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\(^1\)
  - ASCO recommendations on global oncology training\(^2\)
- Profound lack of opportunities for cancer research training in LMICs

\(^1\)2018-2019 Global Oncology Survey of NCI-Designated Cancer Centers Summary
  https://www.cancer.gov/about-nci/organization/cgh/resources/globalonc-survey

\(^2\)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

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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