

### Risk factors for loss to follow-up and treatment abandonment in adult cancer patients at the Butaro Cancer Center of Excellence in Rural Rwanda

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**Program/Project Purpose:** Higher dropout rates in cancer treatment programs contribute to worse outcomes in low middle-income countries (LMICs). Several factors have been associated: distance to facility, low-income, insurance status, and education of patients or parents. The historical focus is on pediatric cancers, yet there is little data about rates and reasons for treatment abandonment of adult cancer patients in LMICs. Here we quantify rates of treatment abandonment/loss to follow-up and identify risk factors among adult cancer patients evaluated at the Butaro Cancer Center of Excellence in Rwanda.

**Methods/Study Design:** We conducted a retrospective cohort study of 91 randomly selected adult patients enrolled in the cancer program between July 1, 2012 and June 30, 2015, allocated to receive curative intent therapy. Outcomes of interest were treatment abandonment (failure to start/complete therapy) and loss to follow-up (missing visits post treatment completion) per adaptation from International Society of Pediatric Oncology guidelines. We performed univariate analysis to evaluate for sociodemographic, disease-related, and treatment-related variables among patients classified as treatment abandonment/loss to follow-up vs. not.

**Outcome and Evaluation:** Of the 91 patients included, 38% met criteria for loss to follow-up (16%) or treatment abandonment (22%). Characteristics associated with lost to follow-up/treatment abandonment were male sex ( $p=0.02$ ) and absence of caregiver phone number from patient file ( $p=0.004$ ). Characteristics associated with treatment abandonment alone were surgery ( $p=0.03$ ) and radiation included in the treatment plan ( $p=0.02$ ). Notably, radiation is performed outside of Rwanda and surgery is often performed at other Rwandan facilities.

**Going Forward:** Our rate of loss to follow-up/treatment abandonment proved to be comparable to other facilities in LMICs, however the program has already implemented interventions to overcome this challenge that this study may not capture. Currently, nurses track and call patients that miss visits. As this intervention has been scaled up within the past 6 months, it is likely that the current loss to follow-up/treatment abandonment rate is significantly lower than these results demonstrate.

Modifiable factors uncovered in this study may inform future interventions. Increased documentation of caregiver phone numbers may facilitate patient tracking. Patients planned to receive surgery and/or radiation should be deemed “high risk,” receive reinforced education regarding adherence, and be closely tracked.

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### The impact of a rotating short-term partnership model on burden of surgical disease in Rural Kenya: one team's three-year experience

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**Background:** In 2008, Dr. Paul Farmer called surgery “the neglected stepchild of global public health.” An annual 260,000 untreated congenital anomalies, 342,900 maternal deaths during childbirth, and greater mortality from trauma than HIV/AIDS, malaria, and tuberculosis combined, all support Dr. Farmer's assertion. We have not yet determined the best approach to global surgery. We present one possible solution: a non-profit (KenyaRelief) partners an existing local hospital (Brase Clinic in Migori, Kenya) with continuously rotating surgical teams. The purpose of this study is to document the impact of a single team during its annual short-term rotation at Brase Clinic over 3 years, and to calculate the expected impact of 25 similar rotating teams over an entire year.

**Methods:** Each year, KenyaRelief partners 25 teams representing a wide array of surgical specialties and institutions with this rural Kenyan clinic. Employing a mixed methods design, we recorded the number and type of surgical procedures performed and the WHO's Standardized Metrics for Global Surgical Surveillance during each of 3 short-term rotations by the University of Louisville (UL) surgical team from 2013–2015. Using simple extrapolation, we calculated total expected productivity of 25 rotating teams to estimate the yearly impact of KenyaRelief. Data expressed as sums or means.

**Findings:** The UL team (3 surgeons, 3 anesthesia professionals) performed an average of 36 surgical procedures per rotation with no post-op deaths. Diseases treated included hernias, soft-tissue masses, thyroid masses, omphaloceles, cancers, and fistulas. Assuming 25 rotating teams/year, we estimate an annual impact of 900 total procedures, or a surgical rate of .09%, based on Migori's population.

**Interpretation:** We document the impact one short-term surgical team provided to the people of Migori, Kenya. More importantly, we estimate that the KenyaRelief model of partnering Brase Clinic with visiting surgical teams provides a substantial reduction of the burden of surgical disease in this resource-poor region. The permanence of Brase Clinic allows for continuity of care for surgical patients even after teams leave. Plans for future research include gathering data from all rotating teams at Brase Clinic over an entire calendar year to more accurately document KenyaRelief's impact.

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### Community health workers and prevention of chronic diseases in low- and middle-income countries: a systematic review

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