

# Strengthening Institutional Capacity to Conduct Global Cancer Research

## D43 RFA Concept Proposal

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# Low- and Middle-Income Countries (LMICs) Have High Cancer Burden

## **Unique scientific opportunities to advance cancer knowledge**

- Racial and ethnic differences in cancer subtypes
- Role of risk factors, e.g., smokeless tobacco, environmental exposures
- Implementation research

## **Research that can help address US cancer health disparities**

- Genetic ancestry and cancer risk
- Cancers in US sub-populations that are highly prevalent in LMICs

# Lack of Trained Workforce in Global Cancer Research

- Lack of global cancer research training support for US scientists
  - Among 67 NCI-Designated Cancer Centers that responded
    - Only 5 currently provide global training for more than 2 days/year<sup>1</sup>
    - ASCO recommendations on global oncology training<sup>2</sup>
- Profound lack of opportunities for cancer research training in LMICs

<sup>1</sup>2018-2019 Global Oncology Survey of NCI-Designated Cancer Centers Summary

<https://www.cancer.gov/about-nci/organization/cgh/resources/globalonc-survey>

<sup>2</sup>Global Oncology: Formalizing a Career Path in Building a Better World, Sep 2018

<https://connection.asco.org/magazine/features/global-oncology-formalizing-career-path-building-better-world>

# Conclusions from NCI Portfolio Analysis

## NCI Training Programs FY10-FY18

- 3% of 3431 Training Awards have a foreign component

## Discussions with Office of HIV and AIDS Malignancy (OHAM)

- Expand focus to non-HIV cancers
- Consider long-term support and mentorship

## Evaluation of CGH Programs (P30 Suppl, P20, Fogarty K01, K43, D43)

- Individual support for training important but not sufficient to build a program
- Long-term programs that allow broader cancer research training
  - Institutional capacity essential for sustaining workforce capacity
  - Need to provide protected time for training, mentorship and research

# Funding Objective and Scope

## **Institutional Training Grant awarded to US-LMIC Collaboration**

- Support pre- and post-doctoral training of US and LMIC scientists
  - Degree/Certificate; mentored research experiences; specialized research skills; research-relevant capacity
- Facilitate research leadership/mentorship at US and LMIC institutions
  - LMIC mentors supervise research experiences; in-country workshops
- Provide durable funding (5 years) to allow multi-disciplinary training programs to address cancer research priorities and opportunities in LMICs

# Training Research Topics

## **Areas of training relevant to US-LMIC research collaboration, can include/not limited to**

Etiology, prevention and control of infection-associated cancers, cancer genetics and cancer biology, cancer epidemiology, clinical research, implementation science, cancer surveillance and data science, integrative oncology

## **Critical areas essential for successful global research collaboration**

- Ethics and regulatory issues
- Good clinical and laboratory practices
- Cultural competency

# Justification for D43 Mechanism

- Institutional training: 5-year program that allows multi-disciplinary training
- Unlike National Research Service Award (NRSA) training mechanisms, support of foreign scientists allowed
- Funding mechanism with a track record of success at NCI, Fogarty

## Attributes of a D43 grant

- **Identifies** training needs to advance specific aims within US-LMIC collaboration
- **Develops** a program/plan of activities to support identified needs
- **Facilitates** trainee development and institutional capacity building
- **Lays foundation** for future collaborative research and career independence

# Justification for RFA

## **Scientific**

- Demand for global cancer research training
- No cancer-dedicated global research training program
- Opportunities to address global cancer disparities

## **Programmatic**

- Foundation for development of a global research training program at NCI
- Review by experts in global cancer research and training



# Proposed Budget

- Pilot RFA with two receipt dates; 3-4 awards/receipt date, up to 7 total awards
- Total Costs per award per year: up to \$270,000 (\$250K Direct + 8% F&A)

## Budget Allows

Salary support for PI, Senior/Key personnel, mentors; trainee stipends, partial tuition/fees; in-country workshops; travel support for trainees & PIs

Total Costs Across Fiscal Years	FY21	FY22	FY23	FY24	FY25	FY26	Total All Years
First Receipt Date (4 awards)	\$1.08M	\$1.08M	\$1.08M	\$1.08M	\$1.08M	0	\$5.40M
Second Receipt Date (3 awards)	0	\$810K	\$810K	\$810K	\$810K	\$810K	\$4.05M
<b>GRAND TOTAL</b>	<b>\$1.08M</b>	<b>\$1.89M</b>	<b>\$1.89M</b>	<b>\$1.89M</b>	<b>\$1.89M</b>	<b>\$810K</b>	<b>\$9.45M</b>

# Applicants Eligibility

## US Institution

- Established cancer research program
- Pre-existing collaborations with LMIC

## LMIC Institution Partner

- LMIC per World Bank and Fogarty
- Certain countries excluded per Fogarty

## PD/PI

- Established investigator in global oncology and training

## Trainees

- US and LMIC pre-doctoral students, postdocs, clinical fellows, clinicians

# Application Review Criteria

- Institutional commitment to support global cancer research
- Collaboration to address LMIC country/region-specific priorities
- Institutional training infrastructure (facility, administration, mentor/trainee recruitment)
- Integration of proposed training into ongoing research
- Potential impact on reducing global cancer disparity

# BSA sub-committee review notes

## **Regulatory barriers**

- Barriers remain
- Experience is essential – applications invited from institutions who have had collaborations with LMICs

## **Learn from past D43s**

## **Consider Program Sustainability**

- First step in development of a global research training program at NCI
  - D43 PAR
  - Global cancer research funding (coordination with NCI Divisions)

# Key Points

- D43 is first step in the establishment of an NCI global cancer research training program
- Build on/Expand existing LMIC research infrastructure established by NIH
- Permits expansion in key areas of cancer investigations – genomics, proteomics, epidemiology, implementation science, cancer disparities
- Provides the funding to support the next generation of US-LMIC cancer research collaborations

