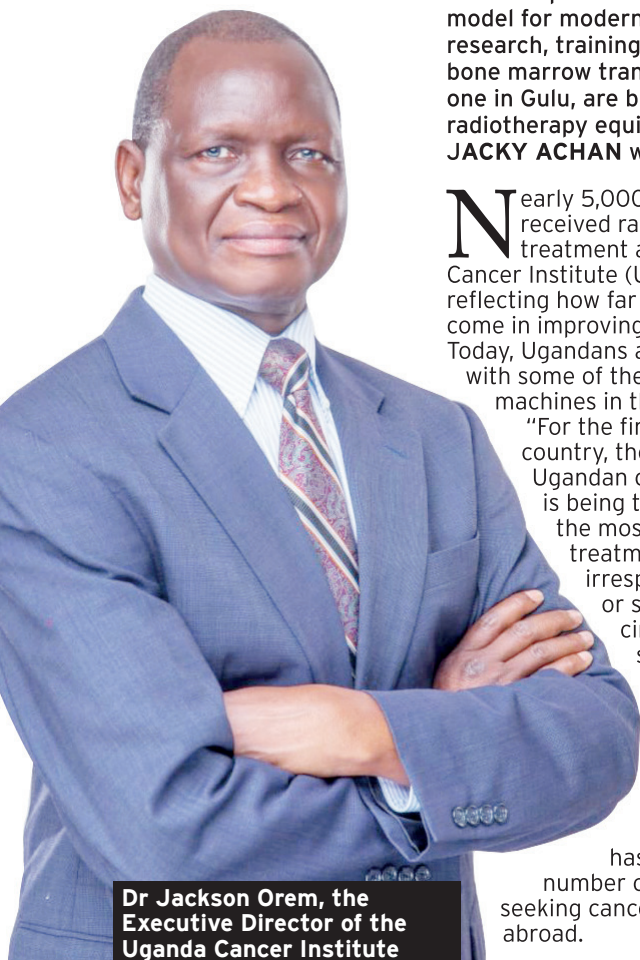


# JOURNEY OF EXCELLENCE

## UCI USHERS IN A NEW ERA OF WORLD-CLASS CANCER CARE

Over the past decade, the Uganda Cancer Institute (UCI) has continued to grow and maintain its position as a regional centre of excellence and a model for modern cancer care in East and Central Africa. Working with top universities and hospitals around the world, UCI continues to lead in research, training, and innovation. Through steady investment and innovation, UCI is setting up new facilities to improve treatment, including a bone marrow transplant unit, a modern scanning and imaging centre, and a new 350-bed cancer hospital in Kampala. Regional centres, such as the one in Gulu, are bringing quality cancer care closer to communities. UCI is also improving treatment with modern machines, including advanced radiotherapy equipment that is helping many patients get better care here at home and offering renewed hope to patients across the region, **JACKY ACHAN** writes.



**Dr Jackson Orem, the Executive Director of the Uganda Cancer Institute**

Nearly 5,000 cancer patients received radiotherapy treatment at the Uganda Cancer Institute (UCI) in 2024, reflecting how far the country has come in improving cancer care. Today, Ugandans are being treated with some of the most modern machines in the world.

"For the first time in our country, the ordinary Ugandan cancer patient is being treated with the most advanced treatment technology, irrespective of class or socio-economic circumstances," says Dr Jackson Orem, the Executive Director of the Uganda Cancer Institute.

According to UCI, this progress has reduced the number of Ugandans seeking cancer treatment abroad.



**Dr Jane Ruth Aceng, Minister of Health**

"The number of Ugandans going out of the country for treatment has significantly reduced, hence major savings for the country," Dr Orem notes.

### A GROWING PATIENT LOAD

UCI registered 7,943 new cancer patients in 2024, a significant rise



**Prof. Damalie Nakanjako, board chair, Uganda Cancer Institute**

from 4,194 in 2015. The numbers have steadily increased over the years, with 2,948 new cases recorded in 2016 and 4,187 in 2017.

Among the new cases in 2024, 1,093 were cervical cancer, 791 breast cancer, 764 prostate cancer, 523 throat and oesophageal cancers, and 370 lymphomas (a

type of cancer that starts in the body's infection-fighting system, such as the glands or nodes that help protect against disease).

In children, the most common cancers were lymphomas (104 cases), kidney tumours (83), blood cancers such as leukaemia (52), bone tumours (27), and muscle cancers (rhabdomyosarcomas) (20).. The rise in numbers shows that more people are being diagnosed early as awareness and testing improve. For UCI, it also highlights the need to expand facilities and train more specialists to meet the growing demand.

### MODERN RADIATION TREATMENT

Just a few years ago, Uganda had only one radiotherapy machine - and when it broke down, treatment stopped for months. Today, UCI's radiation Department is full of activity and offers care that meets global standards.

The institute now has three modern radiation machines known as linear accelerators, which use powerful

# HOW MODERN CANCER TREATMENT

THE IMPROVEMENT IN RADIOTHERAPY IS THE RESULT OF YEARS OF INVESTMENT IN TECHNOLOGY, TRAINING, AND RESEARCH

FROM PAGE 1

energy beams to destroy cancer cells deep inside the body.

It also uses two cobalt-60 machines and three internal radiation systems, known as High-Dose Rate (HDR) brachytherapy systems. These treat cancer by sending controlled radiation from inside the body, close to the tumour, to target it more accurately while protecting healthy tissue.

According to UCI, linear accelerators are used for advanced treatments that enable precise targeting of tumours while sparing healthy tissues. They treat nearly all cancer types, and certain benign conditions (non-cancerous growths or changes in the body) such as keloids - thick or raised scars that form after wounds heal.

Meanwhile, cobalt-60 teletherapy provides reliable treatment for many cancer types, and brachytherapy, where a small radiation source is placed inside the body near the tumour, is especially effective for cancers of the cervix, prostate, and oesophagus. Put simply, these machines allow doctors to focus treatment exactly where it is needed, directing radiation to a tumour with great accuracy while protecting healthy organs nearby.

Dr Solomon Kibudde, a cancer specialist who leads the radiation treatment programme at UCI, says the new equipment has transformed patient care.

"We now have three modern machines that can treat almost all types of cancer. Every day, about 240 patients come in for treatment, and another 10 to 15 receive internal radiation treatment," he explains.

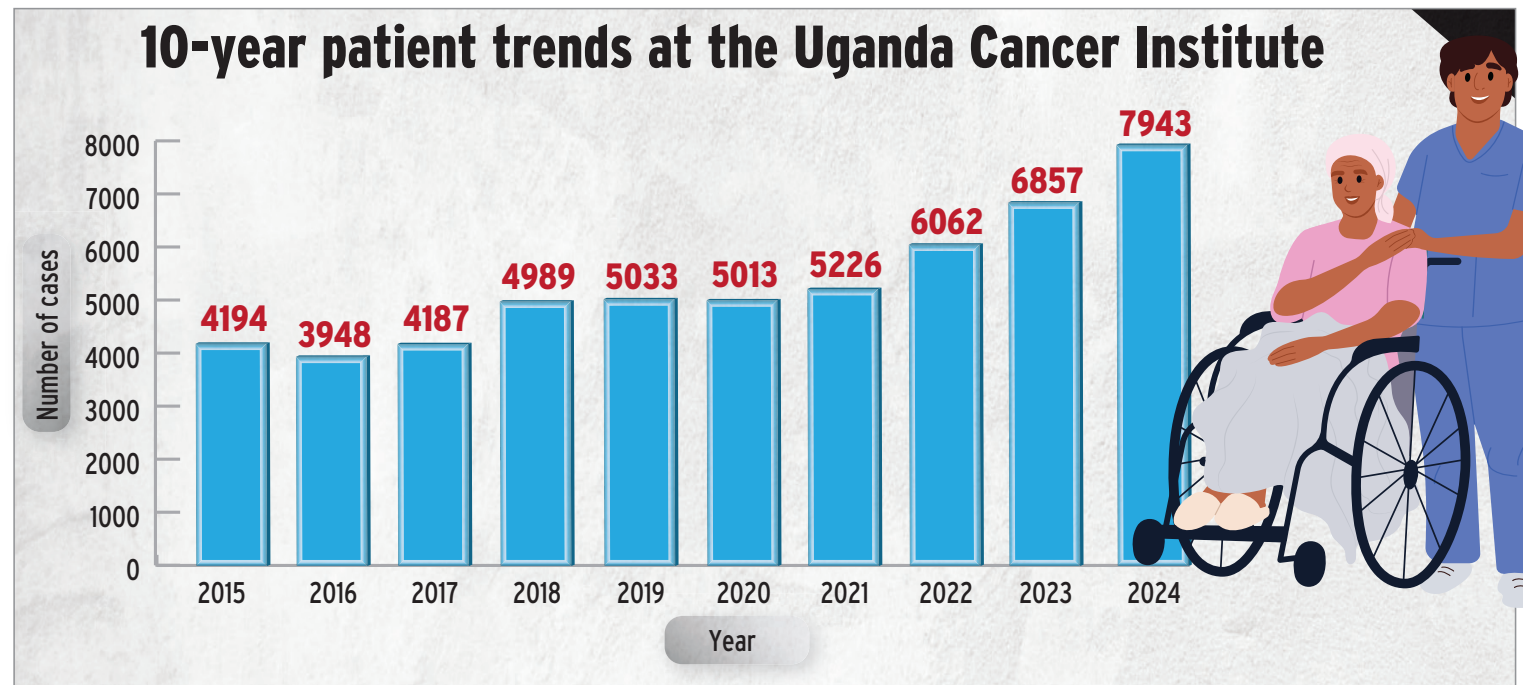
"These machines deliver higher doses of energy to very small areas, which means fewer side effects and a better chance of cure." He adds that Uganda once depended on older machines from the 1980s, but the new ones are much safer and more accurate.

"We are proud that the Government's investment has brought us to this level. Our machines are modern, precise, and can handle treatments that used to be done only abroad," he says.

The radiation department remains a key part of Uganda's cancer care, offering both curative treatment and palliative care to relieve pain for advanced cases, using a combination of modern and conventional methods.

## CARE TO MORE PEOPLE

As cancer cases increase, so too does the demand for treatment. In 2024 alone, UCI handled 3,056



Dr Irene Nansubuga, a public health ophthalmologist operating a slit lamp machine at UCI



Dr Solomon Kibudde - specialist

**EVERY DAY, BETWEEN 200 AND 240 PATIENTS COME IN FOR EXTERNAL BEAM RADIOTHERAPY, AND 10 TO 15 UNDERGO BRACHYTHERAPY. FOR MANY FAMILIES, THIS HAS MEANT THAT A CANCER DIAGNOSIS NO LONGER HAS TO BE MANAGED OVERSEAS**

new radiation cases.

A total of 3,598 patients were planned for treatment using two- and three-dimensional simulators (machines that help doctors plan treatment by showing detailed pictures of the inside of the body). 3,394 patients were treated using the modern machines, and

1,322 received internal radiation (brachytherapy).

Every day, between 200 and 240 patients come for external beam radiotherapy, and about 10 to 15 undergo internal treatment. For many families, this means they no longer need to travel

abroad for cancer care.

These figures reflect the increasing scale of operations at the institute and its growing capacity to provide both curative and palliative care within Uganda.

UCI reports that its radiation division integrates clinical service, research, and education, contributing to better cancer outcomes nationally and across the East African region.

As the country's only specialised cancer treatment centre, UCI plays a pivotal role in providing evidence-based, safe, and affordable care.

The Institute says these achievements are the result of years of investment in better technology, staff training, and research. The goal has been to bring the best care possible closer

to the people who need it most.

Dr Kibudde explains that radiation therapy remains one of the main forms of cancer treatment, often used alongside surgery and medicine that kill or stop the growth of cancer cells in the body (chemotherapy).

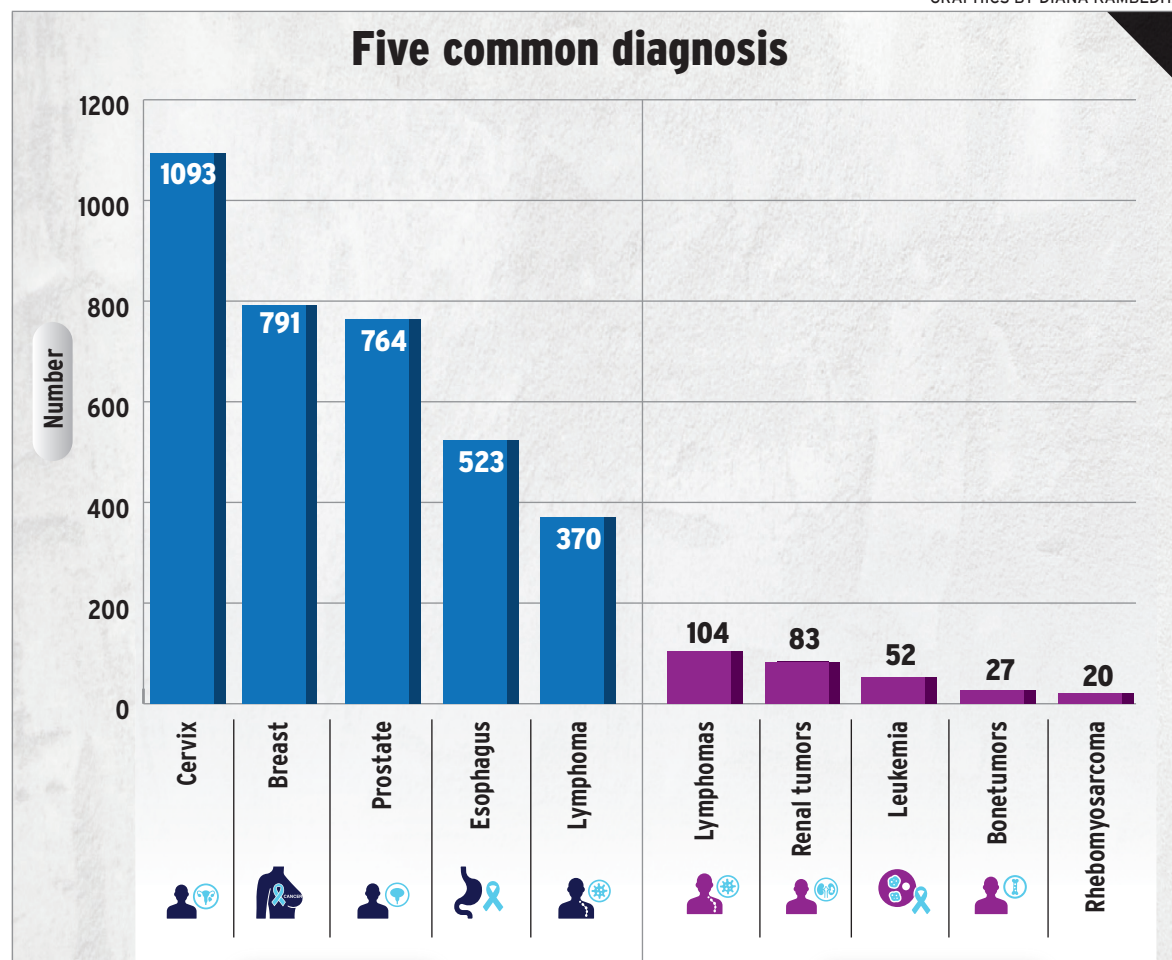
"It uses controlled X-rays to destroy cancer cells in a specific part of the body without harming the rest of the body. Depending on the cancer, treatment can last four to seven weeks and accounts for nearly 40% of all cancer cures," he says.

## A DECADE OF PROGRESS

Over the past 10 years, Uganda's cancer treatment services have improved greatly. In 1995, UCI used basic two-dimensional (2D) radiotherapy techniques that

# IS GIVING UGANDANS NEW HOPE

GRAPHICS BY DIANA KAMBEDHA



## THE UGANDA CANCER INSTITUTE REGISTERED 7,943 NEW CANCER PATIENTS IN 2024, A SIGNIFICANT RISE FROM 4,194 IN 2015

were far less precise.

With support from the government and international partners, UCI began upgrading.

In 2021, it introduced three-dimensional treatment known as 3D-Conformal Radiotherapy. In 2022, more advanced forms followed - Intensity Modulated Radiotherapy (IMRT) and 2D brachytherapy - which allow radiation to adjust to the shape of the tumour.

By 2023, UCI began using a faster, more accurate system that delivers radiation in a single rotation around the body, known as Volumetric Modulated Arc Therapy (VMAT).

In 2024, it added 3D image-guided treatment for cervical

cancer, Uganda's most common cancer among women. These steps have made it possible for Ugandan patients to access world-class care without leaving the country.

In 2024, the institute launched three-dimensional image-guided brachytherapy, a major milestone in the treatment of cervical cancer Uganda's most prevalent cancer among women.

According to UCI, these advancements reflect the institute's deliberate effort to integrate evidence-based and patient-tailored radiotherapy into routine care.

By introducing modern technologies gradually, it has ensured that Ugandan patients can access treatments previously available only abroad.

### Training the next generation

Behind UCI's success is a strong focus on education. The Institute is now training more cancer specialists so Uganda can sustain its progress without relying on foreign expertise.

In 2023, UCI launched a Radiation Oncology Fellowship Programme, approved by the Uganda Medical and Dental Practitioners Council and recognised by the International Atomic Energy Agency (IAEA), the UN body that regulates safe use of radiation. The programme trains doctors in radiation treatment and prepares them to

lead cancer services across Africa.

That same year, UCI introduced a Medical Physics Programme, also recognised by the IAEA, to train professionals who ensure radiation is used safely and accurately. A Technologist Training Programme to train those who operate the machines was started in 2025 and has already drawn interest from other African countries, including Cameroon.

According to UCI, these training programmes are turning the institute from a treatment centre into a regional hub for cancer education and research.

### Beyond technology

UCI stresses that progress isn't only about machines - it's also about skilled people. The radiation team includes doctors, physicists, therapists, and specialist nurses who work together to plan and deliver treatment safely and effectively. Their teamwork ensures accurate treatment planning, radiation delivery, and patient follow-up, all in line with global safety standards. This commitment to quality has made UCI one of the best-equipped and most trusted cancer centres in the region.

### Better diagnosis for better care

Good treatment begins with the right diagnosis. UCI's imaging department uses advanced

scans to help doctors detect and plan treatment. In 2024, the imaging unit performed 14,643 ultrasound scans, 9,467 CT scans, and 6,559 X-rays, plus 1,426 special interventional procedures and 1,193 breast scans (mammograms).

These services help detect cancer early, guide treatment plans, and assess how well therapy is working. According to UCI, the expansion of imaging has made diagnosis faster and more reliable for thousands of patients each year.

### A regional model

Today, UCI's radiation services serve as a model for other developing countries in East and Central Africa, including South Sudan, Rwanda, and the Democratic Republic of Congo.

With modern machines, a growing team of skilled experts, and research collaborations, UCI continues to attract patients from across the region. Each year, more than 3,000 new patients receive treatment at UCI, while thousands more come for follow-up care and pain relief.

The institute's infrastructure, advanced equipment, professional training, and research collaboration place Uganda among the best-equipped radiotherapy centres in Africa. Its work continues to draw support from international partners, including the IAEA, which recognises UCI's progress in safe and effective radiation therapy.

### NATIONAL IMPACT

The growth of cancer care at UCI has brought wide benefits. Treating patients at home has reduced the country's dependence on external referral centres, meaning families no longer have to sell property or fundraise to go abroad. Dr Orem says this has not only improved access to treatment, but also saved Uganda millions of shillings. "Fewer Ugandans are travelling overseas for treatment, and that's a huge saving for the country," he explains. These achievements align with Uganda's broader goal of strengthening non-communicable disease control and improving access to specialised medical care.

### LOOKING AHEAD

Despite its progress, UCI admits that there are still challenges - keeping pace with rising cancer incidence, maintaining high-tech equipment, and training enough specialists. However, its focus on technology, training, and patient-centred care is paying off and offers a roadmap for sustainable growth.

The story of cancer care in Uganda is changing. According

## A DECADE OF TRANSFORMATION

Over the past decade, Uganda's radiotherapy services have undergone a remarkable transformation. Beginning with basic two-dimensional (2D) radiotherapy in 1995, which was less precise, UCI has progressively adopted modern techniques. With government support and international collaboration, the institute began to modernise.

In 2021, the institute introduced 3D-Conformal Radiotherapy (3DCRT), followed by Intensity Modulated Radiotherapy (IMRT) and 2D brachytherapy in 2022. A year later came the Volumetric Modulated Arc Therapy (VMAT), which delivers radiation quickly and accurately, enabling faster and more precise treatment delivery.

In 2024, UCI launched three-dimensional image-guided brachytherapy, a major milestone in the treatment of cervical cancer - Uganda's most prevalent cancer among women.

According to UCI, these advancements reflect the institute's deliberate effort to integrate evidence-based and patient-tailored radiotherapy into routine clinical practice.

By introducing modern technologies gradually, the institute has ensured that Ugandan patients can access treatments previously available only abroad.

to UCI, investments in technology and human resources have made world-class treatment available to every Ugandan, regardless of background. "We are now also preparing to support patients who need bone marrow transplants.

Our team will provide the radiation needed before transplant procedures, working closely with the blood cancer specialists led by Dr Clement Dove Okello. We have already trained with experts from India and Canada and are ready to begin once the full programme starts," Dr Kibudde reveals.

"Our team will provide the radiation needed before transplant procedures, working closely with the blood cancer specialists led by Dr Clement Dove Okello. We have already trained with experts from India and Canada and are ready to begin once the full programme starts."

# UCI TO SET UP BONE MARROW

By Jacky Achan

## NEW PROGRAMME SET TO TRANSFORM CARE FOR BLOOD CANCERS

The Uganda Cancer Institute (UCI) is in the advanced stages of establishing a Bone Marrow Transplant (BMT) programme – a major milestone expected to significantly boost the country's capacity to manage blood-related cancers and serious blood disorders.

Once operational, the programme will offer new hope to patients living with blood cancers and complex blood diseases, who currently have to travel abroad for treatment at extremely high cost.

At the heart of the initiative is Dr Clement Dove Okello, a doctor at UCI who specialises in blood diseases and cancers and is leading the mission. He says the programme is designed to elevate Uganda's capacity for managing blood cancers and related conditions.

"We have treated many cancers, including blood cancers and complex blood disorders, with outcomes that are satisfying and comparable to what you can find outside Uganda. Our success rate continues to improve, but we want to go higher by introducing new treatment methods currently available in first-world countries," Dr Okello says.

UCI already provides treatment for both cancerous and non-cancerous blood conditions. These include special blood-filtering and exchange procedures for sickle cell disease and other severe disorders. The introduction of a bone marrow transplant service will complete the range of therapies available locally.

Dr Okello explains that while some patients with blood cancers can be cured through chemotherapy – the use of strong medicine to kill cancer cells – others require a bone marrow transplant for a complete cure.

"There are those we can push into remission, but some conditions require a transplant for cure. These include blood cancers like leukaemias (cancers of the blood and bone marrow), lymphomas (cancers of the lymph system), and myelomas (cancer of the bone marrow), as well as other conditions such as sickle cell disease and severe forms of aplastic anaemia, where the bone marrow fails to produce blood cells," he explains. He adds that for many families, seeking treatment abroad is financially impossible.

"Patients who go outside pay a minimum of \$25,000 to \$30,000. That is not a cost an ordinary Ugandan can afford. Our goal is to make this treatment available at home and significantly cheaper, so no one is left out," Dr Okello says.

Outpatient statistics (2024)	
OPD CLINIC	NO. SEEN
General OPD	15,799
Private OPD	10,678
Paed OPD	9,722
Gyn OPD	6,148
Breast	4,884
Prostate/Cancer	3,791
Haematology	2,777
IGT	2,684
ENT	2,392
Surgical	1,882
Urology	986
Kaposi Sarcoma	900

### THE FOUNDATION FOR TRANSPLANT

Progress on the facility is evident.

"We are not just dreaming. The building is up, equipment has arrived in the country, and our staff are undergoing specialised training. We have already started assembling equipment, and soon we should be ready to begin."

Although no specific launch date has been set, he says the team is moving steadily and carefully to ensure safety and quality from the start.

### WHY THE SERVICE IS NEEDED

The need for a local bone marrow transplant programme is clear. UCI handles a growing number of patients with blood cancers and related disorders.

"We see these conditions every day," says Dr Okello. "At UCI, we have a dedicated ward for blood disorders and another for leukaemias that would benefit from transplant. In the wider community, there are many people living with sickle cell disease or aplastic anaemia who would qualify for this procedure if it were available locally." He adds that these diseases are not rare in Uganda, but public awareness has been limited because until now, there were few options for curative treatment.

"People may not talk about it much because there was no place to go. But the patients are there, and the demand for transplants is real."

### CAUSES OF BLOOD CANCERS

Dr Okello notes that the causes of blood cancers are often complex and linked to multiple factors. "Unlike cervical cancer, where we know that exposure to the HPV virus is a key factor, blood cancers involve a mix of genetic and environmental influences. A person's genetic makeup can make them more likely to develop leukaemia or other blood cancers. Environmental factors like radiation or chemical exposure



UCI handles a growing number of patients with blood cancers and related disorders, as well as apheresis and plasma exchange

## Understanding bone marrow transplant

Dr Henry Ddungu, a senior specialist in cancer and blood diseases at UCI, explains that a bone marrow transplant involves replacing a patient's diseased or damaged bone marrow with healthy cells that can make new blood. "A bone marrow transplant is basically a procedure where we replace someone's system with new cells called stem cells. These cells are unique because once implanted into a suitable person, they can multiply and start producing new blood cells." He says there are two main types of transplant. In one, the patient donates their own stem cells after the disease has been treated and cleared. In the other, a donor provides matching healthy cells for transplant. He notes that a bone marrow transplant is the best treatment for several conditions, including sickle cell anaemia, aplastic anaemia (when bone marrow stops producing blood), and some blood cancers such as leukaemia, lymphoma, and multiple myeloma. "In diseases such as multiple myeloma or lymphoma, we can use a patient's own cells. But in conditions like leukaemia, aplastic anaemia, or sickle cell anaemia, we usually need a donor whose stem cells match the recipient's to avoid rejection," he says.



Dr Henry Ddungu, senior consultant of hematology oncology

may add to that risk. For sickle cell disease, it's purely inherited from one's parents," he says.

**INFRASTRUCTURE, TRAINING UNDERWAY**  
Both Dr Okello and Dr Ddungu

agree that setting up a transplant service requires specialised facilities and well-trained staff. "Setting up a bone marrow transplant service is a process. At UCI, we have already established

the necessary foundation," Dr Ddungu says. It starts with institutional approval and then building the infrastructure. UCI management, the board, and the Ministry of Health have all agreed

# TRANSPLANT SERVICE

## AND GENETIC BLOOD DISORDERS AT COST ORDINARY UGANDANS CAN AFFORD



Setting up a transplant service requires specialised facilities and well-trained staff



A mammography machine for breast cancer screening



Dr Clement Dove Okello

to support this programme." The institute has already established a stem cell processing laboratory, where collected stem cells will be prepared for transplant, and an apheresis unit, a facility that uses special machines to collect stem cells from donors or patients.

"We are already using apheresis for other procedures, such as exchange transfusions for sickle cell patients, so this is not completely new territory for us," Dr Ddungu says. He adds that six to eight rooms are being prepared

to serve as the transplant unit, equipped with air-controlled systems to minimise infection risks.

"Before a transplant, we clear a patient's system of diseased cells, which makes them highly vulnerable. They need to be in a facility that keeps infections out – and that's what we are building," Dr Ddungu explains.

"We now have a team that includes doctors who specialise in blood diseases, specially trained nurses, laboratory specialists, pharmacists, and other professionals," he explains. "We even have nurses trained to collect stem cells and laboratory technologists trained to process them."

Support services – referred to as ancillary services – are also being strengthened, including blood banking, nutrition, infection management, intensive care, and imaging (X-rays and scans).

"A transplant is not done by one person," Dr Ddungu says. "It takes a team, and that is what we are putting in place." A temporary clean room is already in use as the team prepares to open the larger dedicated transplant unit.

### THE TRANSPLANT PROCESS

While the actual transplant process is shorter than most people think, recovery requires patience and time. "Collecting stem cells takes about three

hours, and giving them back takes about 30 minutes. The longer part is recovery. After transplant, patients are kept in isolation for about four weeks until the new cells start working – a process called engraftment. They remain at or near the facility for at least three months for close monitoring," he says.

### COST AND AFFORDABILITY

The experts agree that a bone marrow transplant is costly, but emphasise that UCI's aim is to make it affordable.

"If a transplant abroad costs around \$50,000, we hope to offer it here for less than \$10,000. With government support and possible partnerships, we could reduce that further or even provide it at no cost to the patient," Dr Ddungu says. Dr Okello adds that UCI is developing a sustainability plan.

"We are a government institution, and our aim is to offer care free of charge. But we also have to think of sustainability. As we start, we will calculate the actual cost for the first few patients to guide future budgeting and funding."

### BURDEN OF CANCERS IN UGANDA

UCI data from 2024 show that the leading cancers among adults were cervical cancer (1,093 cases), breast cancer (791), prostate cancer (764), and

oesophageal cancer (523). Among children, the most common were kidney tumours and leukaemia. These numbers highlight the heavy cancer burden the institute faces and the importance of expanding advanced treatment options.

"Such data help us prioritise research, training and treatment," says Dr Okello. "It also reinforces why we need to prepare for specialised services like bone marrow transplant."

### REGIONAL SIGNIFICANCE, PLANS

The BMT programme is not only a national project but also a regional one.

"We already treat patients from neighbouring countries," says Dr Ddungu. "This programme will make UCI a medical hub for East Africa and Africa. Once we establish it, we will be able to share our expertise and offer affordable services to others in the region."

He says the team will begin with simpler transplants, such as those for multiple myeloma, before moving to more complex cases, including those involving children.

"Transplant is a process, not an emergency procedure," he says. "We will start with adults and gain experience before extending to children. Each step will be taken carefully."

Looking ahead, UCI plans to expand into advanced treatments

such as gene therapy and cell-based therapies – treatments that repair genes or use special cells to fight disease – representing the next frontier in cancer care.

"We want to be a centre of excellence that not only performs transplants but also advances research," Dr Okello says. "We will continue training more people and expanding these services across Uganda."

### LIGHT AT THE END OF THE TUNNEL

As the project nears completion, Dr Jackson Orem, the Executive Director of UCI, describes it as a landmark development for Uganda's health system.

"The establishment of Uganda's first Bone Marrow Transplant programme will be a game changer," says Dr Orem, who is also a doctor, researcher, and cancer specialist. "We are nearly there, painstakingly putting the pieces together." He attributes the institute's steady progress to consistent leadership, long-term vision, and teamwork.

"The success of the Uganda Cancer Institute can best be described as the result of national commitment, the right foundation, and the dedication of a capable team. This programme represents another step toward ensuring that advanced cancer care is available and affordable for every Ugandan," Dr Orem says.

# BEYOND KAMPALA: UGANDA'S EXPANDING CANCER FRONTLINE

By Jacky Achan

For decades, a cancer diagnosis in Uganda came with another kind of pain – the distance between the patient and the only treatment centre in the country. From Gulu, Mbale, Arua, and Mbarara, families travelled hundreds of kilometres to reach the Uganda Cancer Institute (UCI) in Kampala. For many, the cost of transport and accommodation was as devastating as the disease itself.

Fortunately, that situation is changing. The Uganda Cancer Institute – the national referral centre for cancer care – is taking treatment beyond Kampala. Through new facilities, expanded services, and a growing regional presence, UCI is steadily bringing lifesaving care closer to those who need it most.

## BUILDING CAPACITY AND EXPERTISE

The journey began in 2016, when UCI received funding to implement Phase One of the East Africa Centres of Excellence for Skills and Tertiary Education in Biomedical Sciences. The initiative aimed to address the shortage of trained oncology professionals and strengthen cancer management capacity in Uganda and across East Africa.

A major achievement under this phase was the construction of a multi-purpose building at UCI's Mulago campus in Kampala. Designed to integrate education, research, and clinical care, the building houses laboratories, teaching spaces, and treatment facilities under one roof.

## GULU REGIONAL CENTRE

In 2020, UCI established its first regional cancer centre in Gulu – the first facility of its kind outside Kampala. Now fully operational, it offers chemotherapy, radiotherapy, and other specialised services for thousands of patients. At Mulago, UCI operates a 147-bed inpatient facility and serves an average of 450 outpatients daily. Each year, it registers about 8,000 new patients in Mulago, 1,500 in Mbarara, and 900 in Gulu – figures that clearly show the need for decentralisation. The Gulu Centre has already eased the burden on families who once travelled long distances for care, marking the beginning of a new era of accessible cancer treatment.

## EXPANDING REGIONAL ACCESS

Encouraged by Gulu's success, UCI plans to establish three more

**ENCOURAGED BY GULU'S SUCCESS, UCI PLANS TO BUILD THREE MORE REGIONAL CENTRES – IN MBALE, MBARARA, AND ARUA – BETWEEN 2025 AND 2026. THESE FACILITIES WILL ENSURE THAT EVERY REGION OF UGANDA CAN ACCESS TIMELY DIAGNOSIS AND TREATMENT WITHOUT LONG JOURNEYS**

regional centres – in Mbale, Mbarara, and Arua – between 2025 and 2026. These facilities will ensure that every region of Uganda can access diagnosis and treatment without the hardship of long journeys.

Data from UCI shows that only about 15% of patients come from areas around Kampala, while 85% travel from other regions, mostly in the east and north. Such distances often lead to delayed diagnosis and lower survival rates. To bridge this gap, UCI has introduced mobile clinics in Arua and Mbarara and completed land allocation and master planning for the Mbarara Regional Centre. These mobile units provide screening and outreach in local communities, reinforcing UCI's commitment to equitable care.

According to UCI, regional centres will not only save lives but also create jobs, stimulate local economies, and raise awareness about prevention and early detection. Dr Jackson Orem, the Executive Director of UCI, says the long-term vision is to bring cancer services – including awareness – within reach of every Ugandan.

"The regional centres are extensions of UCI – a hub-and-spoke model providing the same quality of care regardless of location. They will also support lower-level health facilities in their catchment areas," he explains.

## HOW UCI'S NEW MOLECULAR IMAGING AND THERAPY CENTRE WILL WORK

The Uganda Cancer Institute (UCI) is setting up a Molecular Imaging and Therapy Centre, also called the PET-Centre, to bring advanced cancer care to Uganda. This centre will allow doctors to see what is happening inside the body at the cellular level, helping them diagnose and treat cancer more accurately. It will also provide Targeted Radionuclide Therapy which is a treatment that delivers small, controlled doses of radiation directly to cancer cells while protecting healthy tissues. This makes treatment safer and more effective. The PET-Centre building will stand 11 storeys high, with seven floors for patient care and four for technical operations. It includes special laboratories for preparing radioactive medicines,

scanning rooms for detailed imaging, research areas for testing new treatments, and comfortable patient wards, including private and VIP rooms. Once completed, the centre will be the largest of its kind in Africa, combining treatment, research, and training under one roof. Patients will no longer need to travel abroad for advanced cancer diagnosis and therapy. UCI is also partnering with local and international institutions, including universities and major cancer centres, to advance research and train specialists. This project positions Uganda as a regional hub for cancer care, offering world-class treatment and strengthening the country's role as a leader in oncology in East and Central Africa, Africa, and beyond.



Surgery at the northern Uganda Regional cancer centre theatres

## STRENGTHENING THE KAMPALA CENTRE

While regional services expand, UCI is also enhancing its main campus in Kampala. One of the largest projects under way is a 350-bed cancer hospital designed to offer comprehensive care – radiotherapy, chemotherapy, surgical oncology, operating theatres, wards, and nuclear medicine – all under one roof. The facility will streamline diagnosis, treatment, and recovery, reducing the need for patients to seek care abroad.

## THE NUCLEAR MEDICINE CENTRE

Another landmark development is the Nuclear Medicine Centre – also known as the PET Centre Housing Project, where UCI is establishing a Molecular Imaging and Therapy Centre. The 11-storey, 25,000-square-metre building features seven floors for patient care and research and four for technical operations.

This high-tech facility will enable doctors to diagnose and treat cancer at the cellular level using advanced imaging technology. It also includes laboratories, specialised production areas



The Uganda Cancer Institute, Gulu Centre, is up and running

for radiopharmaceuticals, and patient-friendly amenities such as spacious wards, green spaces, and ample parking.

## INVESTMENT AND PARTNERSHIPS

UCI's expansion has been made possible through increased government and partner investment. Over the past five

years, the institute's budget has more than doubled – from Sh105.8 billion in 2020-2021 to a projected Sh226 billion in 2025-2026. Much of this funding supports hospital construction, radiotherapy expansion, and the establishment of regional centres.

Key projects include the East Africa Centres of Excellence (funded by the African Development Bank), regional oncology centres in Arua and Mbale (supported by the Islamic Development Bank and Austria), nuclear medicine development, and the main hospital expansion. The Government has also supported oncology fellowships, a National Reference Cancer Laboratory, and a Cancer Research Centre of Excellence.

Dr Orem emphasises that the Institute's vision goes beyond infrastructure: "All Ugandans, regardless of social or economic background, should enjoy the same standard of service. This is the true essence of equity."

# CLOSING THE TRAINING GAP

## HOW THE UGANDA CANCER INSTITUTE IS TRAINING THE NEXT GENERATION OF CANCER SPECIALISTS

By Jacky Achan

Over the past decade, the number of people being treated for cancer in Uganda has risen sharply. In 2015, about 4,194 people came to the Uganda Cancer Institute (UCI) for treatment. By 2024, that number had nearly doubled to 7,943 patients.

About 15% of these patients come from areas near Kampala. The vast majority - roughly 85 - travel from distant corners of the country: 22% from the eastern region, 20.4% each from the northern and central regions, and 18.5% from both the western and north-western regions.

For many, UCI is their last hope - the only place in the country where they can find proper cancer care.

### BRIDGING THE SPECIALIST GAP

As the number of patients grows, another challenge has become clear: there are not enough doctors and health workers trained to handle cancer.

"There is a serious shortage of specialists," says Dr Nixon Niyonzima, who heads the Training and Research Department at UCI. "Training doctors abroad is expensive, so we started training our own specialists here in Uganda." That need is immense. According to UCI's staffing data, the Institute requires more than 2,000 trained staff to run its main and regional centres across the country, yet staffing has grown only from 230 in 2020 to 572 in 2025 - still far below full capacity. To address this shortage, UCI has launched several training programmes to prepare Ugandans to become cancer experts - doctors, nurses, and technicians who can diagnose, treat, and care for patients right here at home.

### BUILDING LOCAL SKILLS

UCI now trains doctors in several key areas. Some specialise in treating adults with cancer, while others focus on children. Some learn to treat cancer using medicine, others through radiation (high-energy X-rays that kill cancer cells), and others learn to operate and remove tumours surgically.

UCI has also started training doctors who handle women's cancers, such as cervical or ovarian cancer, and others who treat cancers that affect the urinary system, including the prostate in men.

Through these training programmes, doctors work directly with patients under



An artistic impression of the PET center under construction at UCI



Dr Nixon Niyonzima, head of the training and research department at UCI



Graduation day for students of the oncology department

**ACCORDING TO UCI'S STAFFING DATA, THE INSTITUTE REQUIRES MORE THAN 2,000 TRAINED STAFF TO RUN ITS MAIN AND REGIONAL CENTRES ACROSS THE COUNTRY, YET STAFFING HAS GROWN ONLY FROM 230 IN 2020 TO 572 IN 2025**

the guidance of experienced specialists. They also learn to carry out studies that help improve how cancer is treated in Uganda.

UCI is even working with the College of Anaesthesiologists of

East, Central and Southern Africa (CANESCA) to train anaesthetist doctors who give medicines that help patients sleep safely during operations. This will enable more Ugandans to undergo cancer surgery safely and promptly.



### TRAINING HEALTH WORKERS

The Uganda Cancer Institute (UCI) trains a wide range of health workers—including nurses, pharmacists, laboratory staff, and community health educators—to improve cancer care across Uganda. It offers short courses and certificate programmes in areas like cancer genetics and tumour immunology, giving local professionals access to modern treatment methods once only available abroad. UCI's progress is driven by strong partnerships with international institutions such as the Fred Hutchinson Cancer Centre, the University of Washington, Cambridge, and Minnesota, as well as local collaborations with Makerere University, major hospitals, and regional universities. Support from organisations like KOFIH, the Korean National Cancer Centre, Sanofi, and Roche provides training, equipment, and research funding, helping UCI become a leading African centre that unites cancer treatment, training, and research.

in Uganda. In 2024, the leading cancers among adults were cervical cancer (1,093 cases), breast cancer (791), prostate cancer (764), and oesophageal cancer (523). Among children, the most common were renal tumours and leukaemia. Such data not only guide research priorities but also highlight the urgency of training specialists in each cancer type.

### A VISION FOR THE FUTURE

Dr Niyonzima says UCI's goal is to ensure that every Ugandan with cancer can find expert care within the country, without having to travel abroad or long distances to Kampala.

He adds that, with patient numbers rising and partnerships multiplying, UCI's investment in local training is ensuring that Uganda - and the East African region - will have its own skilled specialists leading the fight against cancer, inspired and determined to save lives.

### RESEARCH HELPING TO SAVE LIVES

In addition to training, UCI is carrying out vital research to better understand cancer in Uganda. In 2025 alone, the institute's staff published 38 research papers in international journals.

Their studies covered many areas - from how to prevent and detect cancer early to how to treat childhood cancers and improve care for patients in low-income settings. Many of these studies were conducted with support from UCI's international partners.

Research has also shown which types of cancer are most common

## UGANDA CANCER INSTITUTE EXPANDS INFRASTRUCTURE AND EQUIPMENT TO BOOST CANCER CARE

Construction is also underway for a 350-bed cancer hospital, designed to centralise services such as radiotherapy, chemotherapy, and surgical oncology



# BUILDING HOPE: INSIDE UGANDA'S CANCER CARE EXPANSION

By Jacky Achan

The Uganda Cancer Institute (UCI) is undergoing a major transformation as it expands its infrastructure, technology, and training capacity to meet the country's growing cancer burden and strengthen its position as a regional centre of excellence in oncology.

According to UCI Executive Director, Dr Jackson Orem, the current infrastructure drive is, "the most ambitious in its history," aimed at decentralising cancer care, enhancing diagnostic capacity, and introducing advanced treatment technologies.

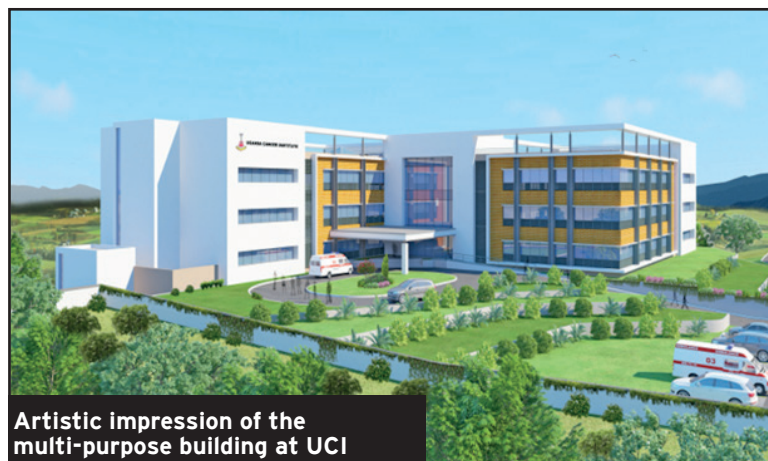
"We are building systems that match global standards in both patient care and research. This investment will redefine cancer management not only in Uganda but across East Africa," Dr Orem says.

### MODERN RADIOTHERAPY

The division of radiation oncology remains a cornerstone of UCI's operations.

It currently manages up to 240 patients daily and more than 3,000 new cases annually. The division operates three Varian TrueBeam linear accelerators, two Cobalt-60 teletherapy units, and three BEBIG high-dose-rate brachytherapy afterloaders, supported by modern CT and simulation suites.

Dr Winfred Kiggundu, a radiation oncologist, says the technological upgrades have significantly improved precision and patient



Artistic impression of the multi-purpose building at UCI

outcomes. "With the introduction of IMRT, VMAT, and 3D image-guided brachytherapy, we can now deliver highly targeted treatment while minimising side effects," she explains.

Over the past decade, UCI has transitioned from 2D radiotherapy to advanced 3D and volumetric techniques. The latest addition, 3D image-guided brachytherapy, introduced in 2024, has been

particularly impactful for treating cervical cancer, Uganda's most common malignancy among women.

The division's work extends beyond treatment. In 2023, UCI launched two fellowship programmes—Radiation Oncology and Medical Physics—both recognised by the International Atomic Energy Agency (IAEA). A Radiation Therapy Technologist

therapies locally—services that previously required travel abroad."

Once completed, the 11-storey PET Centre housing project—covering 25,000 square metres—will be one of the largest oncology facilities in Africa, integrating diagnostics, treatment, research, and training under one roof.

### NEW HOSPITAL AND MULTIPURPOSE CANCER COMPLEX

Construction is also underway for a 350-bed cancer hospital, designed to centralise services such as radiotherapy, chemotherapy, and surgical oncology. The facility will improve treatment outcomes, enhance patient comfort, and reduce medical travel costs.

Parallel to this, UCI is completing a Multi-Purpose Building for Cancer Care, Research, and Training, part of the East Africa Centres of Excellence Project funded by the African Development Bank.

"These facilities will not only serve Uganda but the entire region," Dr Orem says. "We envision Kampala as the oncology hub of East Africa."

### GOVERNMENT SUPPORT AND GLOBAL PARTNERSHIPS

The Government investment in UCI has increased steadily over the past five years—from sh105b in FY 2020/21 to a projected sh226b in FY 2025/26, with most of the funds directed towards capital development.

UCI's growth is also supported by partnerships with international institutions such as the Fred Hutchinson Cancer Centre, University of Cambridge, University of Washington, Christie NHS Trust (UK), and several African universities. "These collaborations are helping us advance clinical research and build local expertise," notes Dr Orem.

In 2025 alone, UCI produced 38 peer-reviewed research publications, covering topics from paediatric oncology to molecular diagnostics and health systems policy—evidence of its growing academic role.

### LOOKING AHEAD

From the installation of high-tech radiotherapy machines to the construction of new hospitals and research centres, UCI's expansion signals a new era in Uganda's fight against cancer.

"We are moving from catching up to leading. Our goal is to ensure that every Ugandan can access world-class cancer care without leaving the country," says Dr Ddungu. As UCI's infrastructure rises across the Mulago campus, so too does hope—for patients, families, and the region at large.

Training Programme is set to begin in 2025. "We are not just treating patients; we are training the next generation of African oncologists. This is how we build sustainability," says Dr Clement Dove Okello, a haematologist and oncologist at UCI.

### MOLECULAR IMAGING AND THERAPY

Another milestone is the establishment of the Molecular Imaging and Therapy Centre, also known as the PET Centre, now 95 per cent complete. The facility houses Africa's first Siemens Symbia Intevo Bold Eco SPECT-CT scanner and features state-of-the-art radiopharmacy laboratories, including a clean room and isotope preparation suites.

The centre will introduce Targeted Radionuclide Therapy (TRT), offering treatments such as I-131 and Lu-177 for thyroid and neuroendocrine cancers.

"This is a game-changer," says Dr Henry Ddungu, a senior specialist at UCI. "For the first time, Ugandans will access molecular imaging and targeted