



# Cancer Care

We are proving that it's possible to implement a model of high quality cancer care in a low resource, rural setting.

Built in the rural highlands of northern Rwanda, the Butaro Cancer Center of Excellence provide high quality cancer care to even the poorest Rwandans and serves as the national cancer referral center. Before the center was opened in 2012, cancer care was completely inaccessible for the vast majority of Rwandans. Only the wealthiest individuals could afford to seek treatment outside of the country. We are working to create a model of cancer care that is both effective in low-resource settings and accessible for poor and rural populations.

## Developing Pathology Capacity

When the cancer center first opened, one of the challenges we faced was that there were very few pathologists in the country and the pathology labs that existed had limited capabilities. Diagnosis of cancer, and therefore effective treatment, is impossible without highly skilled pathologists and a fully stocked lab. With the support of Rwandan Ministry of Health and Brigham and Women's Hospital in Boston we have dramatically improved the capacity to diagnosis cancer in Rwanda.

In 2012, every biopsy tissue had to be physically sent to Boston to be examined. With this process, it could take up to eight weeks for the staff at Butaro Hospital to receive the results and during that time, the patient's health could worsen. Today, the turn-around time from consultation to results in hand is less

## BY THE NUMBERS

**OVER 4,500 PATIENTS** have been registered for cancer care since the center's opening.

**5 DAYS** is the average time to receive a diagnosis after a biopsy.

**66 NURSES** have been trained in cancer care at the Butaro Cancer Center of Excellence.

than seven days. One Rwandan pathologist works full time at the Butaro Hospital which now has a lab capable of diagnosing many cancers. For complicated cases, the pathologists in Rwanda are able to use a camera-equipped microscope that uploads digital images onto a shared server for expert pathologists at Brigham and Women's Hospital to review. This use of telepathology, reduces the need to mail slides and also allows active mentorship of the pathologist at Butaro. The latest development in our pathology lab is the acquisition of an automated embedding machine and an autostainer coupled with coverslipper. These machines greatly increase the efficiency and volume of processing slides and will allow the Butaro pathology lab to serve as a pathology regional referral center within the surrounding districts.

Above: At the Butaro Cancer Center of Excellence nurse Christophe Rwagema administers chemotherapy to Jacqueline Kabwigi to treat early stage breast cancer.

Photo by Cecille Joan Avila / Partners In Health

Partners In Health  Inshuti Mu Buzima

## **A Center for Oncology Training**

We provide oncology education for the next generation of Rwandan health care leaders. Expert oncologists and oncology nurses from Dana Farber Cancer Institute, Brigham and Women's Hospital, Harvard Medical School, University of Pennsylvania and Dartmouth University regularly visit the hospital to provide clinical mentorship. As the nation's center for oncology training, physicians, residents and nurses from across Rwanda visit Butaro Hospital to gain the knowledge and experience needed to treat cancer.

We offer a three-month longitudinal training program for nurses from referral hospitals in Rwanda. The program provides both lectures and practical training regarding chemotherapy mixing and administration, management of chemotherapy side effects, and palliative care skills. Nurses that complete this training are able to return to their hospitals and will function as the lead oncology nurses while passing on acquired knowledge to their colleagues.

The University of Rwanda now offers a Nursing Master's Degree in Oncology which includes hands-on learning at Butaro Hospital. Additionally, internal medicine, pediatric, surgery and pathology residents from the University of Rwanda complete a rotation with the oncology department at Butaro Hospital.

## **Promoting Early Detection**

One of the most critical determinants of a cancer patient's outcome is how early they begin treatment. Unfortunately, many patients arrive at the hospital with late stage cancers. We are working to improve awareness of cancer in Rwanda in order to detect, diagnose, and treat cancer earlier. Community health workers are being trained to recognize potential signs of breast cancer in women in their communities and connect them to their local health center. Nurses at the health centers are trained to perform clinical breast exams and when needed refer patients to the hospital. With programs like this, we hope to catch cancer earlier and improve patient outcomes.

## **Providing Economic and Social Support**

In order to make the care affordable to our patients, most of whom are subsistence farmers from the surrounding region, we cover the full costs of chemotherapy drugs and necessary medical tests that are not covered by the patient's insurance. For vulnerable patients traveling from far away we compensate

the cost of transportation. We provide financial assistance to over 7,000 patients per year to ensure they never miss an appointment due to travel costs. Because of the long distances and difficult terrain it is unrealistic to expect patients to be able to return home on the same day they arrive for chemotherapy. Thus, we provide dorms with meals for patients staying overnight to accommodate this need. Certain types of cancer such as cervical cancer require radiotherapy, however there are no radiotherapy machines in Rwanda. We accompany over 100 patients every year to Nairobi, Kenya to receive the treatment they need. Cancer patients are particularly susceptible to become underweight or malnourished so we provide food for vulnerable patients both while they are in the hospital wards and when they are back home. Each year we provide over 3,000 food packages to patients. We believe in doing whatever it takes to help a patient become healthy.

Battling cancer can take a toll not only on physical health but on mental health as well. Patients with cancer experience higher rates of depression and anxiety. To improve the quality of life of our patients we have formed support groups for women with breast cancer. The support group, which meets every other week, provides an opportunity for these women to share their experiences, provide peer support surrounding economic and psycho-social challenges, and receive guidance on health system navigation.

## **Scaling-Up Cancer Care**

The Butaro Cancer Center of Excellence is just the beginning. We are supporting the Ministry of Health to develop cancer centers in other referral hospitals. We have partnered to develop clinical protocols and standard operating procedures for cancer care that are applicable to the low-income setting in Rwanda. We have designed a digital platform to record oncology data in the electronic medical record system OpenMRS. This system improves clinical workflow, quality of care, and our ability to conduct research. Additionally, this system allows us to support the development of a national cancer registry which will provide critical information for national monitoring and evaluation, research, and health system strengthening. Through our strong partnership with the Government of Rwanda, the lessons learned from the Butaro Cancer Center of Excellence will be applied nationally to serve thousands more battling cancer.