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Developing Technologically Advanced Research in Low- and Middle-Income Countries

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BACKGROUND

While there has been a priority in Low- and Middle-Income Countries (LMICs) on addressing urgent clinical issues, there is a strong interest to develop robust more basic and technologically advanced research programs. Achieving this goal often means partnering with High-Income Countries for support with resources and methods. These partnerships raise the old specter of colonialism and inadequate sharing both in the design and the product of research studies.

OBJECTIVE

We present a collaboration between a group of scientists in Nigeria and the USA in developing a genomic research project and the solutions adopted in tackling the ethical implications and partnership equity and ownership of such a project.

METHODS

A collaborative research project was started between 3 large tertiary pediatric hospitals in North and Central Nigeria (Jos, Kano and Zaria) and a pediatric hospital in the USA (Kansas City, MO) & 2nd University (Minneapolis, MN).

The project was constructed on the basis of three basic principles:

1. Equal partnership in development of the project.
2. Equal partnership in sharing in the outcome of the project (abstracts, publications, etc.).
3. Frequent contacts via physical & virtual meetings.

METHODS

The four steps of the collaboration: Based on a **Plan Do Study Act** (PDSA) study model

- **Plan:** Kaduna, February 2017- Design the study (IRBs, Contracts, MOU...)
- **Do:** Abuja, February 2018 – Step by step protocol.
- **Study:** Kano, Zaria and Joss, December 2018 – Preliminary results, evaluate the process
- **Act:** Ongoing – Implement the decisions taken during the Study phase.

First meeting: Planning, Kaduna, February 2017



RESULTS

PHASE 1:

Project Initiation: 1-week retreat in Kaduna, Nigeria.

- Develop the methodology
- MOU: Clear and transparent rules in data sharing and publication credits.

Project Launching: 10-day retreat one year later in Abuja Nigeria: Review and practice:

- Clinical procedures
- Lab techniques

Study and Assess: Review of preliminary data collection after 6 months.

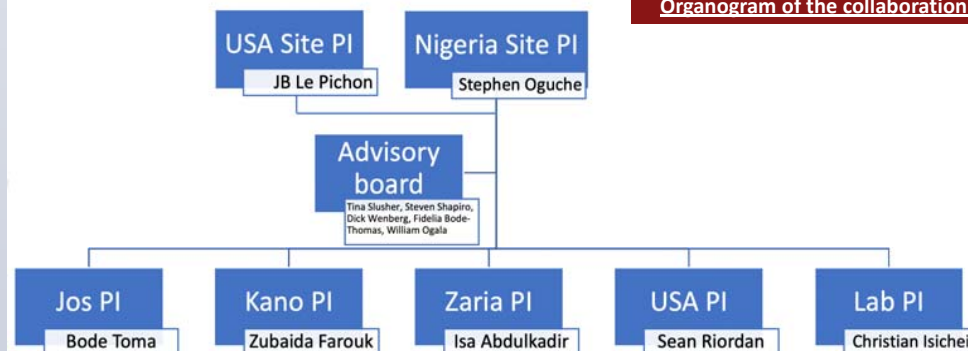
- **Interactive observatory group-based observation & feedback process**

- Identification of methodological problems in each center (USA and Nigeria).
- Protocol adjustments

PHASE 2:

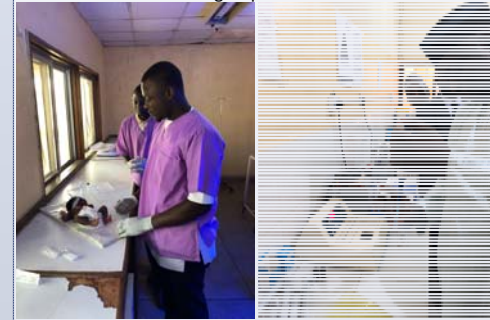
- Resume data collection.
- Presentation of initial results at PAS (poster 356).
- Continue PDSA process

Organogram of the collaboration



STUDY AND ASSESS, December 2018

From bedside to bench:
Interactive group-based feedback



CONCLUSIONS

We present a model of collaborative research project between LMICs and a High-Income Country that was developed with attention to ethical issues as they pertain to equal participation in development and distribution. We believe that successful collaborative research in LMICs can be developed if a strong emphasis is placed on interactive and egalitarian principles in all aspects of the research project

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