

GLOBAL SURGICAL INITIATIVES INC.

ANNUAL REPORT 2025-26

YEARS 2025-2026
ISSUE 4

Leveraging technological and financial innovation

For better surgical care
training, education and
capacity building

Launch of Simulation Lab

State-of-the art new dynamic
training platform
First of its kind in East Africa
Multiple training programs

Women's Health Clinic

Empowering access to local
gynecological care
Cervical and breast cancer
screening and early treatment
Focus on capacity building
and service expansion



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OUR VISION AND MISSION

Leading the way in sustainable surgical care for underserved populations.



Our Mission

Build high quality access to environmentally and financially resilient, locally led, and globally supported surgical care delivery in underserved communities.



Our Vision

Establish the leading global network and scalable playbook for a thriving ecosystem of sustained quality surgical care delivery in underserved communities.



In 2024-2025, GSI was focused on operational excellence, setting the organization up to scale to additional surgical care sites in 2025 and beyond.

Impact to Date



30,170
patients served

>57%
female patients

2,600
procedures completed
in 2024-25



18%
increase since
2023



\$2.1M
net impact

8,244
procedures
conducted



>336
communities impacted

%
nce

"From simulation labs to life-saving surgeries, GSI is reshaping surgical care for 300 villages across sub-Saharan Africa."

LETTER

FROM THE PRESIDENT AND CHAIRMAN OF THE BOARD

This year's annual report encompasses a period of remarkable growth for Global Surgical Initiatives (GSI) and the Global Surgery Program at Mount Sinai. What began as a mission-driven effort to enhance access to surgical care delivery in underserved communities, has become a model of excellence for fit-for-purpose surgical infrastructure across limited resource settings. Six years into delivering high quality, data-driven and locally-led sustainable surgical care, GSI is ready to bring its knowledge and expertise to scale at a secondary site in sub-Saharan Africa.

In 2024-25, we accomplished many firsts. We established the first laparoscopic simulation lab in East Africa, training over 22 surgeons and counting. We conducted our first breast reconstruction surgery case enabled by teleproctoring, in collaboration with our partners at Mount Sinai Health System, expanding our impact in women's health. In collaboration with Olympus Corporation, Boston Scientific, the Uganda Cancer Institute, the Uganda Embassy in Washington D.C., and the African Esophageal Cancer Consortium (AfrECC), we held a week-long esophageal cancer awareness and stent training workshop serving 26 patients at our flagship surgical center in Uganda - the Kyabirwa Surgical Center. Thanks to new Intelliblate™ technology distributed by Varian Siemens Healthineers, we performed the first microwave liver ablation cases in East Africa. We also completed the first sale of Renewable Energy Certificates (RECs™) validated by our third party partner PowerTrust and sold to Johnson & Johnson, originating from remote solar-powered healthcare facilities across Uganda. These achievements

demonstrate our commitment to excellence in delivering surgical care outcomes, regardless of where patients are.

Our impact performance speaks for itself:

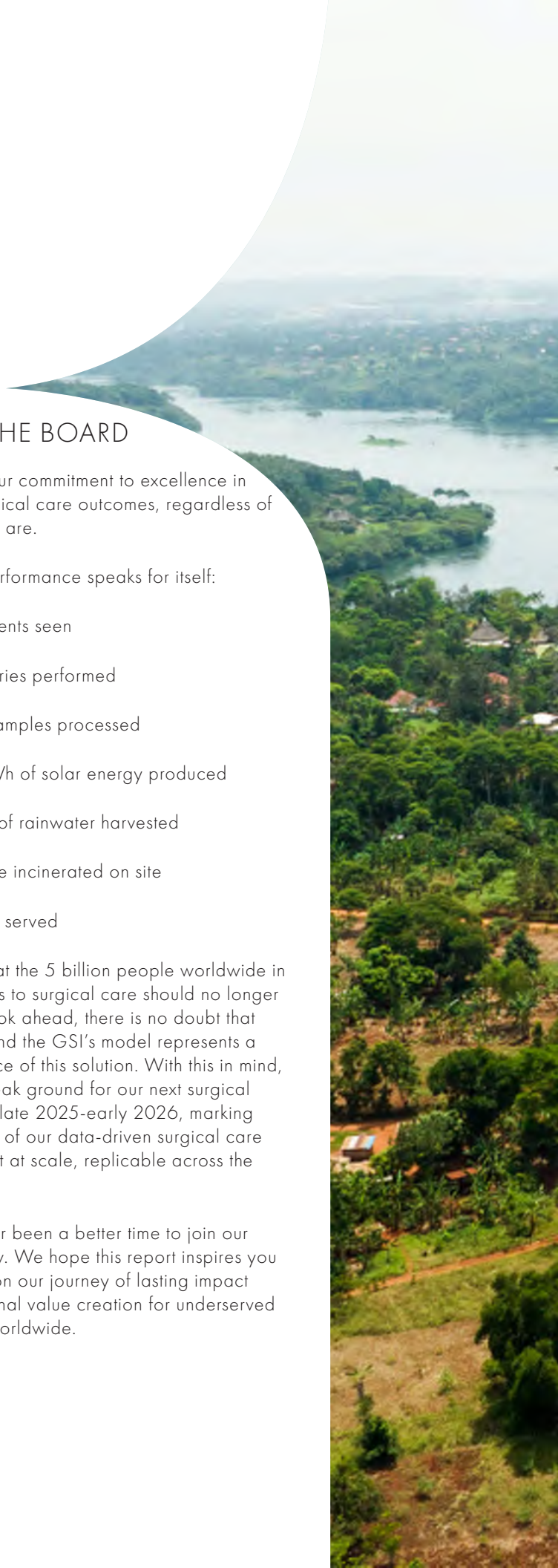
- ▶ 30,000 patients seen
- ▶ 8,000 surgeries performed
- ▶ 8,000 lab samples processed
- ▶ 200,000 kWh of solar energy produced
- ▶ 2M gallons of rainwater harvested
- ▶ 90% of waste incinerated on site
- ▶ 300 villages served

We believe that the 5 billion people worldwide in need of access to surgical care should no longer wait. As we look ahead, there is no doubt that Mount Sinai and the GSI's model represents a significant piece of this solution. With this in mind, we plan to break ground for our next surgical care center in late 2025-early 2026, marking the next phase of our data-driven surgical care model's impact at scale, replicable across the globe.

There has never been a better time to join our effort than now. We hope this report inspires you to support us on our journey of lasting impact and generational value creation for underserved communities worldwide.



Michael L. Marin, M.D., F.A.C.S.
President & Chairman of the Board, GSI





GLOBAL SURGICAL INITIATIVES BOARD OF DIRECTORS

We would like to thank our Board of Directors for their continued guidance, support and contributions.

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Dr. Jerome Waye, M.D.
George K. George
Jay Lieberman
Mark and Laura Yockey
Noel Grunwaldt
Richard Prince
Sarah van Hellenberg Hubar-Fisher

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Maurice Carper, Treasurer
Dr. Jeanne Franck, M.D, D.V.M

GLOBAL SURGICAL INITIATIVES DONORS

We would like to acknowledge and thank all of our generous donors for making our work possible and ensuring continued access to quality surgical care for underserved communities.

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Frederick J. Dymek
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Henry Labalme and Jeanne McMullin
Marcy Macmillan
Lester Silver, MD and Maryann Silver

2024 HIGHLIGHTS

November 2024 Concert and Benefit Dinner

We thank our Board of Directors for their unwavering commitment to supporting GSI's activities and for making the 2024 fundraising event a success.



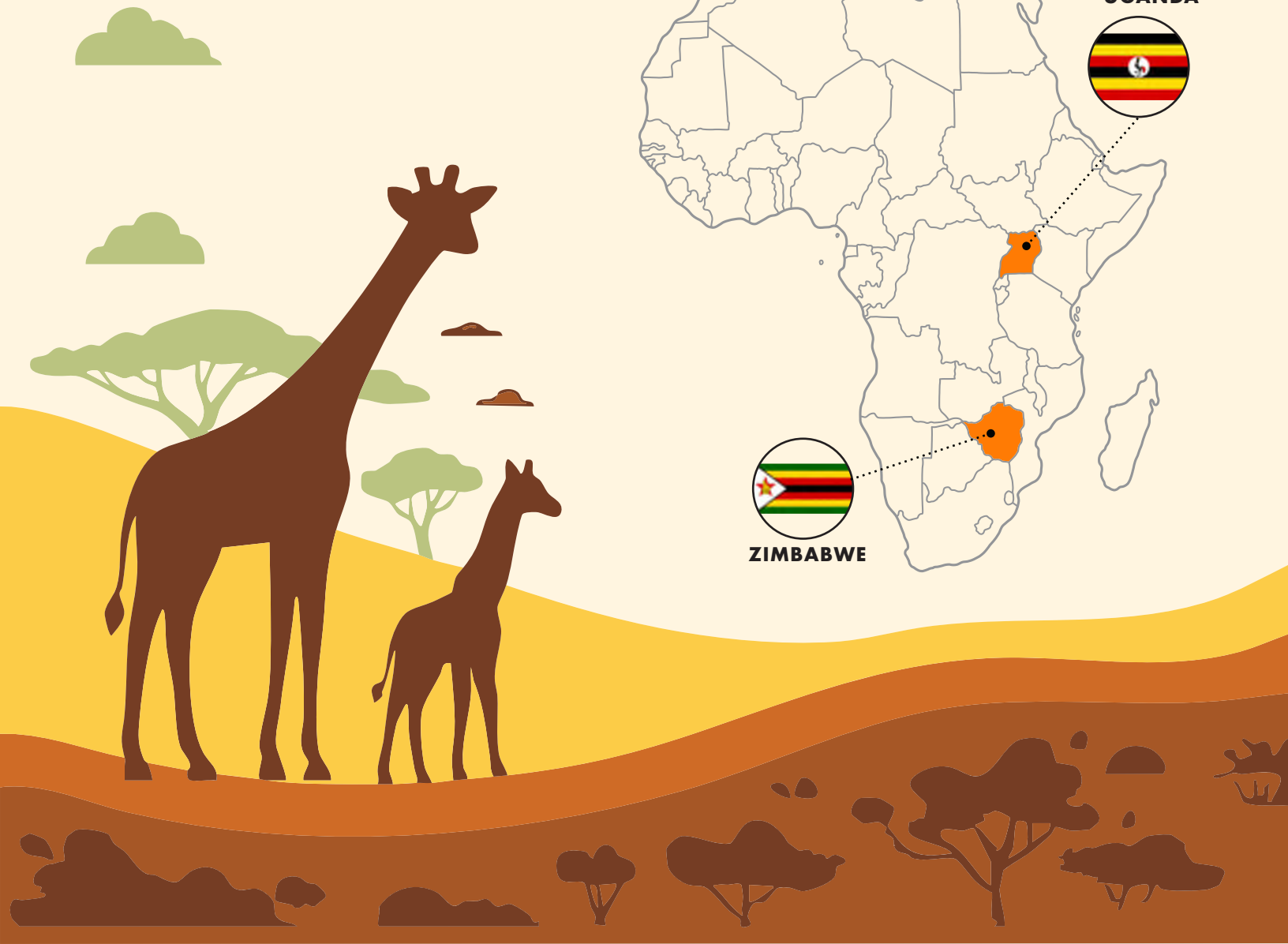


2025 and Beyond: Scaling for Impact

Grounded in its lessons learned and success to date, Global Surgical Initiatives (GSI) and the Department of Surgery at Mount Sinai, New York will focus its efforts on scaling its activities for impact at scale. Starting in 2025, GSI plans to establish and launch a new surgical care, training, and research center in the sub-Saharan African region approximately every two years. To do so, GSI will adopt a strategic scaling model, whereby each new surgical care center site will be anchored in collaboration with one academic medical institution, a strategic operational funding partner, and the local community(ies) which it will serve. This approach will ensure that we leverage partners' comparative advantages to deliver value where it is needed the most, without duplicating efforts or resources.

As we scale, we will retain our core ethos ensuring that each new center of excellence in surgical care, training, and research is locally-led and staffed, driven

by community-based needs and drawing upon in-country expertise. Grounded in our successful experience implementing the Kyabirwa Surgical Center in Uganda – GSI's flagship surgical care center, our approach will seek to use local materials, construction techniques, and labour to build subsequent centers, exclusively relying on renewable energy including solar power and collected rainwater. As we enter this new phase of operational expansion, partnerships – with local communities and healthcare providers, national and local governments, the private and not-for-profit sector will remain at the core of our activities. To support our scaling efforts, GSI will also establish an Advisory Board, independent of its Board of Directors, composed of interdisciplinary practitioners from the healthcare, finance, sustainability, and technology sectors whose knowledge and expertise will help guide us through our operational scaling.





GSI anchors the First Ugandan healthcare renewable energy certificate bundle

Consistent, reliable power supplies are central to delivering essential, basic healthcare services and powering needed medical equipment for safe and timely care such as trauma and surgical procedures. Yet, nearly one billion people in low- and middle-income countries (LMICs) are served by healthcare facilities with no, or unreliable, energy access. Even when connected to the grid, power supplies are often unreliable, with over 68,000 healthcare facilities worldwide experiencing daily power outages. Sustainable energy solutions, such as solar energy, represent one important approach to ensuring sustainable energy for healthcare facilities.

Building on this opportunity and in partnership with Powertrust and corporate buyer, Johnson & Johnson, GSI, anchored the issuance and sale of the first Ugandan Health Renewable energy certificate (REC). This bundle covered 39 public and private healthcare facilities across Uganda in 2023, including GSI's flagship facility, the Kyabirwa Surgical Centre (GSI). This project demonstrated how selling RECs from distributed solar projects provides sustainable financing for healthcare facilities' operations and maintenance (O&M) energy costs in LMICs. It further showed that associated social (health) co-benefits can crowd-in capital from corporate buyers seeking to support renewable energy use in healthcare.

This success will inform the establishment of a verifiable methodology to value, validate, and issue tradable combined assets for environmental and social impact in the form of trademarked Global Health Credits™ and Global Surgery Credits™ to be registered in 2025. The methodology will ensure transparent data validation and support third-party auditing processes, providing a novel mechanism to catalyze private capital for healthcare facilities' sustainable O&M financing.

Lessons learned:

- ▶ REC transactions tied to social benefits enable transparent validation and clear use of proceeds to support sustained O&M financing solutions for healthcare facility electrification ;
- ▶ The anchor generator, GSI, both sourced and showcased to the buyer the value of environmental attribute transaction tied to social benefits;
- ▶ Issuing tradeable credits that combine environmental and social benefits can attract private capital for positive social outcomes, particularly from buyers (i.e. corporate) aligned to the credit outcomes.
- ▶ This work demonstrated a double bottom line opportunity of interest to corporate buyers and represents the first step in connecting environmental and social values into blockchain-enabled tradable asset listings.



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“Typically, only large-scale renewable energy projects can sell their environmental attribute certificates on global markets to corporate buyers seeking to decarbonize. By bundling renewable energy certificates (RECs) issued from multiple small scale healthcare projects across Uganda, we provided Johnson & Johnson with a high climate and social impact sustainability solution. This transaction, anchored by GSI, supported both public and private healthcare facilities in covering their energy operations and maintenance costs and represents a scalable model for other low-resource contexts.”

- Ricky Buch, Co-Founder and Chief Technology Officer, Powertrust

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Access to reliable power supply represents a key part of ensuring climate-resilient healthcare systems. We saw that many renewable energy systems delivered to clinics in Africa were failing due to lack of resources to maintain them. We decided to work with GSI and Powertrust to identify a workable model to support clinics’ ongoing operation and maintenance. Not only does a reliable power system improve resilience, it also enables better patient outcomes, which is even more critical.

Phil Dahlin, Global Director of Sustainability, Johnson & Johnson

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United Nations General Assembly 2024: GSI discusses Diversity in Clinical Trials

On the sidelines of the 79th United Nations General Assembly in New York, GSI discussed opportunities to unlock diversity in clinical trials alongside esteemed private and public sector guests invited to attend a closed-doors roundtable discussion hosted by Clinton Global Initiative. During this session, GSI's CEO, Sarah van Hellenberg Hubar-Fisher, outlined GSI's ongoing efforts to identify, fundamental genetic variants predisposing local patient communities, including women, to specific disease subgroups and subtypes. These insights aim to inform the development of effective diagnostic and therapeutic approaches tailored to local population groups, contexts, and conditions.

As part of this discussion, GSI's Equity in Rural Population Genomics Program (ERPG) was showcased, including its Women's Health Program and its alignment with national ethical protocols and guidelines such as informed consent. GSI's ERPG is carried out in collaboration with Mount Sinai Hospital's (USA) Million Health Discoveries Program, which ethically sources data from the wealth of genetic and genomic material collected as part of routine surgical care at KSC. Sarah also presented GSI's aspiration to support equitable representation in research and clinical care for underserved and underrepresented populations by establishing a large and dispersed network of genetic biobanks in rural Africa, linked to GSI-established or -affiliated surgical centers. This session provided a platform for subsequent collaboration opportunities with public and private sector actors to identify next generation diagnostics and therapeutics for specific isolated, or endemic, diseases affecting rural and remote communities in sub-Saharan Africa. These efforts are grounded in deep genetics and genomics analyses of local patient populations.

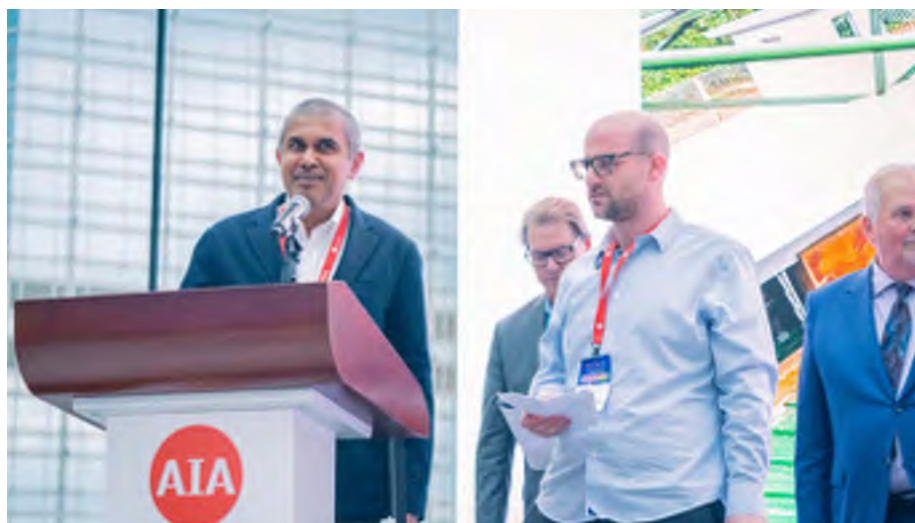


In 2024, Dr. Zhang and colleagues at Mount Sinai Health Systems (USA) published a manuscript investigating patients' understanding of informed consent within the context of endoscopic procedures at the Kyabiwa Surgical Center (KSC) in Uganda. This research represents GSI's commitment to upholding the highest standards of research ethics, including informed consent, when carrying out investigations at its flagship center in rural Uganda. Study findings indicated that most patients understood the role of endoscopic procedures in their care, despite ongoing fears surrounding the surgical intervention itself and associated anesthesiologic procedures. This research has informed additional studies aimed at understanding the nature of patient fears surrounding surgical procedures, as well as patient education efforts carried out by KSC with communities in eastern, rural Uganda.

For additional information on this research, or to access the full study, kindly contact Dr. Linda Zhang at: linda.zhang@mountsinai.org

● **Global Surgical Initiatives (GSI)'s Kyabirwa Surgical Center wins international Architectural Award**

On 26 October 2024, George K. George, Principal GKG, received an Honor Award from the American Institute of Architects (AIA) for the architectural design of GSI's Kyabirwa Surgical Center new overnight stay facility. This award recognizes outstanding architecture that can inspire fellow practitioners, governments and the public around the world. He also received the Sustainable Future Award, recognizing the project's combined exceptional design and sustainability. Both prizes were awarded during the 2024 Design Awards Ceremony at The Henderson in Hong Kong, as part of the AIA International Conference Hong Kong: Architectural Intelligence.



● **Dr Zhang awarded NIH Grant to Support Recover@Home study at Kyabirwa Surgical Center**

The Kyabirwa Surgical Center's groundbreaking program, Recover@Home, reimagines post-operative care by enabling nurses to monitor patients' recovery in their homes following ambulatory surgery. By providing fast access to patient information through clinic-based electronic medical records, the App guides field nurses in making evidence-informed care decisions and flagging any patient abnormalities through alerts delivered to the surgeon in real-time. This innovative model has secured over \$USD 250,000 in funding from the National Institutes of Health (NIH) to assess its feasibility, cost-effectiveness, and acceptability. Over the course of this two-year study, we aim to demonstrate that same-day discharge after surgery can lead to safe at-home recovery while significantly reducing costs for both patients and healthcare

facilities—findings already supported by our preliminary data. Ultimately, we envision this model transforming surgical care in low-resource settings across Africa, shifting the paradigm from prolonged inpatient stays to efficient, high-quality ambulatory surgery.

Since its inception in 2020, the program has conducted a total of 18,596 visits (in-person and virtual), including 2,305 home visits at three- and seven-days post-operation, and 4,402 follow-up calls at one, fourteen-, and thirty-days following operation in 2024-25 alone. The program has achieved nearly 100% staff acceptance with regular improvements made to enhance efficiency and usability.

"Our team's concerted effort has seen the Kyabirwa Surgical Center grow from an average of 4-5 surgeries per day two years ago, to an average of 8-9 surgeries today! We are excited to see how far we've come and imagine where we are headed, together. As James Cash Penny said "Growth is never a mere chance; it is the result of forces working together ."

LETTER

FROM THE DIRECTOR OF KYABIRWA SURGICAL CENTER

To our Esteemed Partners and Stakeholders,

Five Years, Countless breakthroughs!

2024-25 was no ordinary year at Kyabirwa Surgical Center (KSC)! In addition to our new award winning, spacious overnight stay infrastructure expansion, 2024 also marked 5 years of providing needed ambulatory surgical care in Uganda! A 2023 study conducted by ResearchGate, revealed that 60% of businesses in Uganda do not survive to see their fifth year. We do not take it for granted that we have made it this far! We know that without the support of our founders, donors and countless partners at Mount Sinai Health System in the USA and beyond, we would not have made it this far!

Despite ongoing construction and subsequent transition from one to all four new surgical care structures, we nonetheless witnessed a 9% increase in surgeries performed and 20% growth in patient volume through our diagnostic center. Now that the efforts that came with KSC's expansion are behind us, we project an even larger growth in the coming year - 15-20% for surgeries a projected 30 % growth in patient numbers for diagnostics.

As a year of breaking ground, we also launched our innovative, high-tech powered Simulation Lab, the first of its kind in Eastern Uganda. The Simulation Lab hit the ground running, featuring various training courses that saw over 35 doctors and nurses from KSC and across Uganda trained in various groundbreaking courses. The highlight of this new facility was the launch of the first training in Africa in laparoscopic surgery by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). In less than one year, we have already registered students for over three other courses to be trained in this new Simulation Lab.

As we reflect on our progress in this Annual Report, I would like to express my sincere gratitude to the now 70 KSC staff who work tirelessly to make our vision a reality. Without them, we would have nothing to show! I also thank our mentors and partners at Mount Sinai Health System who are neither halted by the distance nor the time difference as they tirelessly dedicate themselves to upskilling KSC's team into better surgery practitioners. Finally, I wish to appreciate our Founder and Chairman of the Board, Dr. Michael Marin who steadfastly demands excellence and nothing less - for that we remain indebted to him in continuing to motivate us to set the bar high so that we provide the best health outcomes to our dear patients.



Anna Turumanya Kalumuna, PGDM, MHSM

Director, Kyabirwa Surgical Center, GSI





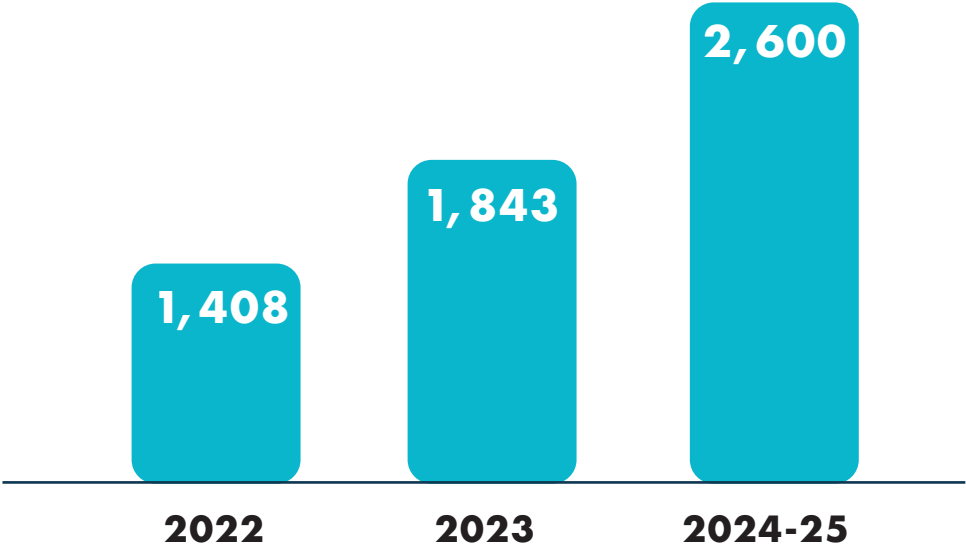
IMPACT TO DATE KYABIRWA SURGICAL CENTER



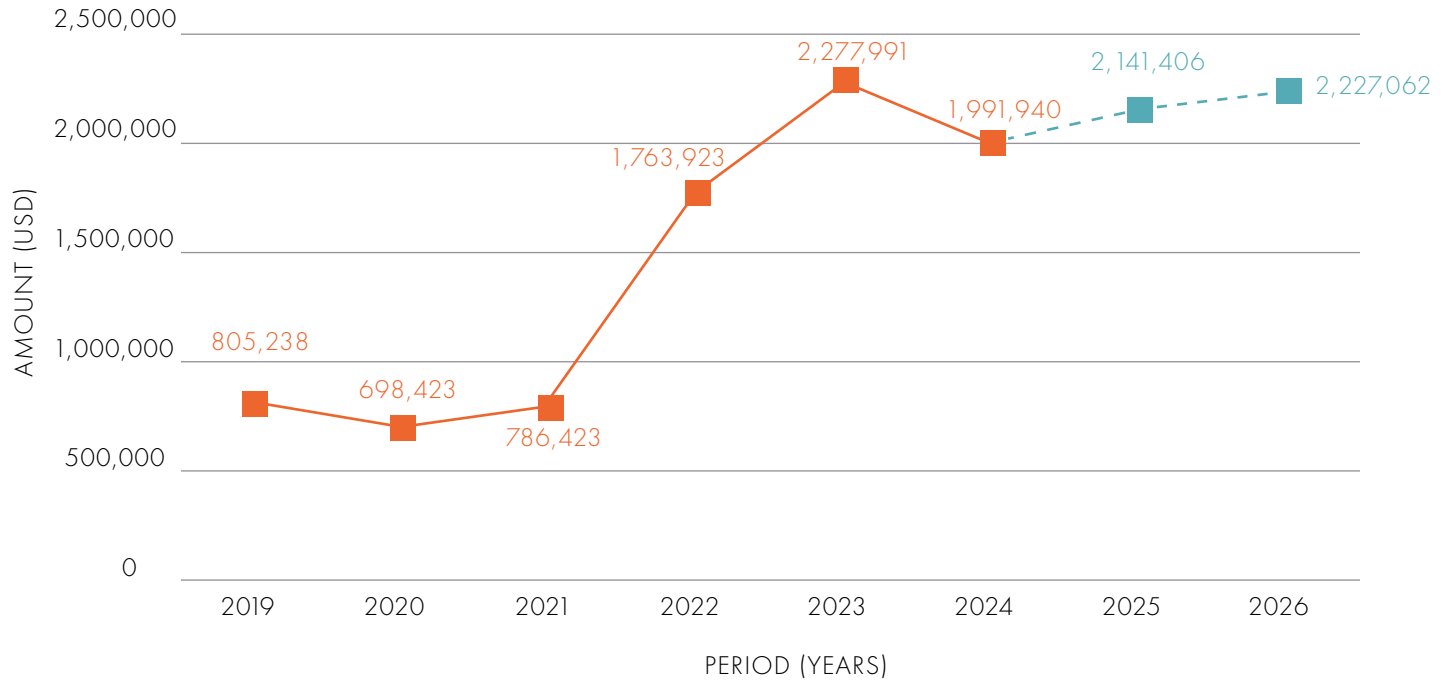
As an evidence-based organization, we use disability-adjusted life years (DALYs) to quantify our total net impact. DALYs represent years lost due to poor health, disability, or early death. For surgically correctable conditions, a surgical procedure avoids future years spent with that disability. This is referred to as DALYs averted. Every DALY has an economic impact reflecting the decrease in productivity due to the condition. This allows us to calculate KSC’s “net impact,” which is the economic impact minus the cost of the surgical center. In 2022, we reported a total net impact above \$USD 1.7 million, up from \$USD 698,423 in 2020 and \$USD 786,423 in 2021. In 2025, our net impact will reach \$USD 2,141,106 million by the end of the year and is expected to keep growing.

- Total net impact
- Total gross impact by procedure type
- Projected financial savings from surgical procedures

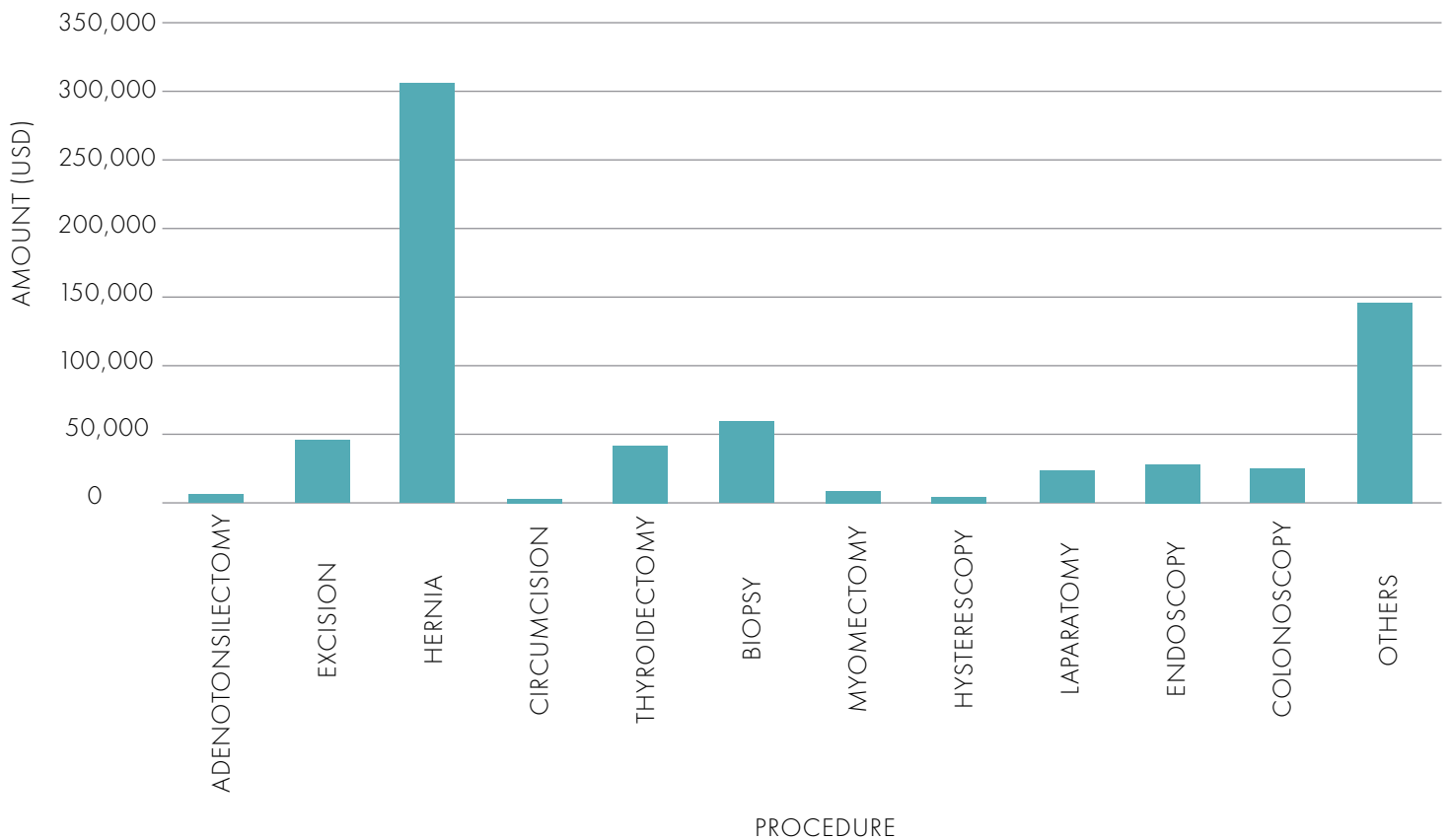
TOTAL NUMBER OF SURGERIES



NET IMPACT BY PROCEDURE (\$USD)



FINANCIAL SAVINGS 2024-25(\$USD)





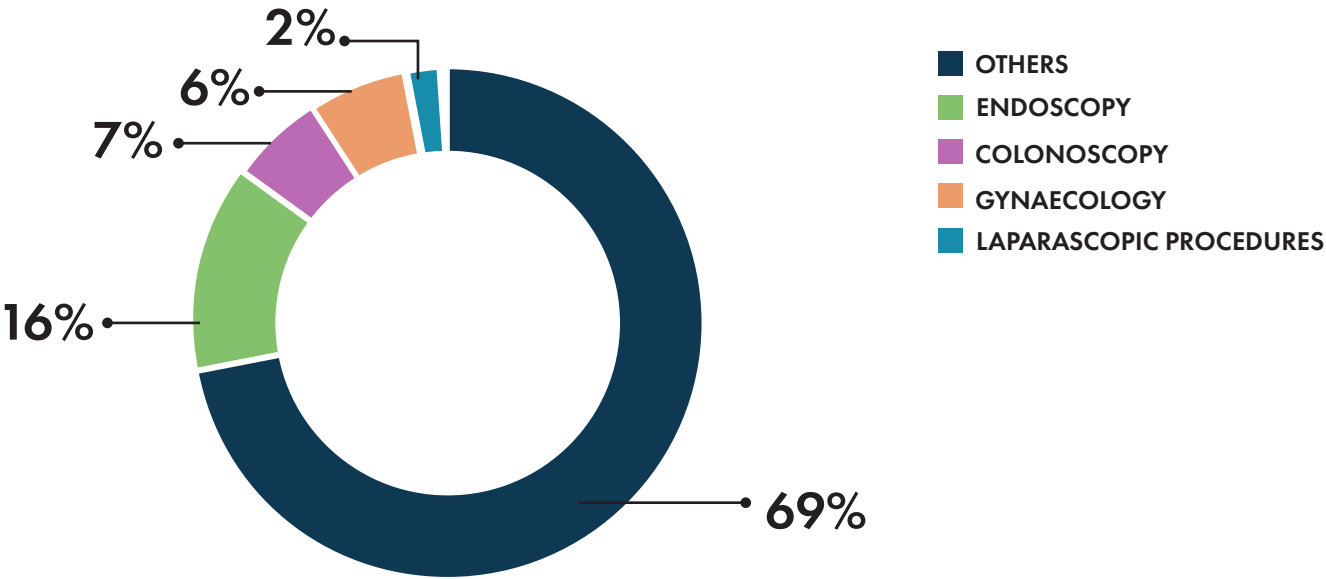
KEY ACHIEVEMENTS

The net impact by procedure is expected to nearly triple — from \$786,423 in 2021 to **\$2,227,062** by 2026

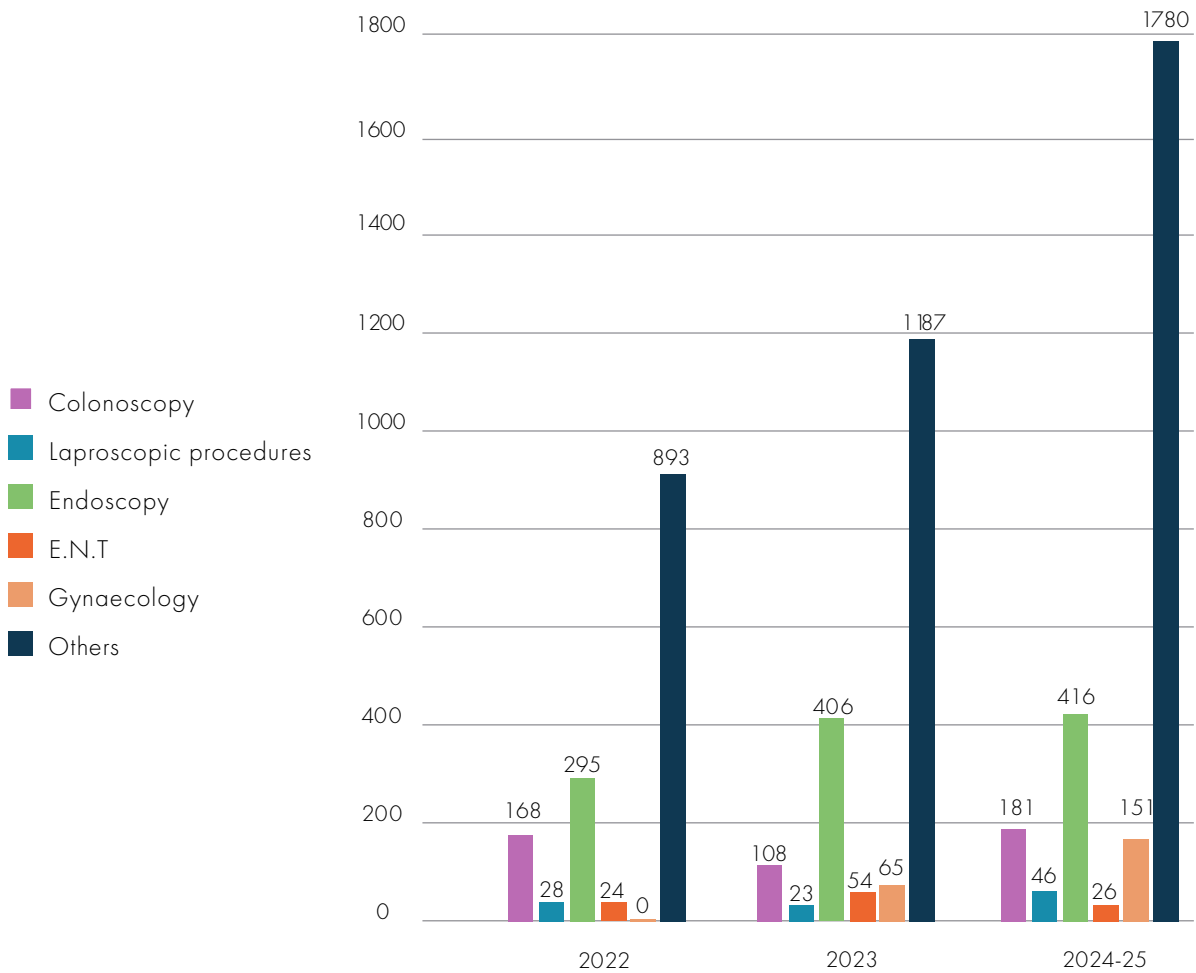
Surgical volume is expected to surge, with total procedures increasing from 1,408 in 2022 to 2,600 by 2024–25 — an **85% rise in just three years.**

From 2023 to 2024-25, **laparoscopic procedures increased by over 33%** - from 23 in 2023 to 46 in 2024-25, and **gynecological surgeries by 40%** - from 65 in 2023 to 1511 in 2024-25.

TYPES OF SURGERIES



SURGICAL PROCEDURE TRENDS 2023-25





570,000
people



336
communities



92
new villages reached
in 2024-25

COMMUNITY IMPACT

KSC continues its community outreach and patient education efforts to increase understanding and awareness surrounding preventive and surgical care and treatment. Supported by its team of nursing staff, social and outreach workers, KSC has created strong community ties with over 336 communities located across its 570,000-person catchment area. In 2024-25, we focused our community outreach efforts on Nyenga subcounty in Buikwe District, reaching 1,398 new community members across 92 new villages. Community members attended our sensitization sessions, showing genuine curiosity and eagerness to learn about surgical care. Following these outreach sessions and physical examinations at our outreach clinic, 868 people subsequently sought surgical care services as KSC

As part of its awareness and community outreach efforts, KSC engages community members through locally accessible communication channels, such as social media and radio. In partnership with radio stations such as Baba FM, Busoga One, NBS FM, and NTV, topics including goiter, hernias, fibroids, and women's health issues—such as breast cancer and dysmenorrhea—were discussed. In 2024, KSC also held two collaborative external surgical camps with St. Camillus Health Center and the Indian Association in Jinga, Uganda, as a means of disseminating information and providing community-based education on safe surgical treatment and care, reaching over 400 patients. In addition, KSC hosted a Community Football Camp, where its staff provided free Surgical Consultations and health education sessions, as well as HIV and cervical cancer screening.

In June 2024, KSC held a Free Hernia Clinic, attracting 600 patients, of which over 400 subsequently booked needed care. In addition, KSC's outreach team successfully engaged 120 of the 180 patients initially registered as no-shows and 200 of the 300 patients indicating they were not ready for surgical care and intervention. This represents a 67% success rate in supporting community members to reconsider needed, life-altering surgical care accomplished through awareness raising and community engagement.

At KSC, community engagement goes well beyond these efforts with our social work team providing care coordination and home visits to ensure end-to-end care and maximize both pre- and post-operative clinical outcomes. In recent years, a particular focus has been set on cancer prevention. At KSC, we understand that cancer care does not stop at surgical intervention – it extends to needed psychosocial support designed to help patients cope with the psychological, social, and economic impacts of the disease. In 2024, KSC's social work team provided psychosocial support to 127 patients diagnosed with cancer, 50 of which are being treated at the Uganda Cancer Institute in the country's capital city, Kampala. While KSC does not provide cancer care treatment, it acts as an important diagnostic and referral center in Eastern Uganda, supporting patients' treatment adherence and quality of life even as some move through palliative care. Moving forward, KSC seeks to strengthen its partnership with the Uganda Cancer Institute to ensure access to timely oncology treatment and with Rays of Hope Hospice to better accompany those requiring palliative care.



A Staff's Perspective on the Impact of KSC's Community Outreach Efforts

“

“Honestly, there's nothing quite like seeing the light come back into people's eyes after we do community outreach sessions. They open up and share their fears – you can see their whole outlook on surgery change. Some think little lumps, lipomas, are some kind of curse – imagine! Being part of this team, helping people get their lives back, is one of the most rewarding things I have ever done.”

Banturaki Samuel

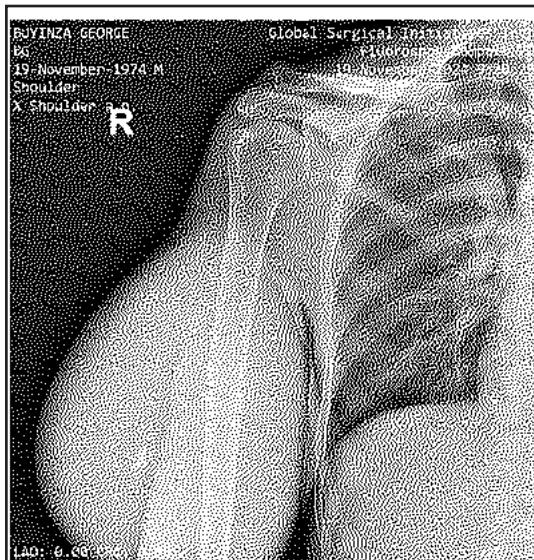
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“Going out into the community was truly eye-opening. It forced me to really see things from our patients' perspective. The sheer distance they travel to reach our facility, and the challenging roads they navigate, is incredibly humbling. Learning about their perceptions of surgery was also a huge learning curve. For example, I had no idea they believed the electricity black out during surgery would lead to death because they thought anesthesia was powered by it! This helped me understand how vital it is for our anesthesia team to clearly explain the process to patients. It changed how I approach patient education.”

Sandra Nambi, Community Nurse Educator

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Patient's Journey Buyinza George's Journey to Recovery

Buyinza George, a single man living alone in Luuka district, faced a life of despair after separating from his wife and children many years ago. Left without a support system, he turned to alcohol, which led to addiction. His struggles worsened when a small mass appeared on his upper right arm. Initially, he ignored it, but over eight years, the mass grew larger and increasingly painful. With limited resources and a deep fear of the potential treatment costs, Buyinza felt hopeless. However, his fortunes changed when the Busoga Health Forum conducted community outreach in Luuka District and identified his condition as one that could be treated at KSC.

In early November 2024, KSC's Director, Mrs. Anna Kalumuna Turumanya, was informed of Buyinza's case. Moved by his plight, Anna immediately mobilized support to immediately reached out to Buyinza and his family in Luuka district. Buyinza was astonished when he learned that he would receive care at KSC and agreed to be transported to the Center for treatment. On November 19, 2024, Buyinza arrived at KSC and was handed over to the social workers who took him through triage and comprehensive scans, including scans, laboratory tests, and X-rays as advised by the surgeon. A full waiver was processed for him and shortly after, he was scheduled for complex excision surgery. Less than 10 days later, the surgery was successfully completed, restoring Buyinza's arm to normal. Follow-up visits showed remarkable recovery and Buyinza expresses deep gratitude to the KSC team for their unwavering support.

Filled with hope and a renewed sense of purpose, Buyinza has pledged to become a community ambassador for the Kyabirwa Surgical Center, sharing his story to inspire others and promote access to surgical care for the most vulnerable.





Patient's Journey

Meet Dhakaba Muhammed: A Journey of Hope and Healing

Dhakaba Muhammed, a resident of Ivunamba village, visited KSC in 2024 for wound care management. Having initially sought treatment for the same issue in 2020, this was not his first time at the Center. Unfortunately, his condition worsened over time. When Dhakaba returned, his wounds had significantly deteriorated. After consulting with the doctor, a treatment plan was proposed but financial constraints made it difficult for him to follow-through.

Inconsistent in attending his dressing appointments, Dhakaba shared that he could not afford the treatment costs. Nurse Juliet referred him to the social work department, where a home visit was conducted to better understand his financial situation. Dhakaba's story is one of resilience in the face of adversity. His challenges began in 2010 when he was involved in a life-altering accident. Before the accident, he worked as a taxi driver, but his injuries made it impossible for him to continue earning his livelihood in this way. Living alone, Dhakaba had sold all his possessions to cover medical expenses and was left with no source of income. He relied on the kindness of neighbors and community members for survival.

Moved by his unfortunate situation, KSC's team raised his case to the administration. A full waiver for his treatment costs was granted. Dhakaba underwent consistent dressing for a month, followed by a punch biopsy to assess the severity of his condition. Thankfully, the biopsy results were negative, paving the way for grafting surgery.

Today, Dhakaba is on the path to recovery. He expresses heartfelt gratitude to the doctors, nurses, and administration at KSC for their unwavering support and dedication. With renewed hope, Dhakaba looks forward to regaining his strength and returning to work, empowering him to rebuild his life.



Empowering Women Through Surgical Access

In May 2023, KSC launched its Women’s Health Clinic, headed by Dr. Carolyn Oleo , with a vision to empower Ugandan women – including the most vulnerable – by providing equitable access to safe, affordable, quality, community-based ambulatory gynecological services, ranging from screening to surgical treatment. The clinic fills ongoing gaps in medical technology, equipment, and supply within the broader context of enhancing access to both breast and cervical cancer screening and early treatment. It also seeks to enhance local demand for cancer screening and routine gynecological check-ups while promoting community acceptance of treatments through community outreach, education, awareness raising, and as self-examination training.



Why a Women’s Health Clinic?

155%

Increase in gynecology outpatient visits compared to 2023

944

New patient in 2024-25

123%

Increase in surgeries (2023 to April 2025)

18,492

female patients served since 2019

387

follow-up visits with existing patients

80%

increase in number of gynecological surgical procedures

HOW WE DELIVER CARE



Screening



Cancer Detection



Cancer Diagnosis & Staging



Emergency & Elective Surgery

“The trust we’ve built with the community is reflected in our growing outpatient numbers and referrals.”

Dr. Carolyn Oleo, Head of Women’s Health Clinic at KSC





Surgical services provided by KSC's Women's Health Clinic include myomectomies and adenomyomectomies (removal of uterine fibroids and adenomyosis), fertility sparing surgery for endometriosis, hysterectomies (removal of the uterus), cystectomies (removal of ovarian cysts), and other laparoscopic and hysteroscopic procedures. In 2024, the Clinic also carried out 7 endometriosis surgeries as part of an affordable surgery camp to fight the disease.

“

“I like the way you [Kyabirwa] prepared us psychologically, that my wife who was scared of the operation gained confidence, and all went well. Even when you discovered that she required an extra procedure during her operation, you asked for my consent and the procedure continued at no additional cost.”

Patient whose wife had a myomectomy, salpingostomy

”

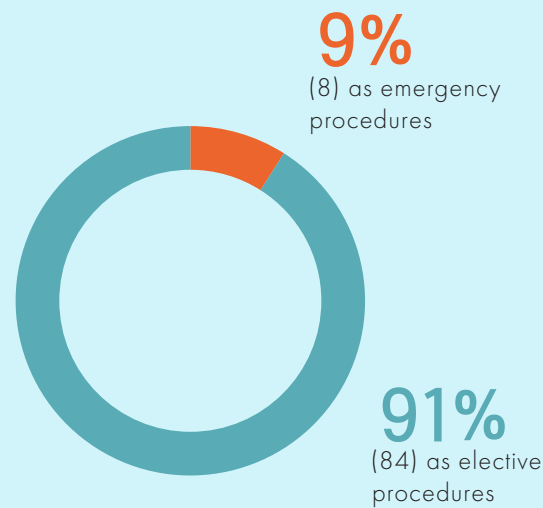


GYNECOLOGY CLINIC HIGHLIGHTS

The gynecology clinic is run twice per week only, with approximately 10 patients on average attending each clinic day. Approximately 2 out of each 10 patients seen are eligible for surgery

- Major Surgeries Provided**
- Uterine Fibroids
 - Adenomyosis

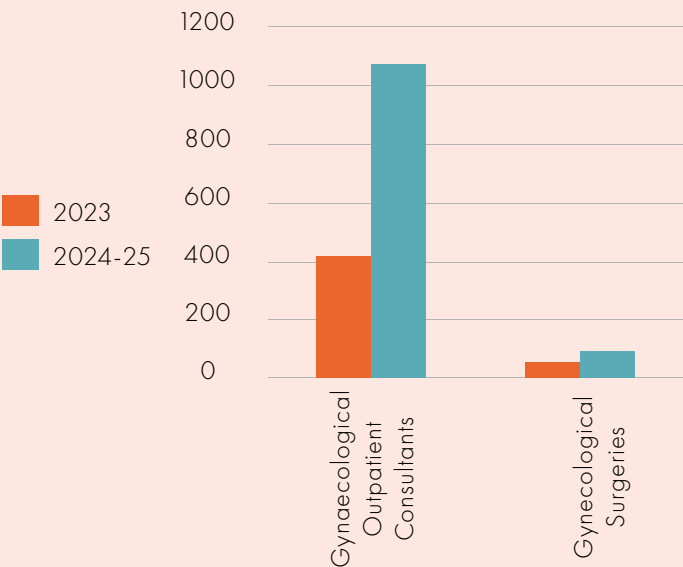
KSC’s clinic serves as one of the sites that performs examination under anesthesia as well as staging and biopsy for suspected cervical cancer, which comprised approximately 29% (27) of the total procedures done.



Gynecological Surgeries and Outpatient Visits (2024 - 2025)

18%
(13) of the major gynecology surgeries completed using laparoscopic approach

29%
(27) examination under anesthesia



Growth, Vision & Future Plans in Women's Health

INCREASING EXPANSION AREAS

Moving forward, the Women's Health Clinic seeks to expand the breadth of gynecological screening and treatment services provided, increasing the number of gynecological surgical procedures by 80% and establishing a robust cervical cancer screening and treatment program at KSC. An emphasis will be placed on increasing laparoscopic procedures, enhancing access to hysteroscopic services, and initiating hysteroscopy courses for medical doctors.

Considering that KSC's catchment area represents a prospective 1.3 million women in Eastern Uganda alone, or 13.6% of Uganda's total female population, much work lies ahead.



SERVICE EXPANSION WILL FOCUS ON THE FOLLOWING KEY AREAS:



Benign gynecological surgical conditions

such as uterine fibroids, adenomyosis, endometriosis, ovarian cysts, tubo-ovarian masses, endometrial and endocervical polyps, and Asherman's syndrome



Gynecological oncology

including cervical, breast, endometrial, uterine, and ovarian cancer, and cancer of the fallopian tubes, vagina, and vulva



Urogynecology and reconstructive pelvic surgery

including pelvic floor disorders such as pelvic organ prolapse and obstetric fistula



Infertility

including fallopian tube surgery and other benign gynecological surgical conditions contributing to infertility

“

“I was referred to Kyabirwa surgical center by a doctor in Iganga. Though I had lost hope, the team gave me hope that it was possible to heal. They have a caring team, that checked on me after surgery.”

Patient who had a hysteroscopic polypectomy

”

“

Before we had to travel long distances for gynecological care. Now we have access to expert treatment right here at home with advanced techniques. Kyabirwa not only treated her but also educated us about her reproductive health. This made a huge difference in our lives and those of many women in our village.

KSC Patient

”



The solar panels' glass surface slope angled to the building's sides allows for self-cleaning and rainwater collection during rainfall. Rainwater flows to gutters alongside the roof's edges, allowing for the water collection through downpipes that direct water to ground level before reaching underground rainwater storage tanks. Collected rainwater undergoes multiple filtration stages consisting of carbon filters, ultraviolet (UV) filtration, and UV light, before it is deemed safe for use.

KSC also incinerates 92% of its waste on-site including non-medical and medical, non-hazardous waste, in line with sustainable self-containment. KSC demonstrates a remarkably low waste output, producing an average of only 2,245 kg of total waste per year (6.15 kg per day) from 2020 to 2023. This figure is a fraction of the waste generated in high-income country operating rooms, some of which produce over 900 kg in a single day⁷.

In this way, KSC is not only a leader in quality surgical care outcomes but also boasts environmentally-friendly infrastructure designed to support climate-resilient healthcare systems.



New Construction Sustainable Infrastructure

In 2024, the Kyabirwa Surgical Center's completed its sustainable infrastructure-based hospital expansion, offering patient overnight stay and featuring a doctors' hostel, ambulance shade, and water treatment system. Designed by GKG Architect, a New York-based architectural firm, the expansion leveraged local labor and traditional building materials, including

handcrafted tiles, local wood, sand mortar, and bamboo used alongside fit-for-purpose architectural elements, such as integrated wood and steel components. Climate conscious design, including free air circulation and ventilation allows for adaptation to local environmental conditions. This work builds on KSC's self-sustaining capacity, fully powered by solar energy and collected

rainwater. Equipped with 500 solar panels, KSC generates its own power with minimal dependence on the town's public energy sources. The solar structure functions as a secondary roof, minimizing direct heat transfer to the primary roof, whose high ceilings and strategically placed windows promote stack and cross ventilation for better air circulation.



Solar Captured Vs. Solar Power Used



Solar Power Used Vs. Grid Power Used



Rainwater Captured Vs. Rainwater Used



“

“This work builds on KSC’s self-sustaining capacity, fully powered by solar energy and collected rainwater. Equipped with 500 solar panels, KSC generates its own power with minimal dependence on the town’s public energy sources. The solar structure functions as a secondary roof, minimizing direct heat transfer to the primary roof, whose high ceilings and strategically placed windows promote stack and cross ventilation for better air circulation”

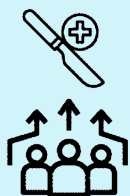
George George, Principal, GKG Architect

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GSI is thankful to Architect George K George and his team at GKG Architecture as well as the Selemeni Construction company for making this project a reality.

Ibarra (2016) Study: Hospitals Waste Millions of Dollars a Year By Throwing Away Unused Surgical Supplies. California Healthline, website: <https://www.kqed.org/stateofhealth/233886/study-hospitals-waste-millions-of-dollars-a-year-by-throwing-away-unused-surgical-supplies>, 2016.

Building Surgical Capacity Through Training and Education



SURGICAL TRAINING AND EDUCATION

Focus on local capacity building and education to ensure knowledge and skills are retained within the communities we serve. In this way, we reduce brain drain and ensure sustainable surgical care delivery over the long-term in collaboration with our academic partners.



FLAGSHIP SURGICAL CARE CENTER

Partnership with Mount Sinai Health System (USA), our flagship surgical care center, KSC, has become a national and regional trailblazer in continuing medical education and on-site surgical care training, building the capacity of public and private sector healthcare professionals alike.



MIXED REALITY & REMOTE MENTORING

Leveraging the power of fiber optic and mixed reality technology such as Microsoft's HoloLens, local surgical care professionals benefit from remote telementoring, including telesurgery, teleradiology, and telepathology, effectively connecting surgeons at Mount Sinai Health System to those on the ground at KSC.

Visiting Experts Reflections from Kyabirwa

Driven by a true belief in bidirectional learning and knowledge exchange across healthcare professionals located across varying resource settings, our work goes well beyond this. A recent visit by Dr. Sanghyun A Kim, Associate Professor of Surgery at the Icahn School of Medicine at Mount Sinai (USA), described his time at KSC as "eye-opening" having had the opportunity to assist KSC Head Surgeon, Dr. Joseph Okello Damoi in patient consultations and surgeries and witnessing first-hand the life-changing impact of KSC's work.

“

I traveled to Jinja with the intention of sharing my skills and experience with KSC's surgery team but this trip became an invaluable learning experience for me as well. I feel grateful for the opportunity to contribute and to grow alongside such a dedicated team.

Dr. Sanghyun A Kim, Associate Professor of Surgery, Icahn School of Medicine at Mount Sinai.

”



Mount Sinai General Surgery Resident Experience at KSC

In 2024, five general surgery residents – Marine Coste, Jacqueline Dillon, Anastasia Kahan, Lee Schmidt, and Nicole Uzor - from the Icahn School of Medicine at Mount Sinai participated in a one-month Global Surgery rotation at KSC. This experience was an immersion into the realities of surgical care in a low-resource setting. Working alongside KSC's dedicated medical staff, residents contributed to patient care in diagnostic imaging, the operating room, and post-operative recovery.

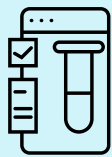
Beyond the hospital walls, they gained invaluable exposure to the culture and daily lives of Ugandan patients. Through the Recovery@Home program, they visited patients in their communities, witnessing firsthand the challenges of post-operative recovery in low-resource settings. Alongside KSC staff, they carried out community outreach, strengthening public health initiatives and surgical education. They also contributed to ongoing research to advance global surgical knowledge.

“

As I mentor students and surgical residents during their rotation at KSC, I've witnessed them grow through hands-on learning, adapting to new challenges, and working alongside dedicated local healthcare teams. The cultural exchange and collaborative spirit fostered during these rotations not only enhance their technical and clinical skills but also deepen their understanding of global health issues, emphasizing the importance of compassionate care in any setting.

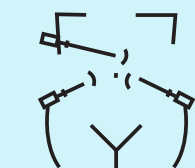
Dr. Linda Zhang, Associate Professor of Surgery, Global Surgery Director Bariatric and Laparoscopic Surgery, Mount Sinai Health Systems

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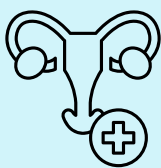


Reaching New Heights in Training and Education through our Simulation Lab

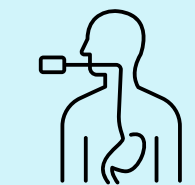
Building on these successes, GSI introduced a Simulation Center at its flagship location, KSC, in 2024 set to revolutionize locally based medical education across Uganda and East Africa. This state-of-the-art facility serves as a dynamic training platform for medical students as well as public and private sector medical doctors and nurses, offering skills building,



Laparoscopy



Gynecological Surgery



Endoscopy



Anesthesia

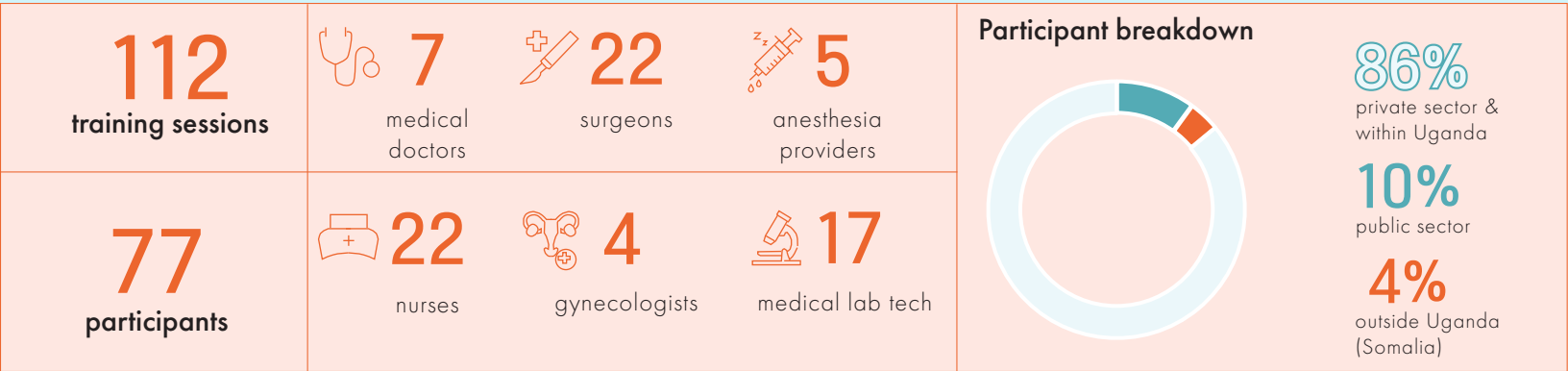


Nursing

Training programs offered include

- ▶ Advanced Cardiac Life Support (ACLS)
- ▶ Basic Life Support (BLS)
- ▶ Global Laparoscopic Advancement Program (GLAP), a laparoscopic training course for surgeons of low- and middle-income countries (LMICs), organized by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES).

Through our Simulation Center, GSI also offers training for the Fundamentals of Laparoscopic Surgery (FLS) – a prestigious laparoscopic knowledge and skills test required for surgery board certification in the United States, which three of KSC’s surgeons have now received.



KSC also provided numerous continuing medical education (CME) sessions in 2024, including on endometriosis – honoring International Women’s Day in March 2024, hormonal imbalances, pregnancy and motherhood, and pre-operative fasting guidelines, and data privacy.



27

practicing surgeons and medical residents participated in the FLS training – the first of its kind in Uganda, 16 of which passed the test and were awarded the FLS certificate including Dr. Binoga Moses and Dr. Carolyn Oleo from KSC. As a leading provider of continuing medical training and education,

“

I had initially planned to travel abroad for my FLS certification, but I was thrilled to complete it right here in my country at KSC. The high-quality Simulation Lab provided access to top-notch training while allowing me to stay close to my family, minimize costs, and maintain my work schedule.

-Dr. Jennifer Ajok, Gynecologist, Nile International Hospital, Jinja, Uganda

”

“

My experience at KSC's Simulation Lab and with the GLAP PRO training was delightful. Laparoscopic surgery has become the gold standard for minimally invasive surgery worldwide, allowing access to internal organs without large incisions and resulting in reduced surgical trauma and post-operative complications. Many patients fear surgery because they associate it with large cuts and prolonged recovery. Minimally invasive techniques such as laparoscopy help alleviate these concerns by offering safer and less traumatic procedures.

- Dr. Mwanje Bright Anderson, Surgeon, Mengo Hospital, Kampala, Uganda

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PASSING IT ON Anesthesia Training At Kyabirwa Surgical Center



In 2024, KSC continued anesthesia training, working closely with Busitema University in Mbale, Uganda, to deliver the Bachelor of Anesthesia to students, providing training to 173 students. The Center also hosted one anesthesia resident from Makerere University, Dr. Eemu Emmanuel, who completed an elective attachment in June 2024.

“

Anesthesia with a heart: easing pain, empowering lives in rural communities - proud to be an anesthetist for the underprivileged.

Swalleh Mahmisah, Anesthetic Officer, KSC

”

Easing pain, Empowering Lives in Rural Communities

In 2024, four KSC staff members were also trained and certified in the American Heart Association's Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) courses – with training carried out by CURE Children's Hospital Mbale, Uganda. In addition, equipment such as airway mannequins for basic and advanced airway management training, a spine model for nerve block training, and phantom gel for ultrasound techniques was also procured to support upcoming anesthesia training programs. KSC's anesthesia team had the opportunity to attend the Annual Association of Anesthesiologists of Uganda scientific conference, held in November 2024 in Jinja, Uganda, which provided plentiful opportunities for learning, networking, and professional development.

In 2025, three KSC staff members started the American Heart Association (AHA) instructor training for ACLS and BLS courses. KSC is on track to becoming an AHA certified training site – the second in Uganda.



Strengthening our Research Focus

In 2024, the anesthesia department submitted the manuscript "Multimodal Opioid-Sparing Analgesia Following Ambulatory Surgery in Rural Uganda: A Retrospective Review" (Unwana et al) for publication. The proposal for the study "Prevalence and Factors Associated with Chronic Post-Surgical Pain Among Patients That Received Ambulatory Inguinal Hernia Surgery at Kyabirwa Surgical Center" was also submitted and approved by KSC's Research Committee and the Hospice Africa Uganda Research Ethic Committee. It is currently pending approval from the Uganda National Council for Science and Technology. The Anesthesia Department continues to collaborate with other KSC departments on various research projects.

“

From the day I entered KSC, I thought I was in a hospital abroad – from the setting, to the people around me being very caring, humble, it felt like being at home. I would rate KSC's practice as a 10/10 from pre-operative visits to discharge. Patients are well cared for and, as a trainee, I acquired valuable education and skills. I left feeling confident and motivated to change other facilities' approach.

-Jauhara Mariam, Bachelor of Science in Anesthesia,
Busitema University, trained at KSC in January 2024

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“

KSC is one of a kind. As an anesthesia student, I witnessed exceptional quality surgical care. The training I received really impacted my approach to, and understand of, anesthesia. The collaboration between KSC's teams was also very impressive. Every patient deserves such good surgical care. I'm proud to have trained at KSC.

Bernard Masereka – Bachelor of Science in Anesthesia –
Busitema University, trained at KSC in October 2024

”



GLOBAL COLLABORATION ON TELE-PATHOLOGY AND TELE-RADIOLOGY

In collaboration with pathologists and radiologists at Mount Sinai Health System in the USA, KSC surgical staff discuss patient cases in real time, leveraging the power of information and communication technology. Thanks to KSC's access to the fiber optic, applications such as Zoom and state-of-the-art equipment including KSC's telepathology microscope, pathologists at Mount Sinai provide expertise and capacity building to inform patient diagnosis in Jinja, Uganda. Patient scans are also shared with pathologists at Mount Sinai who provide insight and collaborate with surgeons at KSC to ensure the most accurate diagnosis. This collaboration not only ensures patients receive the highest quality care possible but also contributes to strengthening local capacity and expertise on the ground, in Uganda. In the future, KSC aspires to become a pathology analysis training center for students in eastern Uganda. Amongst other achievements, this collaboration sets KSC apart as a Center of Excellence which acts as a benchmark to inform best practices in other healthcare facilities in the country and region.



A systems-based, networked approach to diagnosis

KSC maintains strong relationships with public and private community-based and national healthcare facilities, acting both as a diagnostic and referral center. As an important node in the continuum of care between community-based primary healthcare and national-level tertiary care, KSC provides affordable diagnostic testing to patients – many of which are offered at half the price of other healthcare facilities in the area! Leveraging its comparative advantage, KSC provides

diagnostic tests at a low cost to both patients and local healthcare facilities, ensuring patients are appropriately diagnosed and supporting other healthcare centers in managing patient volumes. At a national level, KSC works closely with the Uganda Cancer Institute, sending samples of non-suspicious cases for diagnosis and referring patients requiring prolonged cancer treatment.

“

KSC is such an excellent center where quality speaks volumes and innovation is at its highest.

- Esther Kakai, Student at KSC

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What's New Pathology



KSC's laboratory is poised to become one of the major regional medical laboratories providing reliable pathology and histology services and supporting leading medical research to patients across the Center's catchment area. Our medical laboratory has recently expanded its menu of tests to include Alpha Fetoprotein (AFP), follicle-stimulating hormone (FSH) levels, luteinizing hormone (LH), carcinoembryonic antigen (CEA), progesterone, and testosterone levels, as well as hepatitis C virus tests. These services add to its growing portfolio of tests in clinical chemistry, hematology, serology, hormonal testing, microbiology, parasitology, and histology. In 2024, our laboratory also improved its external quality assessment (EQA) score, achieving a score of 85% in recent assessments.

We are also proud to announce that KSC's laboratory has relocated to a more spacious complex, enabling better workflow management and the installation of a Level 2 biosafety infrastructure to enhance safety. Reagents and

equipment were also procured to allow for manual processing of histology samples, ensuring small samples are fully processed on-site. In 2024-25, our laboratory also increased sample throughput, receiving a total of 5,795 samples – up from 3,182 in 2023. KSC's laboratory also concentrated efforts on enhancing its information management system specifically for histology, cytology, and culture samples and initiated histology sample segregation to prioritize suspicious cases of malignancies.

To support Global Surgical Initiatives' broader efforts in establishing the second biobanking facility in Uganda, KSC initiated benchmarking efforts of its laboratory system against existing facilities in Kampala, Uganda. In 2024, our laboratory received its first trainees, contributing to GSI's broader focus on training and education and ensuring local healthcare capacity is being built across the surgical center's departments.

5,795

increased samples
throughput

85%

External Quality
Assessment score



What's New Radiology



An increase in specific radiology services was noted in 2024, including gynecological / pelvic examinations and transvaginal ultrasound, despite an overall reduction in radiology examinations compared to 2023. The former is in line with the reported increase in demand observed through KSC's Women's Health clinic as well as capacity building on transvaginal ultrasound aimed at improving endometriosis diagnosis accuracy. Furthermore, the overall decrease in radiology services provided from 2023 to 2024 reflects improvements in the sophistication of radiology examinations and regulations in patient numbers.

In 2024, a number of activities were

undertaken to enhance radiology services offered at our facility. These include the employment of a part-time, on-call radiographer who acts as a back-up in the absence of the Center's full-time radiographer, the designation of a radiology nurse, the establishment of clear communication processes between the triage nurse and the radiographer to regulate patient flow and waiting times, and improvements to x-ray print-out quality. Importantly, a continuing medical education (CME) program was developed to train KSC's clinical team on radiology patient preparation, to be implemented in 2025. We also recently obtained suitable pediatric radiation protection equipment such as lead shields, further expanding patient accessibility to radiology services.



What's New Pharmacy Procurement and Supply



In 2024, KSC's Pharmacy Department improved procurement timelines by 20% through process automation and achieved a 15% cost reduction through bulk purchases and favorable term negotiation with suppliers. Processing over 3,200 prescriptions, the Department maintained a 85% dispensing accuracy rate. The Department also avoided stockouts by developing partnerships with three local suppliers based in Jinja and establishing automated, real-time inventory monitoring systems, ensuring a 95% stock availability for surgical pharmaceuticals. From a sustainability perspective, the Department reduced expired drug wastage by 10% through improved stock rotation.

Moving forward, the Department will

continue to upgrade automated systems with procurement requisitions models as well as expiry date and stockout alerts. It will also implement supplier performance scorecards to enhance quality and reliability and inform procurement decision-making processes. Pharmacovigilance will also constitute a core focus for 2025 and beyond. To support these efforts, a database will be established to monitor adverse drug reaction (ADR) trends. Quarterly ADR reporting meetings will also be held and a pharmacovigilance desk will be established within the Pharmacy. To enhance access to care and patient understanding, KSC will develop educational materials in multiple local languages and focus on improving pharmacy wait times.

3200+
orders
processed

90%
reduction in drug
wastage through
stock rotation



NURSING

Promoting Community-Based Preventative Care

The nursing team represents the cornerstone of patient care at KSC. With an unwavering focus on patient safety, comfort, and satisfaction, the team's impact reaches well beyond care delivery at the Center, reaching deep into the community. Through community outreach and education, our nursing team proactively promotes community-based preventative care. In 2024-25, the nursing team provided free health screenings and education to 1,398 community members across 13 villages, 800 of which benefited from surgical care at KSC. The addition of overnight stay infrastructure at KSC greatly contributed to enhancing patient recovery supported by the Center's dedicated nursing staff members.

The team continues to focus on upskilling, training and education by supporting its staff in completing courses such as Essential Surgical Skills, Basic Life Support, Advanced Cardiac Life Support, and Refresher training on endoscopy reprocessing. In 2024, the team also initiated hysteroscopy surgical procedures, in collaboration with the gynecology and surgery departments, broadening the team's expertise and scope of work.



1,398

community members provided
with free health screening and
education in 2024-25



800

benefited from surgical care
at KSC



Voices from the Team



Ambrose Nuwahereza, Director, Department of Nursing

It has been an honor to serve as KSC's Nursing Director. This year was remarkable, not only for the milestones we achieved but also for the resilience, dedication, and compassion our nursing team demonstrated. Each member embodies the spirit of excellence and service, ensuring that our patients receive the highest standard of care. Working with KSC is a truly rewarding experience; I am continually inspired by the impact we make every day in our community and beyond.



Nannozi Windfred

I started working with KSC in 2019 and it is the best workplace I have had. This work gives me the opportunity to explore my potential as I lead my team and coordinate clinics. I gained invaluable experience and watched myself grow over time & the support for career advancement is truly humbling.



Jotham Azirembuzi

KSC is more than just a workplace - it's a community that genuinely cares. I am proud to be part of a team that combines medical expertise with empathy and compassion. KSC's supportive culture and commitment to staff growth and wellbeing make it an exceptional workplace. Together, our dedication to providing safe, affordable surgery makes a tangible difference in the lives of our patients and their families. This inspires me every day to deliver my best.



Okitto Samuel Louis

My knowledge, skills and competence levels in healthcare provision tremendously improved while working with KSC. The Center allowed me to grow and develop my career as a Nurse; I was given opportunities to learn by participating in emergency response. I am privileged to be among the competent Nurses trained at KSC, handling all patients equally with the love, compassion and calmness needed for their quick recovery.



Ivan Mudembula

KSC, a place away from home that feels like Home. It has been a wonderful year - I achieved so much both personally and professionally. I am thankful to management for giving me the opportunity to embrace new and up-to-date medical technology. Laparoscopic equipment, data collection instruments, software such as clinic master, the Recovery@Home App are just a few. Regular training and support help us effectively use these technologies.



AT KSC, WE TAKE RESEARCH SERIOUSLY



As a leading ambulatory surgical care facility, research represents a key pillar of the activities we undertake at KSC. We leverage collected data to assess disease prevalence, inform the development of needs-based policies and programming, and improve clinical care outcomes. The research projects we undertake are made possible thanks to our collaboration with the Icahn School of Medicine and Mount Sinai Health System in New York (USA). Through this partnership, medical doctors, students and residents at Mount Sinai generate research ideas under the supervision of Dr. Linda Zhang and are subsequently linked to a KSC staff member working in the area of interest. KSC staff facilitate the necessary ethical approvals and ensure research projects are aligned with national guidelines.

Medical students present their research outcomes at national and international conferences and publish in various peer-reviewed journals, alongside our staff. The international dissemination of research findings contributes to elevating KSC's visibility across global research and academic spheres. Since 2023, we have renewed our efforts to encourage staff to lead and/or become more involved in research efforts given their unique in-country perspective and knowledge surrounding local community needs. In this sense, research conducted through this partnership represents a true win-win, providing research capacity building and leadership to our staff and Mount Sinai trainees alike, and providing a unique window into disease prevalence and sub-types amongst diverse, underserved populations in Uganda to inform context-appropriate diagnostics and treatment development.



25

**total research protocols
developed since 2023**



12

**new research projects in
2024-25**

Mount Sinai Medical Student Experience at KSC

Working under Dr. Linda Zhang and KSC mentors, three medical students from Icahn School of Medicine at Mount Sinai explored key aspects of sustainable, high-quality surgical care in a low-resource setting. Over the summer, Grace Travers explored the innovative sustainability efforts of KSC, including its innovative architectural design, environmentally friendly anesthesia approach, and efforts to minimize disposable materials. She is also examining

determinants of delayed healthcare-seeking behavior of patients at KSC. Reetwan Bandyopadhyay is evaluating the incidence and management of chronic pain after hernia repair. Additionally, Chelsia Melendez completed a year-long research fellowship focused on evaluating the quality of care at KSC, including a comprehensive study on the acceptability of ambulatory surgery within Uganda's healthcare system and local communities.



Since 2023, twenty-five research protocols were developed of which 12 in 2024. Research projects covered topics such as tomophobia (fear of surgery), the effect of community-based health education on ambulatory surgery perceptions, characterization of ambulatory gynecology surgery outcomes, first delay in seeking ambulatory wound care among patients, and chronic postoperative pain prevalence and its correlates, amongst others. Currently, data collection has been completed for three research projects exploring patient satisfaction with ambulatory surgery, patient referral trends and compliance with patient referrals, and catastrophic health expenditure among recipients of ambulatory surgery at KSC. Findings from these projects were disseminated within KSC and manuscripts prepared for submission to high-impact, peer-reviewed surgery journals.

Given KSC's wide catchment area distributed across more than 120 communities and 100km², data collection can, at times, be challenging both in terms of time and geographical distances particularly given KSC's small research team. To help address this issue, a new Research Assistant, Ms. Gloria Kwagala was recruited in 2024, which will help streamline data collection processes moving forward. Looking ahead, the research team anticipates developing 14 new protocols in 2025, securing Institutional Review Board (IRB) approval for all outstanding research projects, and consolidating resources to complete data collection for all currently approved projects. The department will also be involved in managing research grants and will focus its efforts on disseminating findings to multiple stakeholders at national, regional, and global levels.

“

As a KSC laparoscopic trainer and research lead, I've seen how the power of education and innovative research transforms healthcare practices, empowering local surgeons and trainees to expand their skills, improve patient outcomes, and contribute to more accessible, advanced surgical care.

Dr. Linda Zhang, Associate Professor of Surgery, Global Surgery
Director Bariatric and Laparoscopic Surgery, Mount Sinai Health
Systems

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Spotlights on Research 2023-2024



SAGES

The role of teleproctoring in creating a state-of-the-art locally staffed minimally invasive surgical center in rural Uganda

Catherine Tsai, Joseph Okello Damoi, Umut Sarpel, Linda Zhang, Michael Marin, Daniel Herron

Background: Approximately 5 billion people worldwide lack access to safe and affordable surgical care. In Uganda, there are 0.3 surgeons per 100,000 people compared to 55 for the same population in the US. With only 2.9% of current surgical needs in Uganda being met, Mount Sinai Department of Surgery worked with local Ugandan staff at KSC to create a modern, 2-OR ambulatory surgery center in the rural province of Jinja.

Findings: Nineteen laparoscopic operations were performed at KSC through live remote teleproctoring. All operations were outpatient, including 14 appendectomies and 5 cholecystectomies. Surgeon feedback was provided regarding patient positioning, port placement, surgical technique, use of instruments, and critical operation steps. All cases were successfully completed without any intra-operative complications. Findings show that teleproctoring can be safely implemented to assist local surgeons in previously underserved areas and provide advanced laparoscopic surgical care to local patient populations.

ACS

Barriers To Accessing Treatment After Cancer Diagnosis For Patients In Rural Uganda

Chelsia Melendez, Katie Glerum, Daniel Mukisa, Jotham Azirembuzi, Abhishek Reddy, Moses Balakele, Angellica Giibwa, Anna Turumanya Kalumuna, Joseph Damoi, Linda P. Zhang,

Background: As the burden of cancer increases globally, it is urgent to explore barriers to diagnosing and treating cancer in low-income countries. This study analyzed patient barriers to accessing cancer care after diagnosis.

Findings: Of the 85 patients diagnosed with cancer, 56 (65.9%) patients attended an initial consultation at the Uganda Cancer Institute (UCI). However, 23 (41.2%) did not follow-up for treatment and only 22% (n=16) completed the full treatment course. Main barriers to cancer treatment were cost (76%), transportation (58%), and housing (42%). Fifty-five percent of patients lacked housing and slept outside on the UCI walkways. Most patients understood their diagnosis (77.6%) and treatment options including chemotherapy, radiation, and/or surgery (71.8%). Patients had strong family support for cancer care follow-ups (75.3%). This study showed that, despite adequate health literacy and family support, the majority of patients cannot complete their cancer treatment due to financial, logistical, and systemic barriers.



ACS

Promoting Ambulatory Surgery in Rural Uganda: Bridging Healthcare Gaps through Nurse Home Visits and Mobile App Integration

Chelsia Melendez, Jotham Azirembuzi, Nuwahereza Ambrose, Moses B Binoga, Gabriela A Calcano, Okello J Damoi, Anna T Kalumuna, Michael L Marin, Linda P Zhang.

Background: In low- and middle-income countries, low-acuity surgeries require postoperative hospitalization for several days, due to concerns related to inadequate follow-up after discharge and cultural norms. The study examined post-operative conditions and functioning through KSC's Recovery@Home program, a cloud-based mobile app used by nurses during patient home visits.

Findings: The study showed that Recovery@Home significantly improved post-operative care in rural Uganda, ensuring early recovery, high satisfaction, and addressing psychosocial risks. Findings demonstrate that Recovery@Home represents a scalable ambulatory surgery solution for resource-limited settings.

Surgical Endoscopy 2024

Do Patients Actually Understand? An Evaluation of the Informed Consent Process for Endoscopic Procedures in Rural Uganda

Abhishek R Mogili, Daniel Mukisa, Peter Campbell, Angellica Giibwa, Moses Binoga, Arthur Emoru, Anna T Kalumuna, Joseph O Damoi, Chelsia Melendez, Jerome Wayne, Michael L Marin, Linda P Zhang

Background: Tailoring a culturally sensitive approach to consent is essential to patient comprehension and comfort. This study examined KSC's consenting process for endoscopy in rural Uganda, assessing patients' knowledge and attitudes as a potential barrier to participating in endoscopic procedures.

Findings: Most patients understood the role that an endoscopic procedure plays in their care and its potential benefits. Despite this, many patients continued to express high levels of fear associated with both the endoscopic procedure and with receiving anesthesia during their procedure. This points to the importance of ongoing patient education to address patients' fears and risks of undergoing an endoscopy to improve surgical service utilization.



Public Relations, Partnerships and broadcasting



MAKING OUR MARK ON THE INTERNATIONAL RESEARCH

In December 2023, KSC's Head of Surgery, Dr. Damoi Okello Joseph, and the Director of the Global Surgery Program at Mount Sinai Health Systems (USA), Dr. Linda Zhang, participated in the 23rd College of Surgeons of East, Central and Southern Africa (COSECSA) Scientific Conference and Graduation Ceremony in Addis Ababa, Ethiopia. KSC is currently in discussions with COSECSA surrounding becoming a formally accredited training site for surgeons.

In 2024, KSC's Surgery Department attended the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) conference held in Cleveland, Ohio (USA). Dr. Damoi Joseph Okello and Dr. Giibwa Angellica represented the department, supported by the 2023 SAGES Foundation's Margrét Oddsdóttir International Traveling Fellowship Award and presenting KSC's novel approach to Expanding the Interventional Endoscopic Capacity of Rural Uganda Using Remote Proctoring.

In March 2024, KSC participated in the Association of Surgeons of Uganda (ASOU) Surgical Landscape Exhibition 2024, showcasing its unique approach to ambulatory surgical care and focus on innovation.

In October 2024, KSC Director, Anna Turumanya Kulumana attended the Africa Health Tech Summit in Kigali, Rwanda, where she participated in a discussion on Innovating for Community Health: Unlocking the Power of AI. Alongside a panel of esteemed speakers, she discussed the importance of bridging electrification and connectivity gaps to deliver surgical services in rural regions.

Moving forward, KSC endeavors to be represented in relevant national and regional surgical conferences including those hosted by ASOU, COSECSA, and SAGES.



AWARDS AND RECOGNITIONS

KSC was a 2024 nominee for the International Telecommunication's Union World Summit on the Information Society (WSIS) under the category Action Line C7 (ICT applications; benefits in all aspects of life - E-health). KSC emerged as one of the 360 digital projects nominated among 1,049 submitted globally, receiving 1,000 votes supporting the center's submission.

In 2024, KSC also emerged as the First Runner-Up in the 2024 National Building Control Awards.

In March 2024, the Assistant Inspector General of Policy, Dr. Byaruhanga Moses, Head of the Directorate of Police Health Services, visited KSC, indicating that our upcoming Simulation Center showcases a commitment to advancing surgical education.



PARTNERSHIPS AND COLLABORATIONS

KSC prides itself on collaborations with local, national and international health providers and partners. The Center collaborates with the Busoga Health Forum - an association of like-minded people and professionals stimulating community, government and partner actions to improve the health of people in Busoga through enhanced healthcare coordination, evidence-based healthcare decision-making, and education and awareness raising in this subregion. As part of this collaboration, KSC supports continuing medical education in surgical care for healthcare providers across the public and private healthcare sector. In February 2024, KSC and Busoga Health Forum joined forces to donate vital drugs to regional health facilities, demonstrating their unparalleled commitment to equitable access to medicines. With support from Americares, the donation reached institutions such as Budondo HC IV, Buluba Hospital, Iganga General Hospital, Jinja Regional Referral Hospital, SoftPower Health Services, and St. Francis Health Services Njeru, filling crucial medical care gaps across the region. This initiative highlights the power of partnerships in healthcare and emphasizes the shared responsibility of organizations to improve community-based access to care.





STAFF PARTY

In 2024, KSC's staff year-end party took place at the Paradise on the Nile Hotel, uniting the entire KSC family to honor a year of remarkable achievements and set an optimistic tone for a brighter future. The theme, "Celebrating Collaboration and Teamwork," perfectly captured the spirit of unity that defines us.

The event started with an awards ceremony, recognizing top performers for their dedication. Mazzinga Herbert, Registered Nurse, stole the spotlight and was awarded Overall Employee of the Year for his exceptional contributions.

Glamour and elegance reigned supreme as attendees dressed to impress, turning heads with their stunning outfits, engaging in interactive games of chess, snakes and ladders, and darts alongside staff showcasing their multifaced talents in poetry, comedy, miming, and dance.

The Stonecity Band delivered soulful live music that kept the energy soaring and a DJ igniting a dazzling dance floor. Amid the festivities, we paused to celebrate shared milestones and successes. This event embodied a heartfelt celebration of joy, gratitude, and belonging to the GSI family, showcasing the power of teamwork.



“

This was not a mere event; it embodied a heartfelt celebration of joy, gratitude, and belonging to the Global Surgical Initiatives family. As Human Resource Officer, I am proud to see how this day strengthened our bonds and showcased the power of teamwork. Here is to more victories and cherished moments in 2025 and beyond!

- Lawrence Kiganda, Human Resource Officer, KSC

”



WALKING TO RAISE CANCER AWARENESS

In August 2024, KSC participated in the 2024 Rotary Cancer Run. On this occasion, our medical team delivered crucial first aid and emergency care, making a real difference in the fight against cancer.

“Be Kind”

BANTURAKI SAMUEL

Be Kind

In the shadowed lanes of childhood's years,
Where laughter rose and fell like cheers,
I met the hands that held me close,
Their kindness quiet, but grandiose.

A neighbor's smile, my scraped knee soothed,
With whispered words, my fears removed:
"Carry this warmth when you are grown;
What kindness sows, its roots are sown."

The teacher who stayed past the bell,
Who saw the cracks where shadows fell.
"Be patient, child," she'd always say.
"Your kindness can outlive the day."

The wrinkled shopkeeper with coins in his palm,
Who said, "Take it, dear-pay back with calm.
One day, when someone stands in need,
Be the sunlight; plant the seed."

And Grandma's tales by firelight glow,
"Give love, sweet child, and let it show.
For kindness costs no gold to give,
But glows the heart of those who live."

Now older, wiser-sometimes worn,
The world can sting; its edges torn.
But in each face, I still recall
The love I knew when I was small.

Be kind, though storms may batter the soul,
For gentle hands can make others whole,
A smile can mend a broken seam;
A word can lift a fallen dream.

So, take the time to heal, not tear,
To hold, to hope, to show you care.
For kindness passed from soul to soul
Makes this world feel a little more whole.

Be kind-be human, warm, and true.
The kindness once given lives on in you



Special Thanks

At GSI, we are proud of all the work we have accomplished this past year and since our inception. We acknowledge that this work would not be possible without the unwavering dedication of our many staff on the ground, and partners – both at community level and internationally. We would like to express our profound gratitude to these organizations and individuals for their ongoing support, contributions, and trust, which allow us to continue to grow and positively impact the lives of those who need our services the most.

ADVISORY BOARD MEMBERS

We thank our Advisory Board Members for sharing their invaluable expertise and knowledge to support GSI in achieving its strategic objectives and maximizing our impact.

Ricky Buch, Co-Founder and Chief Technology Officer, Powertrust

Juli Hysenbelli, Global Lead for Connected Care at AWS Healthcare and Lifesciences

Dr. Charles Kalumuna, M.D., Kamu Medical Center Uganda

Jimmy Kolker, former United States of America Ambassador to Uganda, Bureau of Global Health Security and Diplomacy at the U.S. State Department

Paige McMillan, Chief Administrative Officer, Weill Cornell Medicine

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UGANDAN ORGANIZATIONS

Association of Surgeons of Uganda

Busoga Health Forum

College of Surgeons of East, Central and Southern Africa

Jinja City Health Office

Jinja District Health Office

Jinja Regional Referral Hospital

Kamu Medical Centre

Kyabirwa Local Council Office

Lancet Laboratories Uganda

Ministry of Health

Office of the Resident City Commissioner

Ray of Hope Hospice

Selemani Construction Services

Soft Power Health

Uganda Cancer Institute

His Majesty William Kadhumbula Gabula Nadiope IV, Kyabazinga

King of the Busoga Kingdom

INTERNATIONAL ORGANIZATIONS

African Esophageal Cancer Consortium (AfrECC)

Americares

Boston Scientific International

Consortium of Universities for Global Health (CUGH)

GKG Architects

Ibex Medical Analytics

Johnson & Johnson

Morrell Instrument Company

Mount Sinai Health System

National Institutes of Health R21 Research Grant

Objective Imaging LLC

Olympus Health

Powertrust

Proximie

Rods&Cones

Society of American Gastrointestinal and Endoscopic

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Surgical Safety Technologies



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