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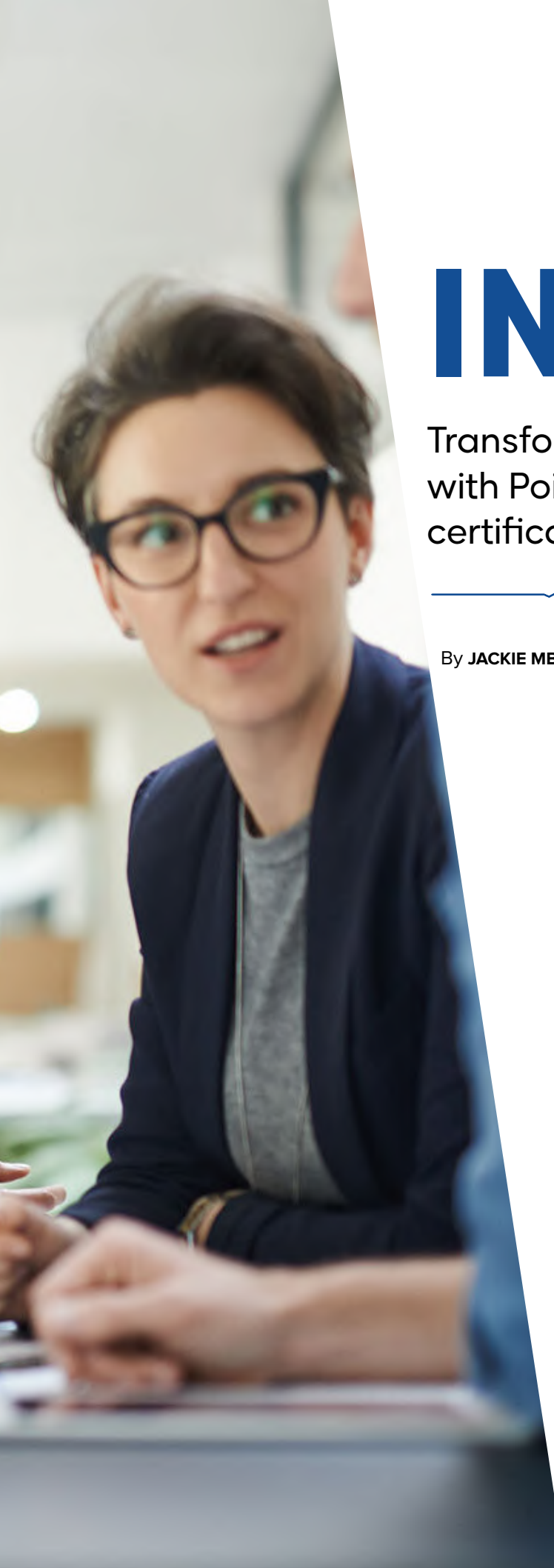
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INTELEOS

Transforming maternal healthcare in Africa with Point of Care Ultrasound training and certification for medical professionals

By **JACKIE MBITHE**

In 2016, the inception of Inteleos marked a pivotal moment in the global healthcare landscape. With a noble mission to ensure that patients worldwide receive the highest quality healthcare, this non-profit community unites over 123,000 active medical professionals under its banner. These professionals share a collective dedication to upholding the most stringent standards in healthcare and patient safety.

Joseph Williamson, a Healthcare-Medical Imaging Consultant, and Medical Quality Consultant at the International Finance Corporation (IFC) emerges as our guide into the world of Inteleos. As both an Inteleos program lead and the head of clinical training for South Africa and Sub-Saharan Africa, Joseph introduces us to the organization's critical role in healthcare, especially in Africa. He emphasizes, "The needs that Inteleos addresses in Africa are those related to monitoring, accrediting practitioners who employ ultrasound devices for point-of-care testing, particularly in the maternal-fetal domain."

Joseph goes on to explain that Inteleos has its sights set on midwives, nurse officers, and doctors providing primary care to expectant mothers. Their mission is crystal clear: medical professionals performing ultrasounds must undergo standardized, rigorous assessments to validate their knowledge, skills, and abilities. Certification from an independent third-party organization is seen as essential to uphold best practices in delivering quality patient care. This expectation for quality transcends all healthcare settings, leaving no room for compromise.

"In Africa," Joseph continues, "our focus is on Point of Care Ultrasound (POCUS), tailored for physicians, nurses, midwives, and healthcare officials involved in maternal health. It's not just about equipping them with ultrasound devices; it's about providing sustainable training and certifying them to conduct maternal-fetal examinations using ultrasound."



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IN A NUTSHELL, WHETHER YOU'RE A PHYSICIAN, PRACTITIONER, OR MIDWIFE, THE POCUS ACADEMY AND POCUS CERTIFICATION ARE APPLICABLE TO YOU. ”

Joseph Williamson - Program lead, Inteleos Africa

UNIFYING EXCELLENCE IN HEALTHCARE CERTIFICATION AND PHILANTHROPY

Inteleos serves as the governing and managerial nucleus for several branches, including the American Registry for Diagnostic Medical Sonography (ARDMS), the Point-of-Care Ultrasound (POCUS) Certification Academy, and the Alliance for Physician Certification and Advancement (APCA). Together, these entities represent nearly 107,000 certified medical professionals globally. The newly established Inteleos Foundation operates under the Inteleos umbrella, overseeing philanthropic initiatives.

With a vibrant community of over 123,000 active medical professionals, Inteleos has spent the past 45+ years shaping the future of healthcare by setting a standard of excellence through quality patient care and certification. Their certifications span 18 diverse medical disciplines, encompassing diagnostic medical sonography, cardiac MRI, CT, nuclear medicine, vascular medicine, and point-of-care ultrasound. Joseph underlines the universal applicability of their mission, stating, "In a nutshell, whether you're a physician, practitioner, or midwife, the POCUS Academy and POCUS certification are applicable to you. They validate your knowledge and ensure its recognition anywhere in the world."

Faith Muigai, a healthcare advisory and quality improvement specialist at IFC, steps into the conversation as the Business Development lead for Inteleos in East Africa and Sub-Saharan Africa, and the program lead in Kenya. She offers insight into Inteleos' alignment with IFC's mission to achieve universal health coverage. "We are all acutely aware that strengthening primary healthcare is vital," she affirms. "Inteleos has embarked on a grand challenge, setting goals to reduce maternal and fetal mortality by 2030."

In the context of sub-Saharan Africa, where maternal and neonatal mortality rates remain alarmingly high, Faith highlights the pressing need for innovative solutions. Governments have been entrusted with the responsibility of devising strategies to meet IFC's goals by 2030. "Inteleos," Faith asserts, "is dedicated to enhancing the skills of frontline healthcare workers. At the primary healthcare level, we believe that certain skills, unrecognized until now, can be expanded or enhanced for midwives and clinical officers. Our task is to collaborate with local governments and the private sector to ensure that these skills are made accessible to frontline staff. This ensures that women receive timely and affordable care."

Currently, these critical skills are primarily confined to sonographers and radiologists, leaving midwives without the recognition they deserve. Faith emphasizes Inteleos' role in bridging this gap by partnering with governments, the public sector, and the private sector to endorse regulations facilitating the expansion of skills in obstetric screening and triage to midwives and clinical officers. "The gap that we are trying to fill as an organization is partnering with governments, public sector, and private sector to endorse regulation around a skill expansion of this skill set, obstetric screening

and triage to midwives and clinical offices as a means of strengthening how we assess, monitor and deliver care to our mothers in sub-Saharan Africa," adds Faith.

EMPOWERING PRIMARY HEALTHCARE THROUGH INNOVATIVE TRAINING INITIATIVES

Inteleos' approach to revolutionizing primary healthcare involves multifaceted strategies that Joseph Williamson and Faith Muigai eloquently describe. A fundamental approach involves partnering with academic institutions to create comprehensive training curricula. These curricula are designed to seamlessly integrate into both pre-service training and in-service courses, as well as Continuous Professional Development (CPD) initiatives. Joseph explains the broader vision, saying, "We look at graduating medical students, whether they're nurses, doctors, or physical therapists, anyone utilizing ultrasound, and we aim to equip them with the capability to effectively employ POCUS in diagnosing fetal or maternal health."

Simultaneously, Inteleos is laying the groundwork for a long-term solution: the development of Technical and Vocational

Education and Training (TVET) courses. Faith emphasizes their proactive role in policy development to enable this transformation. She sees policy shifts as essential for the vision to materialize.

Another pivotal approach involves direct collaboration with healthcare institutions and hospitals. This entails upskilling existing clinicians in these specialized areas. Joseph elaborates on the process, explaining, "We can provide training courses for nurses, midwives, and clinical officers already practicing, teaching them how to leverage POCUS effectively. We then validate their learning through global accreditation, making them globally recognized." He underscores that it's not just about learning; it's about proving proficiency in this medical capability through global certification.

Faith adds an important dimension, highlighting that numerous initiatives are already investing in upskilling clinicians within the healthcare system. However, these efforts often lack recognition from regulatory bodies. Inteleos aims to reshape policies, not only enabling clinicians to perform these interventions but also ensuring recognition by regulatory bodies.

The introduction of certification is a pivotal

IN NUMBERS

123,000

ACTIVE NUMBER
OF MEDICAL
PROFESSIONALS
AT INTELEOS



JOSEPH WILLIAMSON
CONDUCTING A
SONOGRAM AS
OTHER MEDICAL
PROFESSIONALS
LOOK

aspect of their approach. Faith explains, "We aim to introduce certification so that individuals are not merely trained and awarded a certificate of attendance. Instead, they receive comprehensive training and are certified with a globally recognized certificate, transferable across borders. This certification signifies that an individual is not limited to a specific institution or country. Their skills are applicable wherever the certification is recognized."

Faith strongly underscores the value of certification, stating, "We bring in a new skill set and assert the significance of certification. It reflects the maintenance of proficiency in the transferred skill. When a nurse or doctor undergoes training, they obtain a license and must keep it up to date. Certification ensures that individuals are current with their skills and recognized under a globally accredited body."

FORGING COLLABORATIVE SOLUTIONS IN MATERNAL HEALTHCARE THROUGH MULTISECTORAL PARTNERSHIPS

In parallel to these approaches, Inteleos has convened forums, bringing together critical stakeholders, decision-makers, and key players from various sectors, including the Ministry of Health, the private sector, academia, equipment manufacturing firms, and financial institutions. They are challenging professional associations and regulatory bodies to take action. Faith describes a significant milestone—the Maternal Health summit held in November 2022, organized in partnership with

the Kenya Healthcare Federation (KHF). This summit gathered individuals who had never previously convened to discuss the potential shift in skillsets to enhance identified cadres.

Faith paints a vivid picture of the summit, where diverse participants, including radiologists, nursing consoles, and the Society of Radiography Clinical Officer Association, gathered. This unprecedented collaboration also featured presentations by industry leaders such as Philips and General Electric (GE), shedding light on their innovations in affordable handheld devices.

Faith positions Inteleos as the driving force behind this monumental gathering, assuming the role of both convener and coordinator. The organization's proactive approach ensured that critical discussions took place on this formidable platform. By bringing together key stakeholders and thought leaders from diverse sectors, Inteleos facilitated the exchange of ideas and the formulation of effective strategies. These strategies are poised to make a lasting impact on maternal and fetal healthcare, addressing a critical issue with diligence and determination.

In Faith's words, "Aga Khan and AMREF International University were at the summit with a report that showcased tried, tested, and data-supported evidence of the intervention's potential to significantly reduce maternal and fetal mortality, as well as perinatal losses." She underscores Inteleos' indispensable role as the orchestrator, stating, "As Inteleos, we have taken on the pivotal roles of both conveners and



INTELEOS AFRICA LEADS, FAITH AND JOSEPH ALONGSIDE OTHER DELEGATES DURING A PAST AMEF WORKSHOP IN MOMBASA KENYA

coordinators, ensuring that the right discussions are held and the right strategies are set in motion to address this paramount healthcare issue."

EMPOWERING HEALTHCARE PROVIDERS FOR QUALITY MATERNAL AND FETAL CARE

Inteleos envisions a transformative role for Point of Care Ultrasound (POCUS) in primary healthcare across Africa. By making POCUS accessible within the primary healthcare framework, Inteleos aims to dispel the misconceptions surrounding sonography and radiology that have permeated the continent. Their mission aligns with the World Health Organization's (WHO) recommendation of ensuring eight antenatal care visits for expectant mothers, including at least one ultrasound examination.

WHO, in its mission to bolster maternal health, has underscored the importance of eight antenatal care visits for expectant women, inclusive of at least one ultrasound examination by the 24th week of pregnancy. Ultrasound, a versatile diagnostic tool, facilitates rapid assessment of maternal and fetal well-being, whether it is within the precincts of a level two or three healthcare facility or even within the confines of one's home.

The global landscape reveals a maternal mortality rate averaging 233 per 100,000 live births, a sobering statistic. The United Nations Sustainable Development Goals (SDG) program has ambitiously set its sights on reducing this figure to a mere 75 deaths per 100,000 live births by 2030. Joseph, speaking on Inteleos' alignment with this lofty goal, laments, "Most maternal deaths occur due to oversight or lack of comprehension of the images generated during examinations. Our medical professionals often lack the expertise to interpret these critical images."

Joseph emphatically articulates the crux of their mission: "POCUS aims to diminish maternal mortality by equipping those already performing these examinations with the knowledge they need. For instance, detecting a breech baby or cervical incompetence should be routine knowledge before a mother reaches the delivery table." He highlights a pervasive issue in Africa where ultrasounds outside specialized radiology units and Obstetrics and Gynecology (ObsGyn) offices often fail to identify abnormalities, resulting in tragic losses. "POCUS," he asserts, "seeks to curtail these losses by channeling expectant mothers through skilled practitioners."



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POINT-OF-CARE ULTRASOUND EMPOWERS CLINICIANS AT THE GRASSROOTS, ENABLING COMPREHENSIVE SCREENING USING PORTABLE HANDHELD DEVICES.”

Faith Muigai – Program lead, Inteleos Africa.

Training is pivotal, and we've committed ourselves to extending our training programs across Africa."

Faith passionately elucidates, "Point-of-care ultrasound empowers clinicians at the grassroots, enabling comprehensive screening using portable handheld devices. We can either welcome women into healthcare facilities or take the devices to them." She draws parallels with historical community health strategies, stating, "We are sending apprentices to mothers, considering the challenges of access and transportation that often hinder women from reaching primary healthcare facilities. This approach allows us to detect complications promptly."



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DELEGATES
FOLLOWING
JOSEPH'S
PRESENTATION AT
THE 2023 MIDWIFE
SYMPOSIUM.

Addressing a critical issue, Faith explains, "This approach addresses the problem of women reaching a qualified sonographer in emergency situations, as these specialists are typically only available at tertiary levels of care." Joseph echoes this sentiment, emphasizing that the goal is to equip midwives, nurses, and OB-GYN professionals with the capability to identify issues before they escalate. He states, "By the time a patient reaches my level, the professional ultrasound stage, they're already in critical condition. Our objective is to ensure that midwives, nurses, and OB-GYNs, whom patients interact with regularly, possess the capability to identify these issues long before radiological intervention is necessary."

Inteleos endeavors to reshape the narrative by expanding the pool of clinicians capable of delivering a certain level of care and timely interventions. Faith succinctly encapsulates this paradigm shift, declaring, "We are increasing the number of clinicians and trained physicians at a certain level, a pool that currently doesn't exist."

INTELEOS' STRATEGIC TRAINING OUTREACH TO NURSE-RUN CLINICS

In the pursuit of United Nations' Sustainable Development Goal 3, which seeks to ensure healthy lives and promote well-being for all at

all ages, Joseph astutely observes the evolving landscape of nursing over the past decade. He notes a seismic shift in the responsibilities of nurses, who have shouldered a heavier burden, largely due to a shortage of skilled Obstetrics and Gynecology (ObsGyn) practitioners. "We're witnessing a significant exodus of doctors either emigrating or retiring from the healthcare sector," he remarks. "Consequently, nurses find themselves undertaking tasks they haven't previously handled as we grapple with an overwhelming influx of patients into these clinics."

Recognizing the pivotal role played by nursing institutions and nurse-run clinics, Inteleos has embarked on a strategic mission to extend training programs directly to these critical sectors. Their focus stems from the realization that the majority of patients navigate the healthcare system through nurse-run organizations. Faith elucidates this strategic approach, stating, "We're collaborating closely with various organizations, device agnostic, to ensure that our training initiatives reach the grassroots."

Emphasizing the importance of device affordability, Faith underscores the need for county governments to invest in accessible Point-of-Care Ultrasound (POCUS) devices. "Our aim is to ensure that every graduating midwife possesses a point-of-care ultrasound machine and has undergone rigorous training and validation of their proficiency in its use," she asserts. "This represents an invaluable county-level investment – providing access, offering training, validating proficiency, and equipping them with the necessary tools."

However, Inteleos understands that training alone is insufficient. In recognition of the ever-evolving technological landscape, they have implemented a structured mechanism to ensure the continuous enhancement of skills. "We've established a systematic schedule where individuals undergo periodic testing and skill upgrades, aligning with technological advancements," Faith explains. "This approach stands apart because it transcends conventional training paradigms. Skills can wither if left unpracticed, and we are determined to bring these vital skills and training to where they are needed most." She adds they want to make sure that they ensure a quality assurance mechanism that is embedded within the public and private sector, academia, and institutions to make sure that a mother is always treated by a skilled and proficient health care professional.

EXPANDING ACROSS AFRICA THROUGH STRATEGIC PARTNERSHIPS

Inteleos envisions a self-sustaining future, one that extends its reach beyond the borders of Kenya and South Africa, ultimately encompassing the entire African continent. Their blueprint for this ambitious expansion hinges on forging strategic partnerships and aligning with like-minded stakeholders who share their vision.

Joseph articulates this imperative by highlighting the pivotal role played by ultrasound device manufacturers in their vision. "Our collaboration with these manufacturers is paramount," he asserts, "as they possess invaluable insights into the dynamics of diverse clinics and healthcare settings."

Once these critical partnerships with device manufacturers are secured, Inteleos sets its sights on the private sector, engaging with private hospitals and clinics. Joseph explains, "To create a sustainable financial model, we need a diverse consortium of partners. The private sector, particularly those engaged in maternal-fetal care, becomes an integral part of this equation."

Expanding on this, he explains, "Within the private sector, we find a reservoir of funding potential, institutions eager to invest in training and quality assurance for their clinicians." The next step in their strategic progression involves engagement at the county government level, laying the groundwork for policies that will ripple upward to the national level. This will signify a seismic shift, a declaration that this endeavor is not just a necessity but an imperative.

Faith adds her perspective, emphasizing the significance of budgets allocated at the county level for human resources in health. She explains, "At the county level, there are allocated budgets for human resource development in healthcare. Transparent planning, accountability systems, and effective resource allocation ensure that funds reach our trainers, trainees, and healthcare professionals."

Reflecting on the shifting landscape

of healthcare initiatives, Faith notes a pivotal transition from donor-funded efforts to self-sustaining solutions. She elaborates, "Governments are now tasked with constructing sustainable systems, freeing themselves from donor dependence. Donors have played a crucial role in stimulating the market, but the onus is now on us to build locally-rooted systems. Sustainability becomes attainable when we prioritize the well-being of our women and children, recognizing their pivotal role in economic growth and development."

avoiding conflicts of interest and ensure the compatibility of devices within our designated market." Moreover, as Joseph underscores the significance of equipment maintenance and warranties to safeguard the continuity of ongoing initiatives, he emphasizes, "Data may be collected during trials," elucidating, "but the sustainability of our efforts hinges on the proper maintenance and continued support of these devices."

Joseph further unveils Inteleos' strategic partnerships in Kenya, revealing a formidable consortium of



JOSEPH AND FAITH POSE FOR A PHOTO WITH A NURSE AT THE KAMPALA HOSPITAL LIMITED AT A PAST FUNCTION

Joseph provides further evidence of this paradigm shift, citing South Africa's private institutions as trailblazers in funding education. He points to a prominent South African institution that has already committed to POCUS training, underscoring the growing recognition of this model's sustainability.

Delving into the intricacies of funding, Joseph delineates its multifaceted nature explaining that, "Our financial focus encompasses curriculum development, device acquisition, and market-aligned device procurement. We prioritize

collaborators. These include the pivotal Ministry of Health, an instrumental force in bringing national initiatives to fruition. Alongside them stand partners such as the Kenyan Health Care Federation, AMREF International University, and the Center for Health and Development, symbolizing the rich tapestry of stakeholders dedicated to propelling positive transformation in maternal-fetal care.

NAVIGATING THE COMPLEX TERRAIN OF ULTRASOUND AND



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INTELEOS LEAD, FAITH MUIGAI POSE FOR A PHOTO WITH DELEGATES TO MARK THE END OF POCUS WORKSHOP IN NYERI, KENYA

POLICY REFORM

The journey towards transforming maternal-fetal care in Africa is a challenging one, marked by multifaceted hurdles. One of the most formidable obstacles faced by Inteleos in its mission is the complex world of policy advocacy.

"Policy doesn't change overnight," underscores Faith, a prominent figure in Inteleos' efforts. She elaborates on the intricate process, emphasizing, "It necessitates thorough research to establish our current baseline. We must then convene stakeholders and secure their consensus on the path forward."

This endeavor, Faith reveals, is often marred by apprehensions among professionals who fear a dilution of their value. As skills are entrusted to other cadres, some perceive it as a diminishment of their standing. However, the reality is quite the opposite, as these shifts empower individuals to focus on tasks that fully leverage their technical expertise. An illustrative example lies in certified nursing assistants tasked with monitoring blood pressure. "They report to the nurse based on predefined parameters," Faith elucidates, "ensuring that when critical values surface, immediate action can be taken."

"A similar challenge looms large in the realm of ultrasound, where certain skills traditionally held within the domain of radiologists and radiographer sonographers need to be entrusted

to other healthcare cadres. This necessitates a harmonized agreement among stakeholders."

Another hurdle arises from competing interests that often overshadow the broader healthcare agenda. Faith calls for a shift in perspective, asserting, "Countries must articulate their needs clearly. We should determine what's essential for our market and refrain from adopting initiatives thrust upon us without regard for their true utility."

Multidisciplinary communication, or the lack thereof, represents yet another barrier. Within the medical landscape, various disciplines such as radiology and Obstetrics-Gynecology (ObsGyn) often function in isolation. Faith bemoans this fragmented approach, explaining, "When we introduce ultrasound POCUS training, it inadvertently sparks competition."

FORGING A PATH TOWARDS COLLABORATION AND HEALTHCARE TRANSFORMATION

While competition within the medical field isn't inherently harmful, its encroachment on the creation of seamless referral pathways poses a significant challenge. "Currently, professionals in different specialties operate in silos, failing to create seamless pathways for the sharing of critical information," observes Faith, highlighting a pressing issue that needs to be addressed.

The magnitude of the problem is not lost on Faith, who bemoans the persistent separation of healthcare disciplines. She laments, "We have yet to bridge these silos. Radiologists, sonologists like myself, nurses – we've all been compartmentalized, lacking a concerted effort to devise an effective referral network. This, I believe, stands as one of the most substantial hurdles confronting clinical medicine, particularly in the realm of ultrasound and POCUS."

However, Faith is quick to underline the importance of tackling these challenges head-on. She states, "Addressing these challenges is paramount in reshaping the landscape of clinical medicine in Africa and raising the profile of ultrasound and POCUS in maternal-fetal care." In her view, it necessitates a unified endeavor aimed at dismantling existing barriers, nurturing collaborative spirit, and devising an integrated approach. The ultimate goal, she asserts, is to position the health and well-being of mothers and infants at the vanguard of healthcare transformation on the continent.

In essence, the path forward involves transcending competition, fostering synergy among healthcare professionals, and weaving a tapestry of collaboration that promises a brighter, healthier future for maternal-fetal care in Africa.

A VISION FOR THE FUTURE: COLLABORATIVE HEALTHCARE IN AFRICA

In the near future, Inteleos wants to strongly plant itself on the African continent and be able to feed into the African continent specifically for their needs. "One of the things that Inteleos is very good at is providing for the needs of the people that they train," Joseph says.

Joseph outlines an ambitious blueprint for the organization over the next five years. He envisions a landscape where nurses, midwives, and clinical officers attain quadruple certification, not just in POCUS or maternal-fetal medicine, but also in vascular specialties, musculoskeletal disciplines, abdominal trauma expertise, and emergency room proficiency. "In the next five years on the continent of Africa," he asserts, "Inteleos aims to see POCUS cease being a mere accessory and become ingrained as second nature."

For Faith, the forthcoming years are intrinsically linked to bolstering human resources for health, ultimately translating into the delivery of high-quality, safe, and affordable care. She expounds, "Our goal is to delve into the foundational values and invest in solutions that yield a profound impact on saving lives,

with tangible benefits for sustained economic productivity and development."

Faith passionately emphasizes the far-reaching implications of maternal health, recognizing that the loss of a single mother within a community carries profound consequences. "When you invest in a mother," she asserts, "you invest in a family, which in turn has a ripple effect on a country's productivity."

Joseph, in his closing remarks, calls for a transformative shift in the dynamics of healthcare systems throughout African hospitals and healthcare facilities. He advocates for unity among clinicians, urging them to cease competing with each other and embrace collaboration as the cornerstone of progress. "There's an abundance of patients in Africa," he notes, "but the fragmentation and lack of cooperation in healthcare settings, especially concerning women's health, hinder progress."

Joseph's vision is clear: a harmonious, collaborative environment where the health and well-being of patients take precedence over competition. In the realm of POCUS and women's health, as well as healthcare as a whole, Joseph ardently desires to witness African healthcare professionals working together, dedicated to the collective betterment of patients and the communities they serve. **HCMEA**

FAITH MUGAI HOLDS
AN INFANT IN ONE
OF THE OUTREACH
FUNCTIONS.

