

Scientists behind Uganda's first bone marrow transplant

The landmark procedure was carried out by a diverse team comprising consultant haematologists, pharmacists, laboratory scientists, nurses, a nutritionist, a biomedical engineer, cleaners and an economist, among others.

BY TONNY ABET

A multi-disciplinary team at the Uganda Cancer Institute has achieved a historic milestone in specialised medical care by successfully conducting the country's first bone marrow transplant to treat multiple myeloma, a type of blood cancer.

The landmark procedure was carried out by a diverse team comprising consultant haematologists, pharmacists, laboratory scientists, nurses, a nutritionist, a radiation oncologist, a biomedical engineer, special cleaners, and an economist, highlighting the comprehensive effort required for such a complex medical intervention.

Dr Clement Okello, the lead transplant physician and consultant haematologist at the Uganda Cancer Institute, described the achievement as the culmination of years of meticulous planning, numerous setbacks, and unwavering determination to establish a sustainable local bone marrow transplant programme.

He said the plan began around 2016, and they initially hoped to partner with established bone marrow transplant centres abroad, but the collaborations they pursued did not materialise as expected.

He added that despite the initial setbacks, the team received crucial funding from the government, which enabled them to push forward.

With this support, Dr Okello, together with Dr Henry Ddungu, led a core team on benchmarking visits to world-class facilities in the United States and India.

"We visited a top-notch centre in the USA and then a centre in India to understand both the advanced and more practical models," Dr Okello said.

The visiting team included nurses, pharmacists, and laboratory scientists — the core professionals who would later lead the programme.

"Interestingly, we realised that many of our machines at the Uganda Cancer Institute were actually more advanced than those we saw in the Indian centre we visited," Dr Okello said. "That experience gave us confidence that we could successfully perform these procedures here in Uganda."

Despite reaching out to international centres for further collaboration and guidance while developing their standard operating procedures (SOPs), the team received limited response.

Undeterred, they proceeded independently. "So we were like, guys, are we going just to depend on them? But it did not deter us. We went forward and wrote our SOPs," Dr Okello says.

"And so once we ticked all our boxes, we saw that we were really good to go. Then we sounded that we now need a patient for transplant. Luckily, Dr Fred Kuku sent us Sande Stephen." Sande is the first patient to benefit from a bone marrow transplant done in Uganda at UCI.

According to the scientists, doing this locally will reduce the cost of a bone marrow transplant from around \$50,000 incurred abroad to just around \$15,000.

1. Dr Clement Dove Okello. He is a consultant haematologist at UCI and a lead specialist in the transplant. Dr Okello, 44, graduated from Makerere University with a Bachelor's of Medicine and Surgery, Master's of Medicine in Internal Medicine, and Doctor of Philosophy (PhD). He has been at the Uganda Cancer Institute since the year 2013. Currently, he is a Consultant Haematologist at the Uganda Cancer In-

Some team members



Dr Fred Okuku, the consultant oncologist.



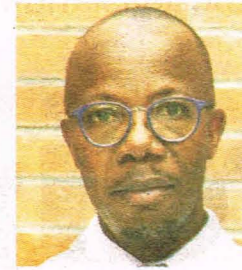
Hanifah Nabbanja, a critical care nurse.



Clement Okello, lead transplant physician.



George William Mugerwa, a nursing officer.



Dr Henry Ddungu, the lead doctor.



Ezra Anecho, a health economist.

stitute. Although bone marrow transplant was thought about as a treatment option at the UCI a while back, the programme picked up momentum in July 2023 when Dr Okello was appointed as the Head of the Unit. Since then, he has formed a formidable team and led them to perform the first-ever bone marrow transplant in Uganda.

2. Dr Henry Ddungu. He is the lead doctor in the transplant. Dr Ddungu graduated from Makerere University in 1998 and later did his MMed (Internal Medicine) from the same university in 2003. Dr Ddungu is currently a senior consultant (Hematology | Oncology) at the Uganda Cancer Institute, where he is the Head of the Division of Medical Oncology and Hematology. He is interested in advancements in the treatment of both classical and malignant hematological illnesses, including immunotherapy and cellular therapies (BMT).

3. Alfred Komakech. He is a regis-

tered pharmacist, member of the Pharmaceutical Society of Uganda, holding Bachelor of Pharmacy and a Master's of Science (Cancer Biology), Korea. He is currently working as a senior pharmacist, Head of Oncology Pharmacy Division, UCI, and a pharmacist on the bone marrow transplant.

4. Hanifah Nabbanja. She is a critical care nurse with over 15 years' experience in oncology care. She works as a nursing officer at the UCI and the head of Nursing for the BMT at the UCI.

5. Ritah Bafumba. She is a nurse manager of the Haematology and Oncology ward and apheresis unit of the UCI. She has over 15 years' experience in Oncology nursing.

6. Gladys Nalule. She is an assistant nursing officer. She has a qualification of Bachelors of Nursing. She has five years of experience in cancer care.

7. Babra Atuheire. She is a nursing officer at the UCI with a Bachelor of Sci-

ence in Nursing. She is trained in apheresis procedures and has vast experience in paediatric oncology.

8. George William Mugerwa. He is a Nursing Officer at the UCI. He holds a Bachelor's Degree in Nursing.

9. Sylvester Kadhumbula. The laboratory scientist performed tests to ensure the patient was fit for transplant and helped provide results to handle emergencies.

10. Francis Odongo Nyandejje. He is a Medical Laboratory technologist with eight years of experience in cancer diagnostics and biomedical research. His role in the team was in the collection, processing, and storing of bone marrow stem cells as well as running routine laboratory tests for the patient.

12. Tumwizire Gad. He is a Medical Laboratory Technologist at the Uganda Cancer Institute. He plays a key role in patients' sample handling and testing in the laboratory for the BMT procedure.

13. Dan Baluku. He is a medical laboratory professional in the division of Pathology and Laboratory Medicine at the (UCI). He was part of the team that carried out Uganda's first successful bone marrow transplant, supporting the laboratory work behind the procedure.

14. Ssemujju Joseph. He is an oncology nutrition specialist at the Uganda Cancer Institute (UCI), where he founded and leads the Nutrition Services Division. A nurse by initial training, he developed a deep passion for addressing the nutritional needs of cancer patients after seeing how malnutrition affected their treatment outcomes.

15. Mr Ezra Anecho. He is a health economist and researcher working with the Uganda Cancer Institute. He is part of the Bone Marrow Transplant team and is responsible for ensuring the programme is sustainable. He was responsible for economic modelling and costing the programme to guide the institution on how to sustain the programme. He oversees the grants and research office at Uganda Cancer Institute.

16. Moses Lopuka. He is a biomedical engineer at the UCI with a Bachelor's and Master's degree in Biomedical Engineering. He plays a critical role in medical equipment management, technical support during clinical care, safety and quality assurance and technology planning and procurement.

Dr Fred Okuku. The consultant oncologist managed/treated the patient before referring him to the bone marrow transplant team.