

Minority PDX Development and Trial Centers (U54)

BSA Presentation

Tiffany Wallace
Center to Reduce Cancer Health Disparities
June 20, 2017

Minority PDTCs RFA Working Group

Center to Reduce Cancer Health Disparities (CRCHD)

Tiffany Wallace, Ph.D (Program Lead)

Division of Cancer Treatment and Diagnosis (DCTD)

Jeffrey Moscow, MD, Cancer Therapy Evaluation Program (CTEP)

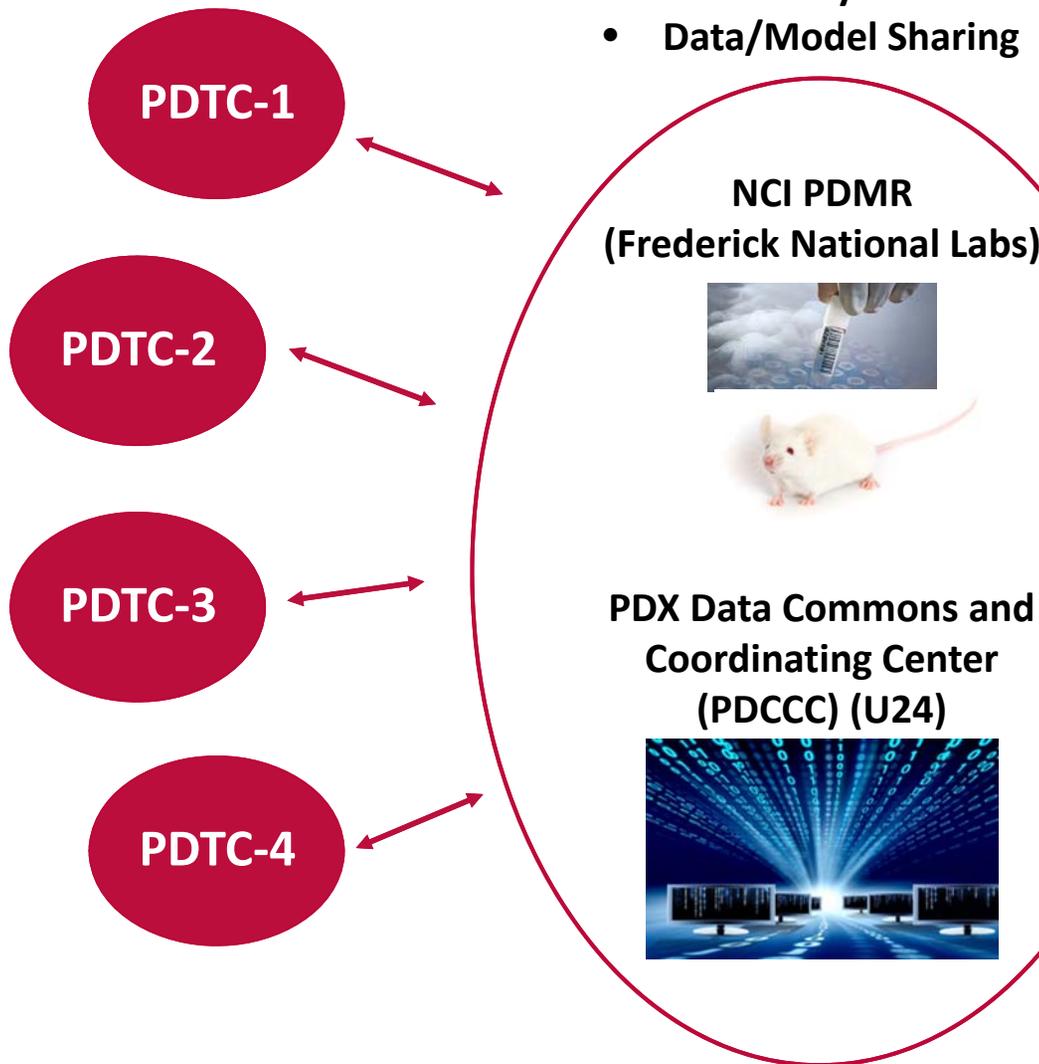
Frederick National Laboratory for Cancer Research (FNLCR)

Yvonne Evrard, Ph.D, Leidos/ NCI DCTD

PDXNet Structure and Goals

- Coordination
- Data Analysis
- Data/Model Sharing

[RFA-CA-17-003](#): PDX Development and Trial Centers (PDTCs) (U54)
[RFA-CA-17-004](#): PDX Data Commons and Coordinating Center (PDCCC) (U24)
[PDXNet](#): PDTCs Research Network

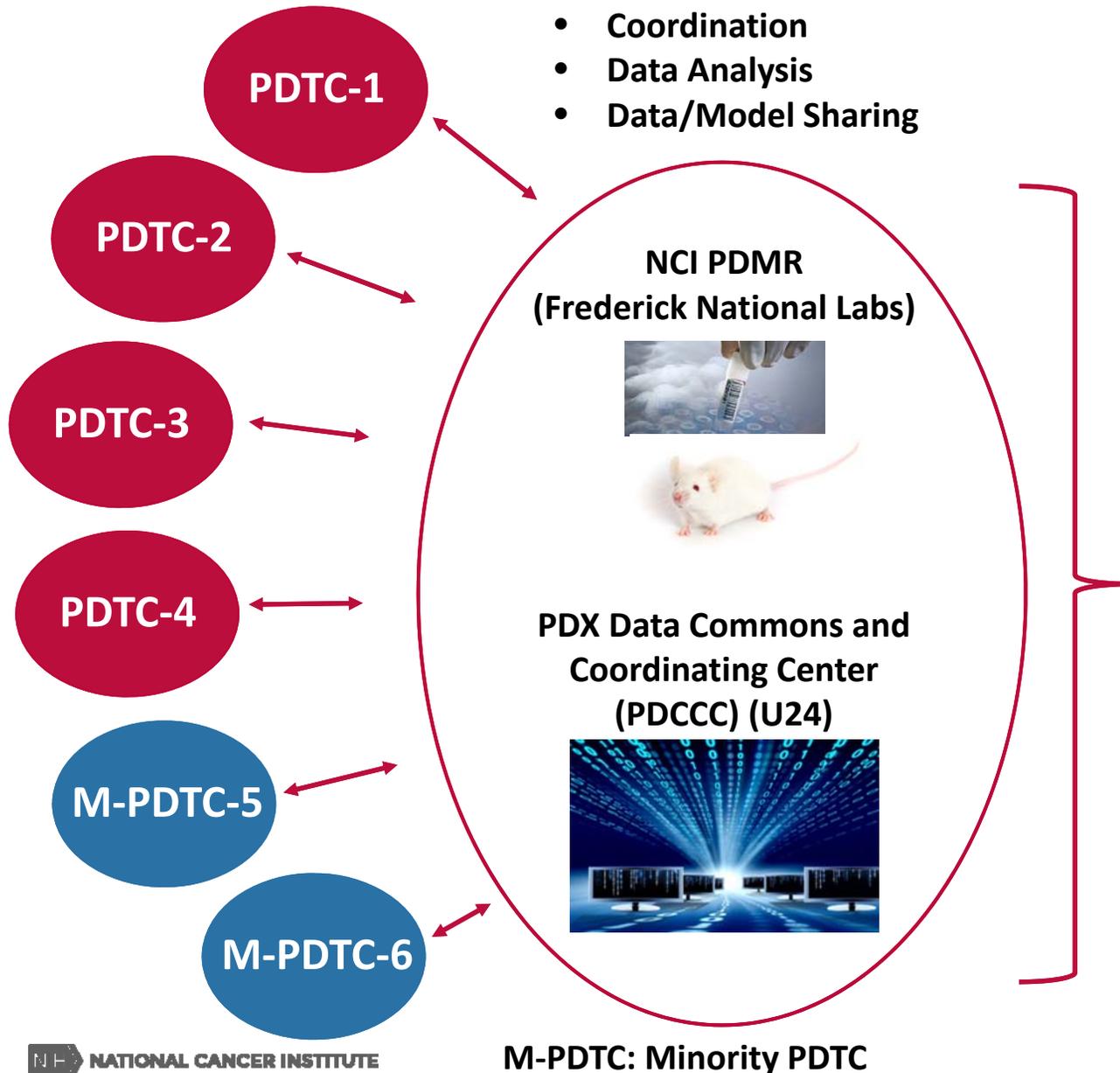


Goals/Output:

- 1.) Development of new PDX models and methods for standardized preclinical testing of single agents and/or combinations
- 2.) Completion of response studies testing agents in the newly established (and existing) PDXs
- 3.) Prioritization and rationale for use of NCI-IND agents in combination in ETCTN human clinical trials

PDMR: NCI Patient-Derived Model Repository
ETCTN: NCI Experimental Therapeutics Clinical Trials Network
NCI-IND: NCI Investigational New Drugs

Proposed Expansion of the PDXNet

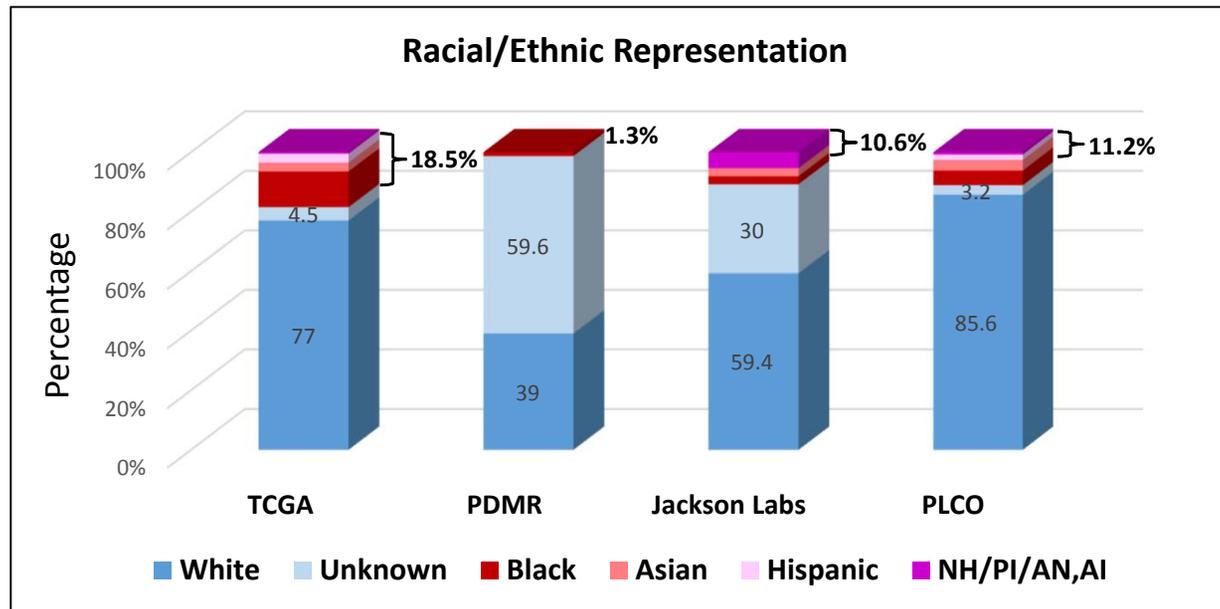


Goals/Output:

- 1.) Development of new PDX models and methods for standardized preclinical testing of single agents and/or combinations
- 2.) Completion of response studies testing agents in the newly established (and existing) PDXs
- 3.) Prioritization and rationale for use of NCI-IND agents in combination in ETCTN human clinical trials
- 4.) Increased diverse representation of racial/ethnic minority populations in the PDXNet
- 5.) Advancements in cancer health disparity research

Why are Minority PDTCs needed?

- Racial/ethnic diversity in public/private/academic repositories is historically low.



TCGA: The Cancer Genome Atlas

PDMR: NCI Patient Derived Models Repository

PLCO: Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial

NH: Native Hawaiians; PI: Pacific Islanders; AN: Alaska Natives; AI: American Indians

- Evidence supports that therapeutic outcome disparities exist among racial/ethnic minority populations
 - ARID5B SNPs contribute to racial disparities in treatment outcomes for pediatric ALL
 - Differences in drug metabolizing enzymes (e.g. cytochrome P450, DPYD, and NUDT15) exist among population groups
 - Differences in response to anthracycline-based therapies amongst population groups

Minority PDTs: Potential Outcomes

- **PDXNet Expansion**

- Diversity of models
- Number of Models
- Research Goals
- Investigator Expertise
- Strengthened links and infrastructure within communities

- **ETCTN studies better equipped to focus upon minority populations**

- **Facilitate extramural cancer health disparities research**

- Improved access to models
- PDXNet preclinical data

Minority PDTs: Requirements

- A minimum of **60%** of the PDX collections **to be developed** must be derived from minority populations.

- Require **at least 2** Full Research projects
 - Both projects must test multiple agent combinations in PDX models
 - One project must propose a health disparity research question using large scale PDX models comparing at least two populations (with a focus on therapeutic outcome disparities).

- Four required cores
 - Administrative core
 - PDX core
 - Bioinformatics core
 - Pilot projects and Trans-Network Activities Core

- Expected that research projects will employ **large scale** PDX collections (>100 models per project)

Evaluation of RFA

- Development of diverse PDX models.
- Demonstration of increased awareness/knowledge of biospecimen research among minority populations, as well as access to minority patient populations.
- Integration of the M-PDTCs into the overall PDXNet.
- Demonstrated commitment to sharing models and data.
- New data generated using targeted therapeutic agents to address CHDs
- Influence on ETCTN studies
- New data supporting if therapeutic outcome disparities exist among minority populations.

Minority PDTCs: Potential Applicant Pool

- **Administrative Supplements to Generate Cancer Models to Advance Cancer Health Disparity Research (NOT-CA-16-033), FY 2016**
 - 29 applications received (15 proposed PDX models), **12 awards** (7 developing PDX models)

Cancer Site	# of PDX Models	Population
Acute Lymphoblastic Leukemia	80	Hispanic and Non Hispanic
Acute Lymphoblastic Leukemia	12	African American and Hispanic
Colon	12	Hispanic, White, and African American
Liver	4	African American
Pancreatic	35	African American
Prostate	10	African American
Multiple Myeloma	2	African American
Colon**	30	African American, White

**Awarded in FY 2015

- **Admin Supplements to Support Collaborative Research Efforts to Enhance Preclinical Drug Development and Preclinical Clinical Trials Utilizing PDX Models (DCTD)**
 - 65 applications received, **17 awards**

- **U54 RFA: PDX Development and Trial Centers (RFA-CA-17-003), FY 2017**

Minority PDTCs: Budget Request

\$3M total costs per year

■ **M-PDTC (U54)**

- Up to (2) U54 Cooperative Agreement PDTCs will be awarded.
- Each U54 award would be \$1.25M TC per year (\$800K DC).
- Total request for 2 U54 awards is \$2.5M TC per year

■ **Administrative Supplement for the U24**

- Funds are requested to accommodate 2 additional PDTCs being added to the PDCCC site (U24).
- The supplemental funds requested are \$250K TC/award/year
- Total request for the U24 supplement is \$500K TC per year

■ **Total Request for the full project period (5 years) is \$15M.**



**NATIONAL
CANCER
INSTITUTE**

www.cancer.gov

www.cancer.gov/espanol