Building Novel Clinical Research Capacity in Resource-Limited Settings: Lessons Learned at Three Mozambique Sites

**BACKGROUND**

There are striking disparities in clinical research capabilities worldwide, particularly across regions of sub-Saharan Africa, where disease burden is high. Establishment of novel research capacity is costly and time consuming, and requires significant development of capacity building efforts across sectors. This in turn strengthens the need for establishing three Mozambican research sites.

**METHODS**

Three novel research sites were successfully established in Mozambique. Three sites are located in Maputo (capital city), Chókwè (provincial city) and Bena (district capital). Clinical research capacity building was mainly achieved through the implementation of HIV-related clinical trials and establishment of local structures. It took two years between a site assessment and site initiation.

**RESULTS**

**Sites established:**
- Maputo: CISP0C/INS
- Chókwè: CITSC/INS
- Bena: CISPOC/INS

These sites were established as part of a larger project funded by the United States Military HIV Research Program (MHRP) and the Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. (HJFMM). The project aimed to strengthen clinical research capacity in Mozambique through the establishment of three research sites.

**Current Research Capacity:**

- **Maputo: CISP0C/INS**
  - **Clinical research laboratory**: A comprehensive research facility.
  - **Clinical care facilities**: Supportive services for patient care.
  - **Data management and center**: A dedicated data management unit.

- **Chókwè: CITSC/INS**
  - **Clinical research laboratory**: A facility designed for specific clinical research needs.
  - **Data management and center**: A support team for data management.

- **Bena: CISPOC/INS**
  - **Clinical research laboratory**: A facility adapted for specific research needs.
  - **Data management and center**: A support team for data management.

**CONCLUSIONS AND RECOMMENDATIONS**

Development of novel clinical research capacity in resource-limited settings is feasible, but considerable time and resources are required to create and manage productive sites. The funding model for building facilities in these sites is likely to be more sustainable than initial expectations.

**Capacity building success depended on:**
- Alignment with national and institutional priorities
- Presence of high-level research with potential for future generation research
- Strong local leadership with locally based management teams
- Local ownership of capacity building effort and site/staff management
- Creation of career paths, careful selection and ongoing training of staff
- Commitment of research costs, leveraging of funds and classification of research portfolio
- Collaboration with global and local partners to create and continue the research framework
- Balanced combination of biomedical and community-based research for systemic capacity building

**Time horizons:**

- Site assessment and establishment
- Site training and recruitment
- Site infrastructure upgrades
- Site operational development
- Site evaluation and sustainability

**Agreed upon methods included:**

- Creation of laboratory infrastructure
- Creation of data management infrastructure
- Establishment of clinical infrastructure
- Establishment of financial management systems
- Recruitment, training, and retention of critical research staff
- Development of tools for community support, participant recruitment, retention, and referral
- Monitoring of research sites to outside bodies
- Strengthening of human research subject commitment

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**REFERENCES**

- National Institute of Health/Instituto Nacional de Saúde (INS), Maputo, Mozambique.
- Centro de Investigación e Treino em Saúde (CITSC), Instituto Nacional de Saúde/National Institute of Health (INS), Chókwè, Mozambique.
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**SUPPORTING INFORMATION**

- A detailed table of the resources and infrastructure developed at each site is provided in the accompanying document.