

Building Bridges: A Collaborative Approach to Strengthen Research Capacity Among Early-Career Maternal and Newborn Health Researchers in East Africa

Nicole Santos¹, Matthew Meeks¹, Elizabeth Butrick¹, Dilys Walker^{1,2} and the PTBi East Africa Discovery Research Group

¹ UCSF Institute for Global Health Sciences, ² UCSF School of Medicine, Department of Obstetrics, Gynecology, and Reproductive Sciences

Highlights

To effectively design and implement funding opportunities for early-career researchers in low- and middle-income settings, we must support expansion of skills and research interests. We describe how PTBi East Africa's modified request for proposals process has led to collaborative partnerships with researchers based in East Africa.

Background

Early-career researchers in low- and middle-income countries (LMICs) face frequent challenges while trying to build desired research skills and secure independent funding. Key obstacles include limitations in research infrastructure, access to experts in their fields, and declining funding sources. Several mechanisms to support this cadre of researchers currently exist, such as mentored grants and fellowships from Fogarty International Center; however, maternal and newborn health (MNH) research opportunities are limited.

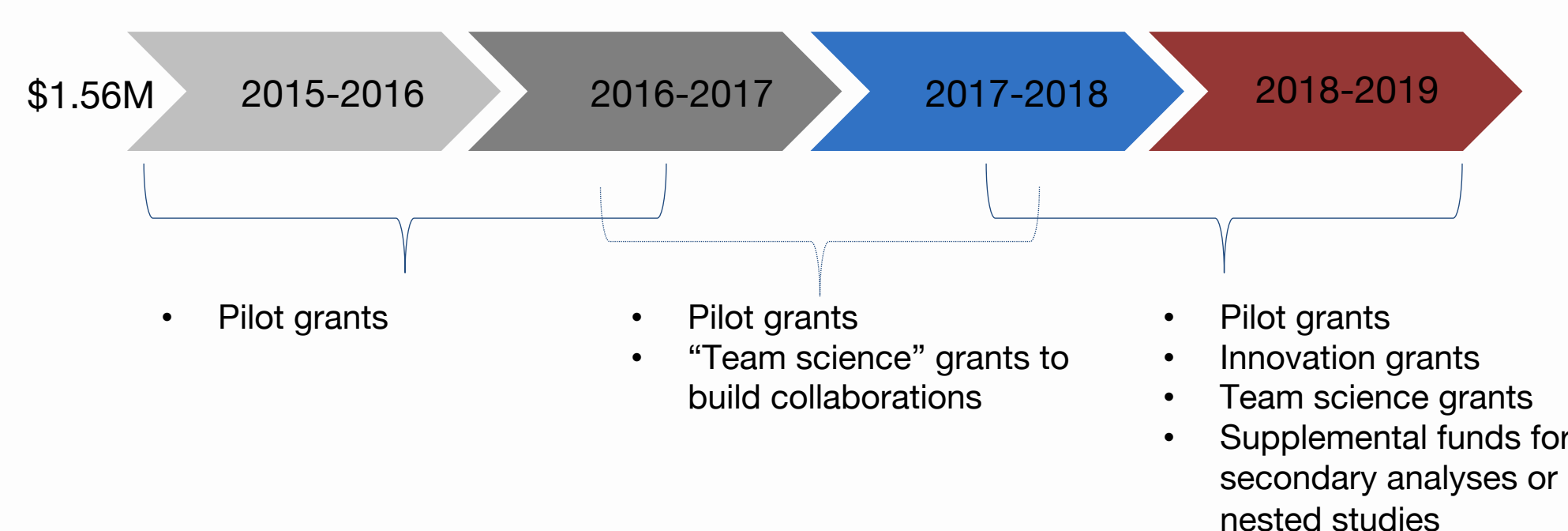
The East Africa Preterm Birth Initiative (PTBi-EA) invests in prematurity-related discovery research led by principal investigators (PIs) from Kenya, Uganda, and Rwanda. This program builds MNH research capacity among East African investigators and strengthens collaborations with UCSF.

Program Design

Since 2015, PTBi-EA has offered three competitive funding opportunities for studies that deepen our understanding of preterm birth and/or inform locally relevant interventions to decrease its burden. Over time, we have adapted the proposal submission process to better promote collaboration and mentorship. We optimized the review process and allowed PIs to iteratively develop proposals with mentor/collaborator input.

Year	Capacity building component	Review process
2015	<ul style="list-style-type: none"> East African PI asked to apply with a UCSF research mentor(s) or co-investigator(s). If potential connections were not identified, we introduced researchers by topic area or methodology. 	The UCSF Resource Allocation Program (RAP), an intramural funding platform that leverages existing study sections, reviewed proposals and provided funding recommendations.
2016	<p>We used a two-step submission process.</p> <ul style="list-style-type: none"> Step 1: Concept notes were submitted and initially reviewed. Applicants were asked to identify research gaps/needs. Step 2: Promising applicants were identified and introduced to potential collaborators/mentors. Full proposals were developed with mentor input, as needed, and resubmitted for final funding decision. 	Concept notes were reviewed by one UCSF faculty or staff and one PTBi EA partner/collaborator from our lead implementation teams.
2017	Same two-step process described above.	Review currently in process.

Once successful grants are awarded, PTBi-EA works with PIs and UCSF mentors to ensure resources are in place for capacity-building activities, including funding for protected mentorship time, travel (e.g., PI travel to UCSF for training or site visits for mentors), and methods training workshops. We also request that grantees share interim project reports in order to address additional research needs.

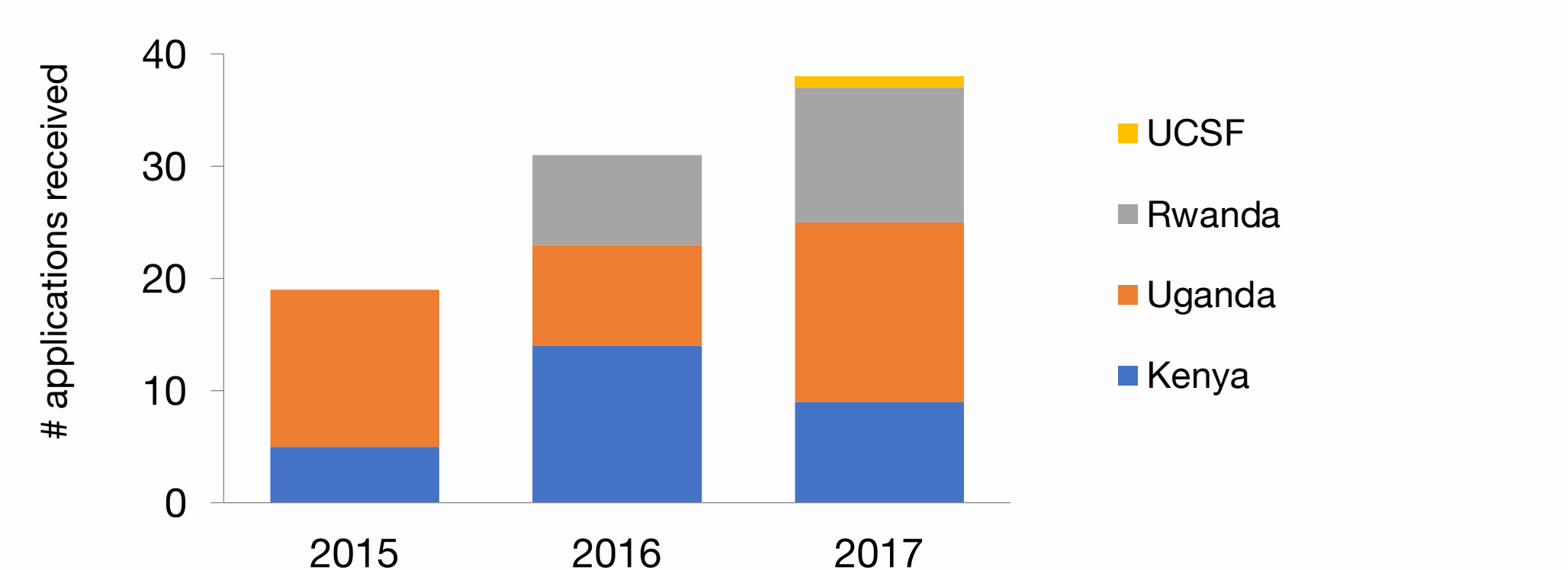


A schematic of the three PTBi-EA request for proposal (RFP) cycles and the types of grants offered. Pilot awards range from \$40-65K (include mentor support). Innovation & Team Science grants range from \$100-250K. Supplemental funds are \$10K.

Program Results

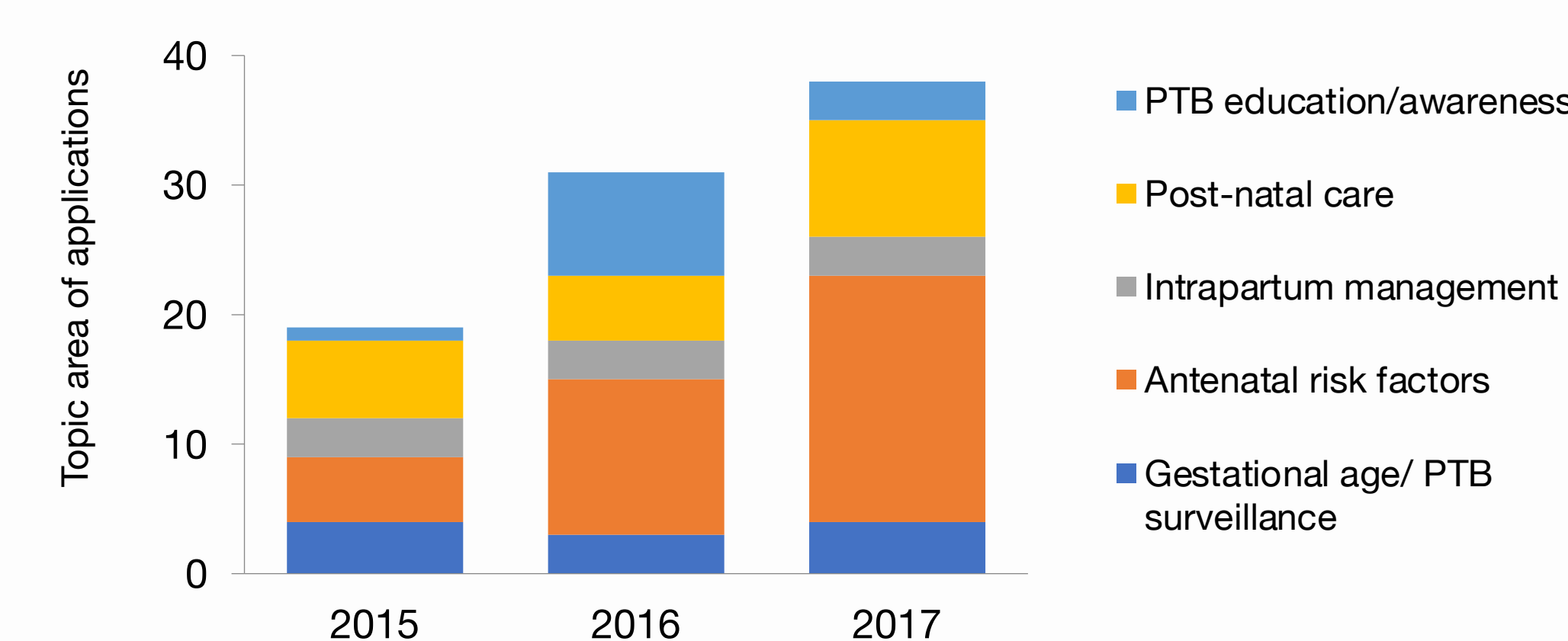
Successes

- Across three RFPs, 88 project proposals were received representing diverse topics.
- In 2015 and 2016, we funded six mentored pilot awards. PIs receive technical and analytic support from UCSF faculty.
- We facilitated two transdisciplinary "team science" awards among PIs with research synergies.
- Of these eight projects, five projects are led by first-time PIs, and seven are mentored awards.



Challenges and lessons learned

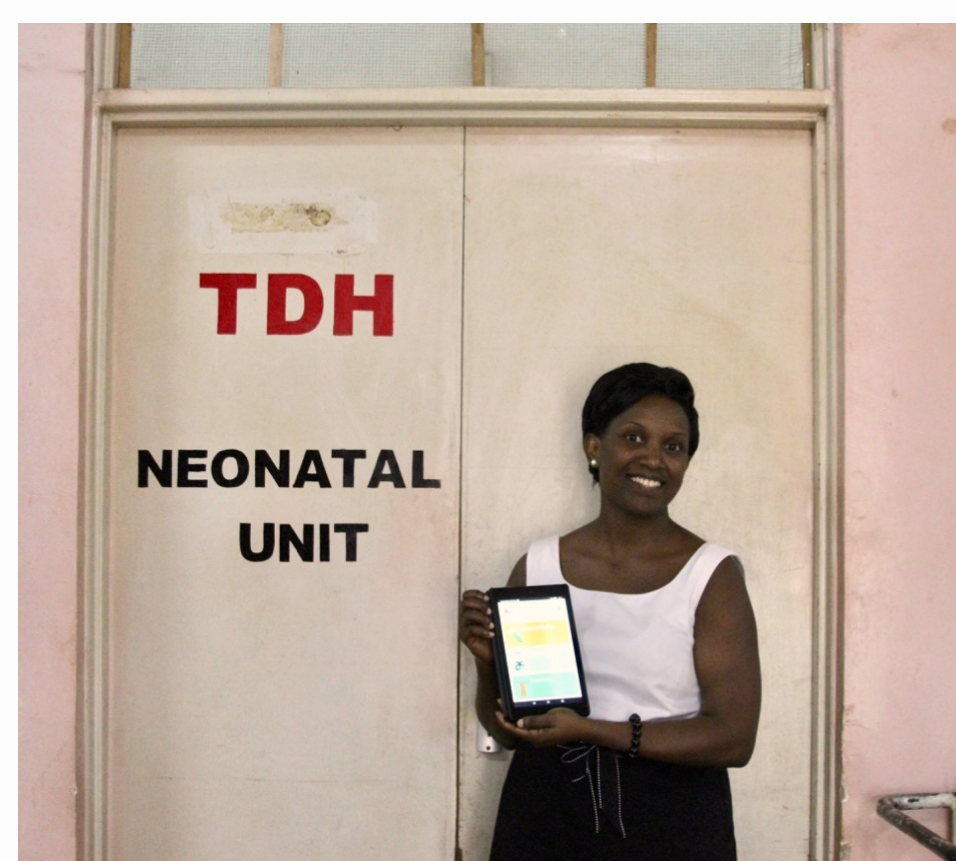
- Identification of a UCSF mentor can be difficult depending on topic area, interest in global health research, and availability.
- Iterative proposal development extends timelines, but allows for optimizing study design/methods.
- Administrative challenges associated with sub-contracts and IRB have delayed some projects.
- Defining "discovery research."



Spotlight on Discovery Projects & Partnerships

Feasibility & acceptability of NoviGuide: A tablet-based software application for newborn care

Mary Muhindo (Infectious Disease Research Institute)
Theodore Ruel (UCSF), Joshua Bress (Global Strategies)



(Left): Inspired by the project, Mary helped raise money to establish a kangaroo newborn care unit at Tororo District Hospital. (Right): Nurse midwives, the research team, and the Global Strategies team are pictured.



"This study has been intellectually stimulating and the grant a true gift. While I have worked in a research setting for several years, it has been in the role of study coordinator. As the principal investigator to this project, I have had to take on more responsibility to make sure all things get done with reference to overall study goals, interact directly with stakeholders and supervise my own staff...This project has positioned me to pursue further work in one of the fastest growing areas in health research. I plan on applying for a PhD to further understand mHealth implementation in a rural setting."

- Dr. Mary Muhindo
Principal Investigator

"PTBi placed our first-time Principal Investigator into a leadership position. As a result, the mentorship has been about more than skill acquisition. It invested in a person – a person whose skill level now matter deeply to the entire team. Reciprocally, we benefited from having an East African researcher lead the project. Adoption of new technologies and human factors demand a researcher who understands the local context."

- Dr. Joshua Bress
Global Strategies, mentor & collaborator

Nutrition, Infection & Preterm Birth: A prospective cohort study

Etienne Nsereko (University of Rwanda)
Janet Wojcicki (UCSF)

"A positive approach with PTB EA is their strategy of twinning a mentor (from UCSF) to a local researcher. I feel confident and supported. When we met for the first time, she contributed in designing the implementation phase and came up with new research ideas. Honestly, she is an enthusiastic academician who is open to new research ideas and excited from them. This makes my mentor a wonderful communicator and inspiring researcher Actually, a research grant from PTBi EA came as a huge step closer to my goal of registering for a PhD. I am at the final stage of registering."

- Etienne Nsereko
Principal Investigator

"It has been very rewarding to discuss common interests and work together towards a goal which then become actualized. Etienne and I share common interests in child health and nutrition, and it has been great to help see his project flourish and succeed. It was amazing to finally meet Etienne after only speaking by Skype and see the actual fruits of our planning put into action. After working together now since January and spending two weeks in August, I would definitely say we are now mentor-mentee, colleagues as well as friends!"

- Dr. Janet Wojcicki
UCSF, mentor & collaborator



(Left): Etienne trains his research team on data collection. (Right): Etienne meets with Emmanuel, a medical student helping with the project.



Conclusions & Acknowledgements

Interest garnered by PTBi-EA's discovery RFPs has revealed the need to strengthen MNH research capacity in LMICs. The successes of our discovery PIs show that investing in building bridges among researchers and institutions is pivotal for continued discoveries in global health.

PTBi-EA is funded by the Bill & Melinda Gates Foundation. Thank you to all RFP reviewers, our PIs, and those who have provided ongoing technical guidance.

Interested in learning more about our 2017 RFP submissions or serving as a potential reviewer, mentor and/or collaborator?

Please contact Nicole.Santos@ucsf.edu for more information!