

Voices of Hope From Rural Rwanda: Three Oncology Nurse Leaders Emerge

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Committed, longitudinal, and respectful partnerships between low- and high-income countries can significantly strengthen cancer care capacity and oncology nursing. This article describes a partnership between the United States and Rwanda and the impact the program has had on three Rwandan oncology nurses.

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No financial relationships to disclose.

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Key words: Africa; cancer care; nursing education; sustainability; low-income countries; twinning

ONF, 43(5), 661-664.

doi: 10.1188/16.ONF.661-664

The cancer burden in low- and middle-income countries (LMICs) has been well described in the literature (International Agency for Research on Cancer, 2012; Ott, Ullrich, Mascarenhas, & Stevens, 2011; Thun, DeLancey, Center, Jemal, & Ward, 2010). According to the World Health Organization ([WHO], 2015), about 14 million new cancer cases occurred in 2012, and more than 60% of those cases were in Africa, Asia, and Central and South America; of the 8.2 million cancer-related deaths in 2012, more than 70% occurred in these regions (Bray & Møller, 2006).

Rwanda is a small country in East Africa, comparable to the size of Maryland in the United States, with a population of about 11 million people, making it one of the most densely populated countries in Africa. The country is primarily rural, with subsistence farming being the main economy and tea and coffee as the major cash crops (Our Africa, 2016). The genocide in 1994, which killed about 1 million people, had devastating effects on healthcare delivery. Devastation occurred in the rise of diseases, such as HIV, tuberculosis, and cholera. In addition, Rwanda had the highest mortality rate for infants aged younger than five years in the world, and most healthcare workers either fled the country or were killed during the genocide. The dramatic postgenocide revival of Rwanda's healthcare system in the early 2000s, supported by

the Rwandan government, foreign governments, multilateral funders, international academic consortia, and other nongovernmental organizations, provided the foundation for a cancer care delivery system to build on the existing infrastructure (Binagwaho & Farmer, 2014; Binagwaho et al., 2014).

In addition to having a high cancer burden, LMICs are also in the greatest need for healthcare professionals. For example, Sub-Saharan Africa accounts for 24% of the global disease burden but only employs 4% of the global health professional resources (WHO, 2006). The WHO recommends a minimum health service provider density of 2.3 providers per 1,000 population. In 2011, Rwanda's health service provider density was 0.84, far below the WHO recommendations. In 2012, the country of Rwanda partnered with the Clinton Health Access Initiative and began the Human Resources for Health (HRH) program. The main components of this partnership between the United States and Rwanda focus on knowledge transfer, sustained collaboration, medical residency, nursing, health management, and oral health programs. The HRH program will continue for seven years, with broad goals to train hundreds of healthcare providers, strengthen health professional curricula, and improve the health of the country (Binagwaho & Farmer, 2014).

Nursing educational preparation in Rwanda has historically consisted of three levels, but little

distinction is made between A2 (completion of a nursing training program at a secondary school) and A1 (completion of a three-year postsecondary nursing program) once nurses are in practice. The A0 level is for nurses who complete a four-year bachelor's degree program. With the assistance of HRH, the University of Rwanda School of Nursing and Midwifery accepted students into the first master's degree nursing program in the country in September 2015. Challinor et al. (2016) described the importance of nurses as skilled and valuable resources that can address many aspects of the growing cancer burden in LMICs. High-income countries and some LMICs have demonstrated nursing's value as a key component of successful oncology programs. These contributions span the cancer care continuum of cancer prevention, screening, early detection, administration of treatment, symptom management, palliative care, and survivorship. In addition, nurses play critical roles in academic and clinical training programs, as well as in educating the public, patients, and families (Challinor et al., 2016). This article describes how a focus on oncology nursing training and mentorship can affect capacity building and sustainability in an LMIC.

Butaro Cancer Center of Excellence

In 2012, in an attempt to address the cancer burden in the East African nation of Rwanda, healthcare providers from the Dana-Farber Cancer Institute (DFCI) were invited by the Rwandan Ministry of Health (RMOH) and Partners in Health (PIH) to participate in a week-long National Baseline Cancer Training program. This program served to increase physician and nurse awareness and basic knowledge of cancer, common presenting signs and symptoms, and treatment mo-

dalities, as well as management of side effects, disease progression, and palliative care. This course was repeated several times until two physicians and two nurses from each district hospital throughout Rwanda were trained. Concurrently, DFCI, in collaboration with the RMOH and PIH, established and funded a year-long nursing fellowship completed sequentially by four DFCI nurses. The DFCI nurse fellows each spent three months in Rwanda working side-by-side with their Rwandan nurse colleagues assessing educational needs, teaching foundations of oncology nursing at the bedside and in the classroom, developing standard nursing operating procedures, and assisting in the opening and day-to-day management of the Butaro Cancer Center of Excellence (BCCOE) in northern rural Rwanda. The BCCOE was inaugurated in July 2012 and has 40 adult inpatient beds, as many as 16 pediatric inpatient beds, and 12 outpatient chairs in the ambulatory Butaro Infusion Center. The BCCOE is the first public hospital in Rwanda to offer a robust medical oncology program. The DFCI nursing fellowship program was modified in 2015 to be a year-long in-country experience (as opposed to a three-month rotation) to avoid multiple handoffs and increase continuity. This type of model is frequently referred to as "twinning" in the literature (Hopkins, Burns, & Eden, 2013).

Three Rwandan nurses, now among the most experienced oncology nurses in their country, have been part of the BCCOE since their attendance at the first National Baseline Cancer Training program and the opening of the BCCOE in 2012. These nurses have assumed leadership roles in which they oversee different aspects of the oncology program at BCCOE; one is the oncology line manager, one is the cancer care nurse coordinator in the ambulatory cancer center, and one is the oncology nurse educator.

The following testimonies highlight their perspectives of what it means to be pioneers in the field of oncology nursing in Rwanda for themselves as professional nurses, for their patients, and for their country.

Nursing Testimonies

Oncology line manager, age 27:

I started at Butaro Hospital as a general nurse in August 2011 by working in the emergency department, where I was the deputy line manager. At this time, only a few patients with cancer came to the hospital to be seen by a PIH physician from Boston, Massachusetts, stationed at Butaro Hospital, but no cancer care was there yet, and no nurses had any idea about cancer or its treatment. In April 2012, I was selected to attend the National Baseline Cancer Training course, and, on July 18, 2012, our oncology program was inaugurated by former President Bill Clinton of the United States and the Rwandan Minister of Health, Agnes Binagwaho, MD, M(Ped), PhD. We started with a small number of patients, which rapidly increased. The patients came from all over the country, as well as from nearby countries, and they were so sick, most of them with metastatic cancer and end-stage disease. Our cancer ward started with only seven nurses, who took the National Baseline Cancer Training course with one doctor. The nurse mentor from DFCI helped us and trained us on chemotherapy preparation, mixing, administration, and other activities required in cancer care. Over time, the number of patients has increased: we have seen more than 1,500 inpatients and more than 4,000 patients in the ambulatory clinic. Some of them have died, some are lost to follow-up, and some continue to be followed as outpatients. We now have about 30 nurses working in the oncology department, and we have three

areas where patients with cancer are seen: the adult inpatient ward, the pediatric inpatient ward, and the ambulatory clinic and infusion center. We have had a lot of new nurses come, and some have left for various reasons, such as relocation, the work being too hard, or to work in another specialty. During these past four years, there have been many challenges and positive points.

The challenges include not having protocols or drugs to treat all kinds of cancers that we see, shortage of space, shortage of staff, lack of a staff retention system, and lack of recognition of oncology nurses' hard work. Another challenge and opportunity is that there are no other nurses in the country to learn from or share experiences. This is an opportunity for us to help nurses as cancer care begins in other locations. The positive aspects of our program include cancer care improvements, with some patients being cured. We have our own Rwandan oncology nursing trainer, who can train new nurses in cancer care, and we have skilled and determined oncology nurse colleagues from the United States who are here to help us fight cancer. My experience has been long and contained much knowledge. I am glad and proud to work in cancer. My pride is to see the smile of a patient with cancer, and my plea is to see and hear continuing support to help us fight against cancer.

Cancer care nurse coordinator, age 28: In 2012, I was invited to attend the first National Baseline Cancer Training program; this is where I started gaining knowledge about cancer. Since the opening of the BCCOE in July 2012, I have the new responsibility of cancer care nurse coordinator. This was my great opportunity to learn and gain knowledge and new skills in oncology, which was a totally new and specialized department for us. I was the first nurse trained in

chemotherapy mixing and administration and gave the first dose of chemotherapy at BCCOE under the direction of the DFCI nurse. With my knowledge and skills, I trained others nurses in my department and cared for patients with cancer. Through this mentorship, I, along with other nurses, have increased our knowledge and skills. Other nurse leaders at BCCOE and I are now National Baseline Cancer Training facilitators.

My main job now is to be in charge of the outpatient oncology clinic. I have been working with doctors from Brigham and Women's Hospital to learn about breast cancer. Through the Early Detection of Breast Cancer project, I had the greatest opportunity to be trained in clinical breast examination and now am a trainer of health center nurses and community health workers, so they can refer women who have abnormal breast examinations in an attempt to discover and refer women to detect cancers at an earlier stage. In addition, the project includes training in breast ultrasound and ultrasound-guided core needle biopsy. As a nurse with this special knowledge and skill, I am proud to perform diagnostic breast ultrasound and ultrasound-guided core needle biopsies under the supervision of my physician colleague.

Since 2012, my knowledge and skills as an oncology nurse have increased and have had a great impact on patient care, particularly by decreasing the time from presentation with a breast mass to finding a diagnosis and treatment, if necessary. I also had the chance to continue nursing studies, and now I have a bachelor's degree in nursing, which has also increased my nursing practice, knowledge, and skills. All of these improvements in cancer care are very important for our country. We now have knowledge and hope.

Oncology nurse educator, age 27: I have been a nurse at the Butaro Hospital since January 2012 and

started working in internal medicine and surgery; at that time, there was not a cancer department, and nothing was done for people with cancer.

I was appointed to start with oncology and attended a special training course about cancer care. We had a lot to learn. We started our oncology ward with only seven nurses. We worked many shifts, day and night, to help so many people with cancer that came from many different places from around Rwanda and other countries.

After two years of being a cancer nurse, I had a chance to get mentorship from DFCI nurses to educate other Rwandan nurses about cancer nursing. In this role, I work with other nurses to take care of patients with cancer. I teach theory and clinical practice. The theory includes cancer biology, cancer signs and symptoms, diagnosis, and medical management, including chemotherapy preparation, chemotherapy administration, side effect management, and family and patient education. The clinical practice includes skill development and successful competency completion working in the inpatient and outpatient areas, assessing patients, mixing and administering chemotherapy, and patient teaching.

So far, we have oriented groups of new nurses at BCCOE a total of six times. The inservice training taught clinical skills during three weeks (or longer, if needed) in the classroom and on the ward. We use a competency checklist to track the progress of every new nurse. This training keeps the oncology department functioning because we need many nurses to care for all the patients. We also trained two groups of nurses from referral hospitals in Rwanda to try to help give them basic oncology care skills so that these hospitals can begin to take care of some patients with cancer.

For me, I am proud to be an oncology nurse with a bachelor's

degree and to be knowledgeable about cancer. This allows me to take care of patients with cancer correctly and also to educate other Rwandan nurses about how to take care of so many patients with cancer. BCCOE, which is doing many things, is not only providing cancer care, but also building capacity in oncology nursing.

Conclusion

This article includes just one example of many nursing efforts across the globe that address challenges and rewards of providing oncology nursing care in LMICs. The oncology work in Rwanda has been possible because of the supportive environment where the RMOH has made cancer care a national priority. In addition, the BCCOE was able to build upon the preexisting basic health delivery system infrastructure established by the RMOH, in collaboration with PIH, to provide care for the most vulnerable patient populations. Although progress has been made in many areas, the road for future work is long and includes building a more robust palliative care program, embedding quality improvement processes, conducting prospective research, sharing knowledge with other Rwandan nurses and hospitals, supporting

additional cancer centers, and developing a more robust patient and family education program.

One of the most important lessons learned in this work is that it takes committed collaboration and multiple partnerships to build an oncology program in an LMIC location. As the burden of cancer grows in LMICs during the next few decades, it will be imperative to share knowledge and resources, as well as align people, interests, and organizations to collectively advocate for global cancer funding to make a substantial and sustainable impact.

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