National Cancer Institute

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

CENTER FOR GLOBAL HEALTH

RFA-13-015

Cancer Detection, Diagnostic and Treatment Technologies for Global Health (UH2/UH3)

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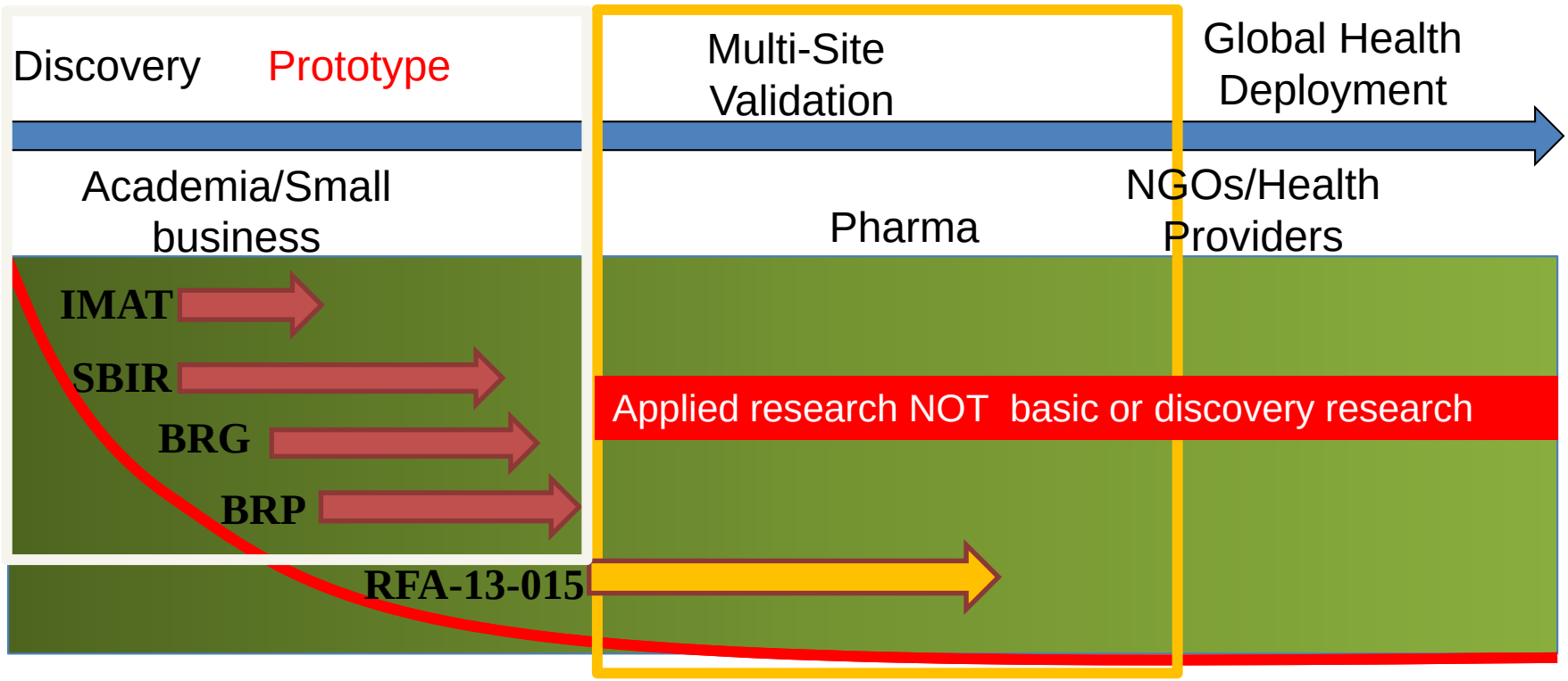
Low-cost Technologies Program Lead

NCI Center for Global Health

Technologies for Global Health

Projects to adapt, apply, and validate **existing or emerging** technologies into user-friendly, low-cost devices or assays for imaging, in vitro detection/diagnosis, or treatment of cancers in humans living in LMICs



Relevant Technologies

***In vitro* Cancer detection, screening or diagnostic technologies:**

Point-of-Care analytical tools (e.g., lab-on-a-chip and biosensors) that allow the performance of relevant chemical and/or biological assays.

Relevant Technologies

Imaging technologies for cancer detection or diagnosis:

e.g., portable optical imaging, spectroscopy, or ultrasound.

Relevant Technologies

Treatment-related technologies:

- portable minimally invasive treatment methods
- technologies/devices that may aid/facilitate standard treatment modalities.
- surgical devices
- technologies related to drugs, vaccines, chemotherapy, and/or immunotherapy
- tools for cryotherapy, laser therapy, radiofrequency ablation, low-power-density sonication, high-intensity focused ultrasound, or photodynamic therapy.

Investigators Team

Engineering/assay/treatment development: Expertise relevant to the development of technologies, assays or devices to ensure their **suitability for use in an LMIC**

Oncology: Expertise in cancer detection/diagnosis and/or treatment is required to ensure the assay/device/treatment will show **clinical effectiveness** for screening, early detection or diagnosis, and treatment of cancers that can be **locally managed or treated** in LMIC settings.

Global healthcare delivery: Expertise in global health care delivery is required to establish collaborations with health care workers in the **local sites** for:

- **validation and utilization of the assay or device**
- assure cultural appropriateness
- health care worker training
- deployment and acceptance of the assay/device/treatment.

Examples of suitable collaborations: hospitals, medical schools, charities, local governments, community groups, Non-Governmental Organizations (NGOs), and governmental entities with expertise in the local setting.

Business Development: An industrial partner is required to provide expertise in **fabrication, governmental regulatory approvals**, and prepare, disseminate, and **sustain** the technology.

RFA Management

NCI Center for Global Health (CGH)

http://www.cancer.gov/aboutnci/globalhealth

Area of interest: addressing the challenges of cancer and reducing cancer mortality worldwide.

Contact PDs:

Paul Pearlman, paul.pearlman@nih.gov

NCI Division of Cancer Treatment and Diagnosis (DCTD)

http://dctd.cancer.gov/

Area of interest: Development of targeted cancer therapies, biosensors, lab-on-chip, Circulating Tumor Cells and Point of Care (POC) cancer diagnostics technologies.

Contact PD: Esmail Tabibi, tabibie@mail.nih.gov

Contact PD: Avraham Rasooly, rasoolya@mail.nih.gov

RFA Management

NCI Division of Cancer Prevention (DCP)

http://prevention.cancer.gov/

Area of interest: Facilitates a broad spectrum of national and international research activities in cancer biology, particularly for the discovery of biomarkers for risk prediction and early detection of cancer.

Contact PD: Jacob Kagan, kaganj@mail.nih.gov

NCI Division of Cancer Control and Population Sciences (DCCPS)

http://cancercontrol.cancer.gov/

Area of interest: methods to address epidemiologic data collection, study design and analysis, and application and validation of emerging technologies developed in other research endeavors for cancer risk assessment

Contact PD: Rao Divi, divir@dc37a.nci.nih.gov

NCI SBIR Development *Center*

http://sbir.cancer.gov/

Area of interest: Research by small businesses to develop and commercialize technologies and products to prevent, diagnose, and treat cancer

Contact PD: Ming Zhao, zhaoming3@mail.nih.gov

RFA Management

NCI Division of Cancer Biology (DCB)

https://dcb.nci.nih.gov/Pages/Home.aspx

Area of interest: Cancer biology research and related technologies

Contact PD: John Knowlton, knowltoj@mail.nih.gov

NCI Office of HIV and AIDS Malignancy (OHAM)

https://dcb.nci.nih.gov/Pages/Home.aspx

Area of interest: Coordination of AIDS clinical projects in the NCI

Contact PD: John Knowlton, knowltoj@mail.nih.gov

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

http://www.nibib.nih.gov/

Area of interest: Simplification/addition/modification of medical devices to enable device use outside the lab or in low-resource setting

Contact PD: Tiffani Lash, tiffani.lash@nih.gov

RFA Critical Points

- To stimulate technology development and **adaptation for low-cost** use to detect, evaluate, diagnose and treat cancer in low resource settings
- UH2/UH3 phased-innovation **collaborative** funding mechanism
- Collaboration across disciplines
  - Engineers/developers
  - Cancer care professionals
  - Experts in global health delivery
  - Business
- For the transition from UH2 to UH3 must meet project **milestones**
- The target cancer must be **treatable** in the proposed LMIC setting
- **Sustainable** technologies

CGH Contact Information

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