

PACHIMAKE : “at the heart of the matter”

Pediatric Alliance for Child Health Improvement In Malawi At Kamuzu Central Hospital and Environs

Background: Kamuzu Central Hospital (KCH) is the national referral hospital in the capital city of Lilongwe serving the central region of Malawi. The pediatric ward admits more than 27,000 patients per year and manages all medical emergencies. Multiple institutions (US based medical institutions and private organizations) have been independently supporting pediatric care in various capacities since 2005. This uncoordinated presence has already resulted in a decrease in pediatric inpatient mortality from approximately 9-10% between 2009 and 2011 to the current estimated rate of 4%.

Need: Despite the progress made thus far, critical gaps exist in pediatric care at KCH. The primary gaps identified include lack of communication and coordination between KCH and institutions sponsoring rotating consultants and trainees, lack of adequate staff in number and skill set, lack of reliable systematic data collection, lack of standardization of clinical care, and lack of multi-faceted funding sources and support infrastructure. Working collaboratively with KCH staff, this consortium will prioritize and address these gaps to improve pediatric outcomes. We anticipate this consortium can serve as a model of collaboration for institutions striving to improve pediatric healthcare systems in other Low- and Middle-Income Countries (LMICs).

Institutional Partners: KCH Department of Paediatrics, Malawi College of Medicine, BCM Children’s Foundation and Center of Excellence, Texas Children’s Hospital / Baylor College of Medicine (BCM), Cincinnati Children’s Hospital Medical Center (CCHMC), University of North Carolina (UNC) Chapel Hill / Project Malawi, University of Utah / Primary Children’s Hospital

Overall Mission: Through a sustainable, bi-directional collaboration, improve the care of acutely ill children at Kamuzu Central Hospital (KCH) through implementation of effective, coordinated, high-quality clinical, educational, quality improvement and research initiatives.

Goals:

- Access: To improve pediatric emergency medicine outcomes at KCH
- Capacity Building: To bi-directionally augment the ability of pediatric providers to care for acutely ill children at KCH
- Partnership: To strengthen coordination and management of PACHIMAKE partnership to provide impactful services at KCH
- Improved infrastructure: To ensure adequate infrastructure (physical and services) at KCH to provide care for acutely ill children

Anticipated Roadmap:

- Phase 1: Gap analysis, coordination of rotators, increased staffing, regular communications, data collection planning
- Phase 2: Consistent presence of hospital and PEM/acute care pediatrics, increased local staffing, support of pediatric residency (Mmed) program, data to identify and drive high impact initiatives, bi-directional opportunities for training, standardized protocols, identify seed funding
- Phase 3: Continued high impact QI initiatives with initial improvements in morbidity and mortality, 1st pediatric residency graduates, replicable model across subspecialties within KCH, improved extramural funding
- Phase 4: Malawi staff trained in acute care pediatrics, increased local staffing, local EMR to drive QI, replicable model beyond KCH

Anticipated Funding:

- Identify seed funding within one year
- Partner with in-country funders/stakeholders within 3 years
- Obtain external funding within 3-5 years

Appendix:

Successes in first 3 years (July 2017 – present)

- ❖ Ensure coordination among institutions sponsoring rotating consultants and trainees
 - Developed a coordinated US-based staffing calendar and increased presence exponentially
 - 2017 – 2020 KCH staffing (total *from all consortium institutions*): 24 unique specialists in PEM and general pediatrics deployed to KCH working a cumulative 102 months and an estimated 25,000 hours providing clinical supervision for emergently ill children and shoulder-to-shoulder mentoring alongside Malawian partners
 - Developed a standardized orientation pathway for rotating consultants and trainees
 - Regular calls with all consortium members
 - Signed Terms of Reference Agreement fall 2018 and updated yearly
- ❖ Ensure adequate staff in high acuity areas, specifically nurses and middle-level clinicians (clinical & medical officers)
 - Collaborating with College of Medicine to support development of a Pediatric MMed (residency) program at KCH. Permission to start fall 2020 (*delayed due to COVID*)
 - Held focus groups during stakeholder meetings 2017, 2018 and 2019 to understand factors that influence current staff recruitment and retention
 - Developing innovative solutions to help build core local capacity including nursing, middle-level clinicians, pediatric residents/registrars and consultants
 - Providing consistent presence for consultant-level clinical care for high acuity areas at KCH in conjunction with local personnel, providing bedside teaching, skills development and mentorship
 - Engaging other pediatric subspecialties in both short- and long-term collaborative efforts with the aim of providing a full complement of pediatric services in a long-term phased approach (ex. Critical care, hospital medicine, neonatology and neurology)
 - Exploring opportunities for US-based and south-south exchanges for permanent staff at KCH as professional development and retention tool
- ❖ Ensure reliable systematic data collection
 - Reviewed data provided by 2015 COHSASA report (accreditation council for African hospital care) and identified priority metrics to be used for assessment of overall quality of care provided
 - Developed and implemented a novel electronic patient database and published results in spring 2020
 - Hired 15 Malawian employees to capture data for cohort of all admitted patients less than 5 years old that will guide priority emergency care initiatives
 - Developed and implemented a monitoring and evaluation plan for PACHIMAKE activities to track clinical, educational, quality improvement and research initiatives
- ❖ Build infrastructure for collaborative education and scholarship
 - Supported 256 trainings for local staff including ETAT, resuscitation trainings, Point-of-Care-Ultrasound (POCUS) and many other didactic sessions for approximately 2310 Malawian learners at KCH
 - 1 Malawian clinical officer formally trained in POCUS who has reached proficiency and operates independently
 - Collaboratively developed a Malawian intern educational curricula
 - 5 collaborative publications and 19 abstracts presented with 12 projects in development
 - 18 grants submitted resulting in \$222,000 to support KCH and PACHIMAKE activities
 - 6 bi-directional opportunities in U.S. sponsored for Malawian counterparts since May 2018

Next steps:

- ❖ Create 2020-2021 staffing calendar with gradual increase in PEM and general pediatric consultant staffing
- ❖ Modify existing clinical protocols in Blantyre and operationalize for KCH
- ❖ Use data to guide 1st two high-impact QI initiatives on triage/admission and severe anemia treatment and processes
- ❖ Develop sedation protocols / processes for minor procedures in conjunction with Global HOPE and BIPAI COE
- ❖ Develop South-South partnerships for future observational rotations
- ❖ Apply for seed funding
- ❖ Promote professional development opportunities for Malawian clinicians and nursing