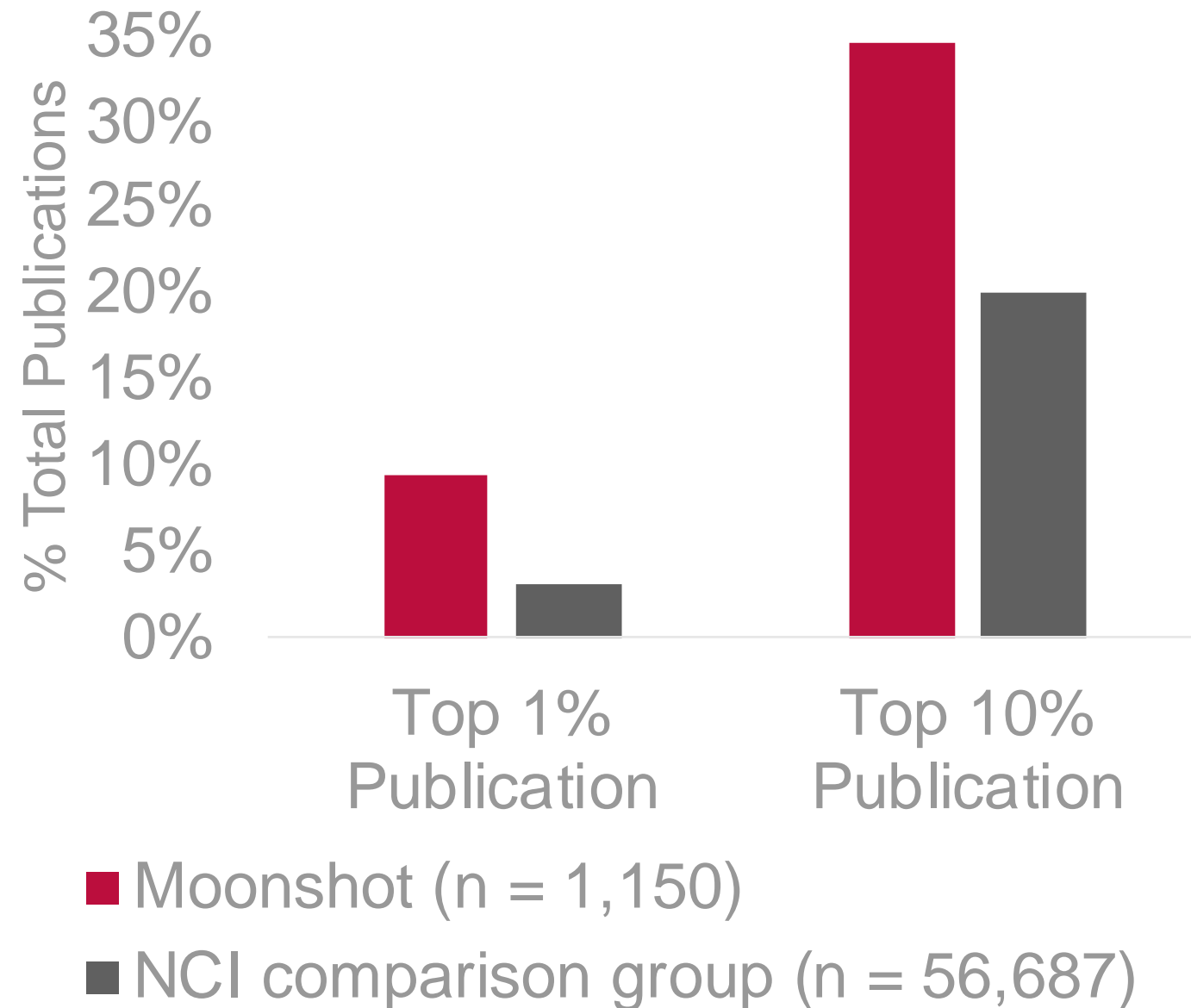
Exact timing of transition to be determined

Moonshot Grant Outputs: 2017 – 2020



Data Source: Dimensions for NIH for outputs in 2017 -2020. Includes outputs linked to a MS supported grant. Publications include all types such as journal articles and book chapters.

Moonshot publications are high impact



- More Moonshot-supported publications are of high citation impact compared to other NCI supported research

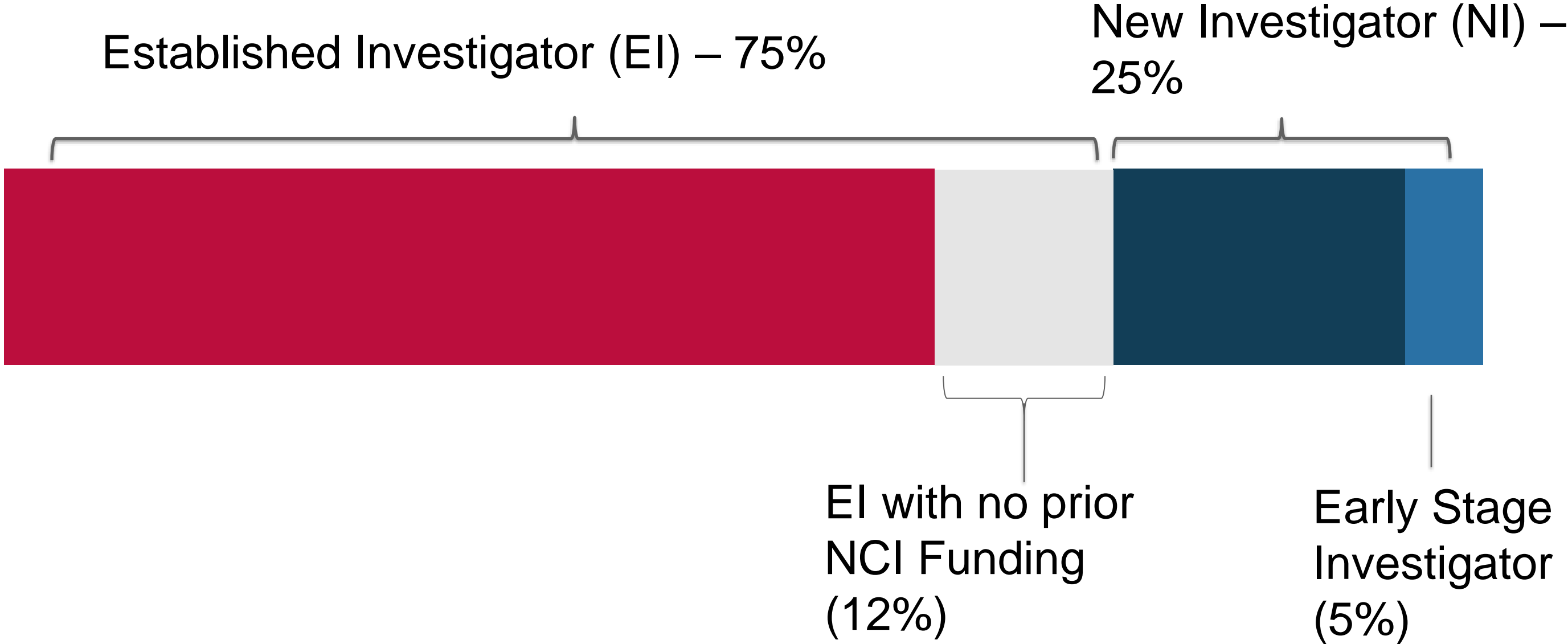
Data Source: Dimensions for NIH, data extracted on 12/14/2020 for publications between 2017 and 2020.

NCI comparison group: Includes publications from 2017 - 2020 that acknowledge NCI funding from a subset of activity codes used in the Moonshot: P01, P50, R00, R01, R21, R33, U01, U19, U24, U2C, U54, UG3, UH3, UM1, and Zs.

Bibliometric percentile: Percentile rank within the PubMed publication set by descending order of total citations, taking into account publication type, RCDC category, and year.

25% of Moonshot Extramural PIs are New Investigators

343 Extramural Moonshot PIs (FY17-FY20)



Methodology: Extramural PIs includes PI/MPIs of moonshot extramural awards (excluding supplements). Established, New, and Early Stage Investigator are based on NIH definitions.

Looking Ahead...

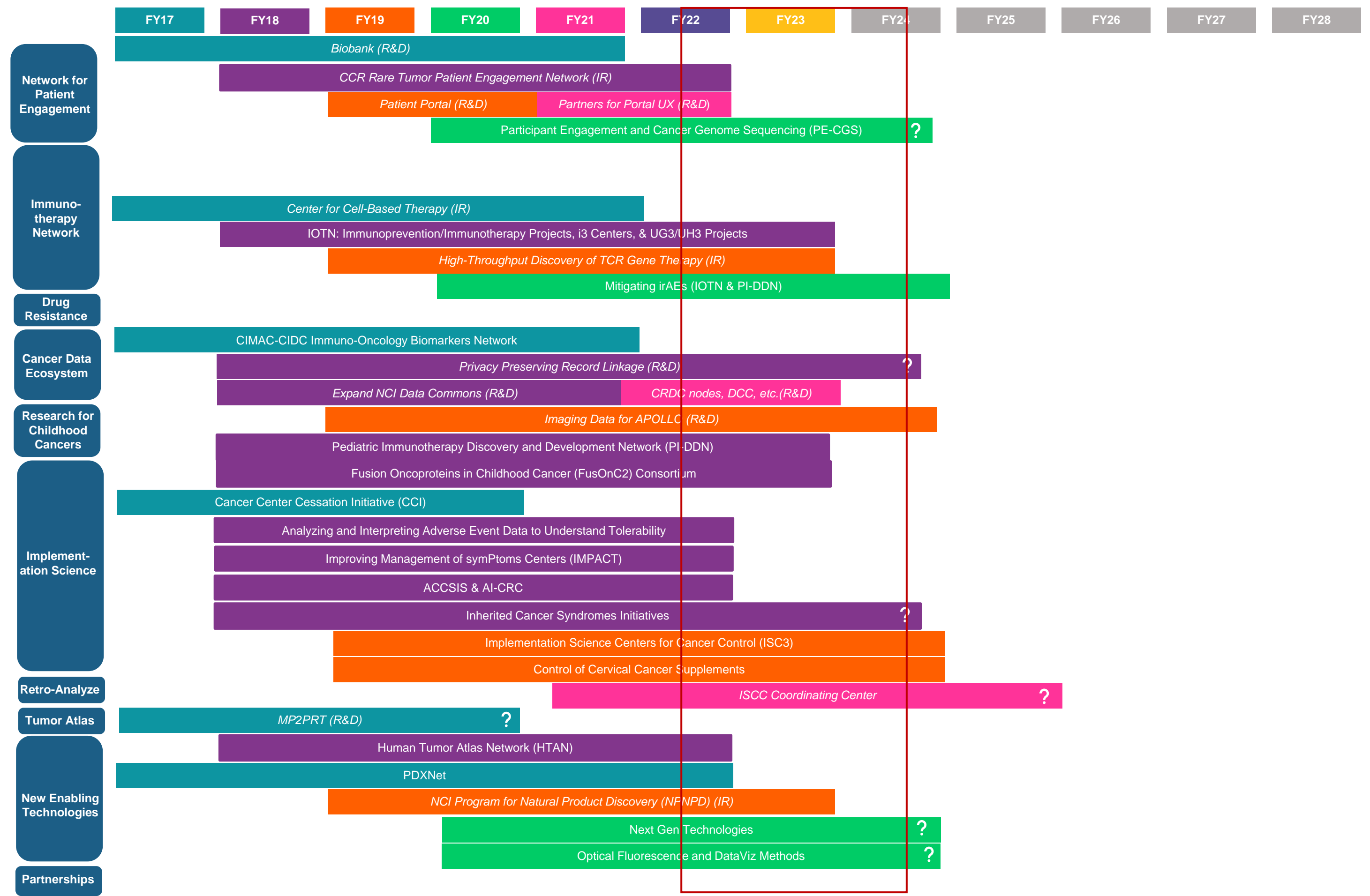
Looking Ahead: The Science

- Build on foundational scientific advances of Moonshot
- Explore new areas and opportunities that have emerged as a result of the Moonshot initiatives
- Continue to encourage collaborative science to complement investigator-initiated research
- Make data sharing and open access publication the norm across cancer research

Looking Ahead: The Transition

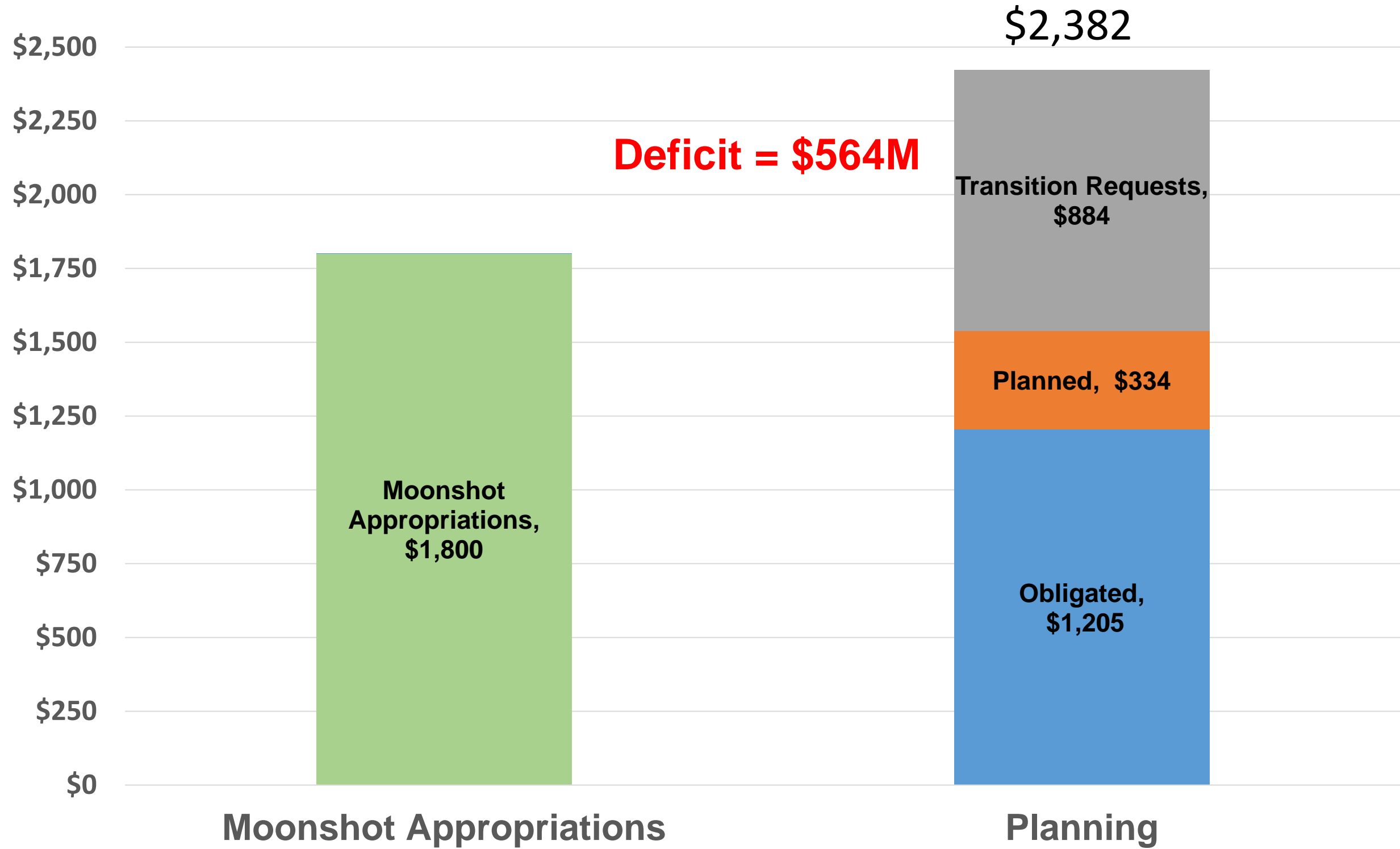
- Determine which Moonshot programs, including developed infrastructure, need continued support to accomplish their goals and which do not
- Develop and support new programs that have emerged as a result of the Moonshot initiatives
- Balance the needs of Moonshot-related programs with non-Moonshot programs
- Establish a transition plan to “ease” Moonshot-funded programs into appropriated funding.

Moonshot Transition Planning: Programs Requesting Continuation



Moonshot Transition Planning

(dollars in millions)



Distribution of Moonshot Spending and Commitments (\$1.52B)

Symptom Management
New Cancer Technologies
Overcoming Drug Resistance
Immunotherapy
Partnerships
Prevention Early Detection
Cancer Data Ecosystem
Childhood Cancers
Patient Engagement Network
Human Tumor Atlases

Distribution of Moonshot Transition Requests (\$844M)



New Cancer Technologies
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Looking Ahead: Next Steps

- **Continue to develop and support new programs that have emerged from Moonshot initiatives**
- **Balance the needs of Moonshot-related programs with non-Moonshot programs**
- **Continue to develop a transition plan to “ease” Moonshot-funded programs into the appropriated funding**
- **Continue concurrent assessment and undertake final assessment of the Moonshot**

Thanks to the Many NCI Staff Who Implemented the Cancer Moonshot



Chris Siemon
Cherie Nichole
Michelle Bennett
Claire McCarthy
Kelly Crotty
Christine Burgess

- **Network for Direct Patient Engagement**
 - Leah Mechanic
 - Helen Moore
 - David Patton
 - Liz Gillanders
- **Pediatric Immunotherapy**
 - Susan McCarthy
 - Judy Mietz
 - Nita Seibel
 - Malcolm Smith
- **Adult Immunotherapy**
 - Kevin Howcroft
 - Lillian Kuo
 - Elad Sharon
- **Therapeutic Target Identification to Overcome Drug Resistance**
 - Jeff Hildesheim
 - Percy Ivy
- **National Data Ecosystem**
 - Stephen Chanock
 - Tony Kerlavage
 - Lynne Penberthy
 - Betsy Hsu
- **Fusion Oncoproteins in Childhood Cancers**
 - Keren Witken
 - Malcolm Smith
 - Judy Meitz
- **Implementation Science**
 - David Chambers
 - Kathy Helzlsouer
 - Paul Jacobsen
 - Diane St Germain
 - Asad Umar
- **Retrospective Analysis of Biospecimens**
 - Irina Lubensky
 - Joanna Watson
 - Laura Yee
 - Meg Mooney
- **Human Tumor Atlas**
 - Shannon Hughes
 - Tracy Lively
 - Sudhir Srivastava
- **New Enabling Technologies**
 - Jennifer Couch
 - Tony Dickherber