



MATERNAL HEALTH SUMMIT

9th - 10th November 2022

Radisson Blu Hotel Nairobi, Upper Hill, Nairobi, Kenya

The following report details the Maternal Health Summit held between November 9, 2022, and November 10, 2022, through a collaboration with Inteleos and the Kenya Health Federation in Nairobi, Kenya.

Numerous research indicators reflect the trends in low-cost ultrasound equipment is becoming increasingly prevalent; in fact, access to equipment outpaces healthcare providers' ability to sufficiently train clinicians. This access escalates the urgency to ensure providers are certified and patients are safe. High rates of maternal deaths are attributed to well-known and preventable causes. They include obstructed labor, complications of unsafe abortion, infections, hemorrhage, and high blood pressure. Most of these deaths could be avoided if the patient's care is provided by an assessed and certified health professional with the proficient use of ultrasound. During antenatal care, pregnant women can be screened for complications and given advice on a range of issues, including place of delivery, and needed referrals.

The Summit initiated dialogue to develop a unified roadmap to strengthen and sustain the skills of regulated healthcare cadres through implementing point-of-care obstetric ultrasound (rapid screening) education, training, and certification, as a focused strategy to reducing preventable maternal-fetal morbidity and mortality. In attendance was representation from government, regulators, academia, professional associations, frontline professionals, and beneficiaries of care. Focused entirely on the United Nations Sustainable Development Goal 3.1: "By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births."



SUMMIT DESCRIPTION AND KEY ACTIVITIES

The Summit's initiative focused on bringing together key stakeholders and thought leaders to discuss how to improve maternal-fetal outcomes in Sub-Saharan Africa through access to diagnostic point of care ultrasound and upcoming innovations and opportunities in emerging markets, focusing on goals and desired outcomes.

Welcome Remarks:

Dale R. Cyr, MBA, CAE: CEO of Inteleos began the session by giving an introduction of Inteleos - the organization, purpose, and its vision to partner with the Kenyan medical expertise community to improve maternal care. Inteleos is a non-profit organization whose role is to certify healthcare professionals and their strategic goal is to reinvent assessments for the 21st century. Inteleos is a mission driven community that serves to have a positive impact in advancing global health. So far, Inteleos has certified over 125,000 healthcare professionals around the world.



Dr. Walter Obita: Director of the Board, Kenya Healthcare Federation, also welcomed the stakeholders and thought leaders by promising the Summit would provide insights from various focal conversations from service delivery to financing of medical equipment.

Opening Session:

Keynote: Dr. Marleen Temmerman: Director, Center of Excellence in Women and Child Health, Aga Khan University East Africa stated that academics should get out of their comfort zone and encouraged that it is only through partnerships that we are able to achieve notable successes. She explained that it is more difficult to lower maternal mortality because it has a lot more to do with not only the health sector but also women's rights. She quoted that, 'Women are not dying of diseases we cannot treat, they are dying because societies are yet to make the decision that their lives are worth saving.'



Official Opening: Dr. Judith Awinja: Ministry of Health-Director of Nursing Services provided the opening address and explained that diagnostic services for maternal and child health are very limited. Many measures are being put into place to investigate what we can do best. Most cases of maternal deaths are from the rural areas and often go unreported. Reports show that most mothers cannot afford to go to the facilities for

diagnostic services. It is important to rely on documentation to guide us to improve. The three critical areas are: Maternal near misses, maternal deaths, and severe maternal outcomes.

Importance of HRH Capacity Building



Prof. Tammary Esho: Deputy Vice Chancellor, Amref International University. Africa bears 25% of the global health burden with 1.3 trained healthcare workers, which is far below the globally recommended range of 4.5 per 100 populated for us to accelerate SDGs. The continent has an estimated 6.1 shortage of health workers and a projected global projected shortage of 10m by 2030. The summit was

needed to engage in this conversation that will help the key players enhance partnerships/collaborations to build capacity of Human Resources for Health in Point of Care Ultrasound.

Empowering Nurse Midwives and Clinical Officers: Decentralizing Obstetric Ultrasound Screening to Point of Care Setting



Inteleos, represented by Dale Cyr (Chief Executive Officer) and Pamela Ruiz (Chief Business Development Officer) expounded on the organizations’ “Grand Challenge” in expanding reach and impacting health outcomes by amplifying the role of standardization and certification of skills through traditional and advanced approaches (virtual training, mobile technology, artificial intelligence). Inteleos

is in direct alignment with the United National Sustainable Development Goal 3.1: to reduce maternal mortality rates to less than 70 per 100,000. The overarching goal is to reduce maternal-fetal mortality by 10% in 5 years, by enhancing nurse/midwife and clinical officer scope of practice on rapid perinatal screening through point of care ultrasound and building sustainable economic empowerment models that positively contribute to national objectives.

Panel: Barriers and Enablers That Influence Utilization of Ultrasound Screening Services Among Antenatal Women: Care Models in Kenya and Uganda – Presentations and Q&A



Joseph Mutweleli: Head of Partnerships at Jacaranda Health, gave an introduction of Jacaranda Health and their programs and how they work towards their mission where all mothers experience childbirth safely and with respect, and all newborns get a safe start in life. Jacaranda Health creates low cost, high impact, innovative solutions that are scalable, adaptable and can provide data to decision

makers to guide prioritization and resource allocation.



Jaime Fiorucci: Co- Founder, HealthEd Global noted three problems to be solved: affordability, accessibility, and equity. Their work revolves around how to take the concept of traditional birthing attendants and transitioning that into an active referral program to healthcare providers.

Priscilla Ngunju: Amref International University. Priscilla explained that regulation would be instrumental to the success of this project. The barriers witnessed are a lack of understanding amongst the mothers, and lack of quality training coupled with monitoring.



Panel: The Role of Original Equipment Manufacturers (OEMs) in Innovating and Designing Tools to Address Needs in Low-Resource Settings



Dr. Muthoni Ntonjira: CEO- Philips East Africa. Phillips focuses on health systems holistically from the first patient contact, capacity building for the health care provider, monitoring the entire patient pregnancy journey, software, and hardware component: affordability and ease of use. They developed the Modern Obstetric Monitoring Solution (MOMS) which has a patient interface and the health worker app and the doctor/midwife app. The app monitors the pregnancy through the first 1000 days of life. They have collaborated on the Mimba yangu project with Agha Khan University, Agha Khan University Hospital and Amref International University. To ensure their devices are reaching the right hands, Philips has come up with solutions to financing entities to help bridge the cost barrier.



Enya Seguin: Delft Imaging, introduced Delft Imaging and their work in developing countries. Delft Imaging's devices use Artificial Intelligence as an aide for triage to identify high risk pregnancies and aid in referrals to make screening more accessible at the primary level. As a social enterprise, it is important to incentivize women to have regular checks.



Alexander Oketch: Regional Project Development Director, GE Healthcare described that GE technologies are predicated on affordability, quality, low maintenance and AI enabled with



a training package to support the rural environments. GE Foundation, he explained, is the social enterprise arm of the company that supports different programs around the globe. They have collaborated with various partners to implement several strategic projects. They also work with various models to finance medical equipment. They also have a training center in Karen to ensure that the systems are used

appropriately for the highest quality of care that can be afforded.

Panel: Innovative Financing Solutions to Increase Access and Uptake of OEM Solutions



Kennedy Okongo: Director East Africa, Medical Credit Fund began by introducing the medical credit fund, a branch of PharmAccess. Mr. Okongo advised HSMEs to invest in the right quality equipment for their facilities. He warned on depending on donations because they often come with unexpected consequences. He insisted on the HSMEs understanding their contracts of purchasing because the fine

print can often be used against them with cheap equipment often coming with longer-term consequences.



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Angela Muga: Health Sector Head - Cooperative Bank introduced Co-op Bank and their model. Cooperative Bank's partnership with IFC has helped bridge a gap in the medical space to help HSMs access medical equipment. They also focus on healthcare professionals in many hospitals where facilities are crafted to help meet operational expenses as individuals and hospitals. She informed the participants that in the long term, getting equipment from unauthorized equipment manufacturers costs more. The OEMs often take personnel through equipment (not clinical) training which is a perk that other equipment manufacturers do not have the capacity to do. She explained that they focus a lot on the health sector, and they have deep dived into offering solutions for the health space with very competitive terms, rates and limits.



Dr. Eric Mbutia: CMO, Ilara Health explained Ilara Health's goal of building tech-enabled primary health centers by leasing and financing acquisition of essential diagnostic devices and commodities, digitizing their medical records, and clinical operations hoping to help improve diagnostics and health outcomes in low- and middle-income Africa. He discussed that at the center of their operations, they insist on quality and smart devices to ensure remote support. Due to this, Ilara Health leans more toward OEMs.

Panel: Accelerating Specialization: Training and Certification

Ibrahim Wako: CEO of the Clinical Officers Council of Kenya began by stating that there is indeed a need of POCUS in the country. Globally, the issues of maternal and infant mortality are widespread, and there is a need to provide solutions such as access to POCUS especially in resource constrained areas. The space needs to be taken over by training institutions and regulatory bodies. He explained that task sharing and task shifting helps in increasing accessibility of services.



Dr. Ruth Wamae, Treasurer of the Kenya Gynecological Society (KOGS) provided perspective on reducing maternal and infant mortality, primarily through improving care teams. Every member of the team has an important role to play, and she encouraged that any new skill acquired by any member of the team would be beneficial in tackling the challenges related maternal and fetal deaths.

Improving POCUS would improve screening and improve the referral system. Regulatory bodies need to encourage curriculum enhancement to encourage training to increase use of POCUS to ensure its sustainability and releasing teams that are competent. Students should be trained from the institutional level to allow a seamless transition into the job market. She explained that in her practice, they train gynecologists to enhance their diagnostic practice during their conferences as pre-service training to enhance competencies.

Jevas Kenyanya: President of the Society of Radiographers in Kenya explained that role extension has become a global phenomenon due to resource constraints. There needs to be a curriculum, content and clear regulations even on timelines of training to ensure competence of the service provider. He reiterated that POCUS training should be integrated in the learning curriculum at the college and university level. He described a model where nurses were trained to only identify anomalies in ultrasound and refer as needed. He pointed out that equipping facilities with the right equipment is a good first step in ensuring POCUS is implemented and increasing HRH capacity at the facilities to implement such interventions.

Edna Tallam: CEO of the Nursing Council of Kenya outlined that task sharing has been going on for midwives and nurses. She gave a background of her work history and her experience

with POCUS and said that their scope of practice as nurses was very clear. Task sharing should be matched with competencies, scope of practice, regulation and delegation of roles. This should be defined in the institutional and internal policies on what needs to be done and by whom.

Panel: The Role of Academia and Professional Associations in Defining Scope of Practice and Tailoring Curricula to Incorporate Innovations and Evidence-Based Practice

Peninah Mulwa: Midwife, Rea Medica Ltd. demonstrated the importance of offering dignified care to the patients so that they may understand the reasons for the care they are receiving. She explained that the midwives' association are strong advocates for compassionate care when serving the patients. The cost of education has been very high, she explained, and the cost of undertaking the training for the existing nurses and midwives needs to be evaluated.



Dr. Miriam Wagoro: Nurse Midwife and Senior Lecturer, University of Nairobi described that as academia, they train nurses and midwives based on the recommendations by the policies. She insisted that the curriculum needs to respond to the needs of society. The curriculum development process is a done collaboratively with the Nursing council of Kenya, the professional associations, policy recommendations (AU Agenda and WHO). She further described that there needs to be a way to integrate POCUS training in the curriculum, i.e., through fellowships, level of education (bachelors or masters), integration of technology in training to integrate it in the system. Specialists in the field must collaborate and evaluate issues on ethics and litigation. The knowledge translation frameworks they have at the university help in aligning the curriculum with the needs of the communities.

Dr. Kelly Oluoch: CEO, Kenya Medical Training College gave a background on the Kenya Medical Training College (KMTTC). He explained that they offer Point of Care Ultrasonography as one of their courses. Academia has a role in curriculum development. This process needs to be consultative in nature. Practitioners and academia must have a meeting of minds to ensure the curriculum addresses real challenges.

Beatrice May: Program Manager, Aga Khan University explained that there is an interplay of professional associations and academia because they play a key role in the validation of scope of practice. In the institutions, they learn the necessary skills and afterwards the professional associations play a key role in professional development. Open and honest

conversations need to be had on policy, regulations, and litigation for POCUS. She concluded by mentioning that research also plays a big role in generating indicators and data.

Keynote: Insights on Human Resources in Lower-Middle Income Countries



Dr. Micah Matiang'i: Amref International University, presented on Amref International University and described the Midwife Ultrasound Project. He mentioned that the human resources of health are overworked with many facilities experiencing severe HRH shortages with other skills not being tapped. When deploying technologies in such areas, the challenges that are faced

in these facilities must be evaluated to make it sustainable. Living in the era of digital innovation there needs to be a focus on e-health and e-learning. Such interventions need to be used to help improve service delivery and learning outcomes.

Accelerating Specialization: Training and Certification



Prof. Diana Dowdy: Inteleos, began her presentation by explaining that much of the maternal death seen is needless and there are affordable interventions that could assist. The reality is that the interventions are not matched with the places that have the most need. She agreed that midwives and clinical officers should be allowed to perform POCUS if they are trained and equipped with the

right skills. It is beneficial to detect anomalies during pregnancy through ultrasound. The end goal of the curriculum is to ensure clinical competence and follow-up needs to be a regular part of the process.

Accelerating Specialization: Monitoring and Evaluation



Poonam Vora of Maitri Capital and Dimitri Syrris of Baotree. Poonam began by introducing Maitri Capital and the scope of their operations. Dimitri introduced Baotree and their work. He then spoke about the Software as a Service (SaaS) tool they have developed that provides both online and asynchronous verified data collection. Lastly, Poonam gave an overview of the results of the baseline

survey that they received from various surveys collected in the country.

As breakout discussions unfolded, because of the broad range of questions, some topics and themes emerged that were relevant to various development initiatives. These ideas were shared with the joint partners to facilitate cross-task force communications and idea generation with stakeholders.

Group Work Presentations: Action Plan

The participants were divided into teams and presented with four focus areas that they needed to provide their recommendations on. Their feedback is summarized below.

Working Group Focused on Policy: Recommendations



There are no policies around POCUS and the first step would be to create the policy. The scope of work, eligibility and training and linkage will then fall into place. POCUS should be offered at the primary healthcare level and is where POCUS needs to be implemented. It should focus on the rural areas where there is the most need. The person that provides the care should be able to use a

simple handheld machine.

Scope of Work: A policy needs to be developed on the personnel and what needs to be screened needs to be specified. The alignment of the MNCH policy needs to be incorporated in the POCUS policy.

Linkage: There is an existing referral system, but it does not define how ultrasound referrals need to be done. This policy should be enhanced to include POCUS referral structures.

Stakeholder involvement is critical to the process. An action plan needs to be developed on how to actualize this. There is a huge need and policy gaps are a big challenge. There needs to be standardization and accreditation at the national level to ensure that once policies are developed, there are clear guidelines of operation.

Monitoring and evaluation need to be considered to ensure that there is actual impact in the communities.

Working Group Focused on Academia and Training: Recommendations

There needs to be a training needs assessment among the target end users (health workforce) and factor the baseline studies that have already been done. The regulatory bodies that regulate the frontline health workforce must then be engaged. Once they recommend the scope of practice, this will provide a syllabus that will aid in development of a curriculum. They recommended a cross-cadre curriculum to save on costs.

- Regulators need to agree on CPD points to ensure that the end users benefit from the training as a means of professional development.
- Quality assurance needs to be done by support supervision to ensure that there is alignment from the national level to the county level.
- There must be a mechanism for rating the facilities to evaluate the progress of the maturation of a facility.
- Monitoring and evaluation mechanisms need to be in place.

Working Group Focused on Implementation: Recommendations

- Formation of a national steering committee of the stakeholders formed from the members present during the summit
- Formation of a technical working group under the steering committee to develop a curriculum
- Follow up for the training participants to evaluate the impact of the training.
- Regulatory bodies need to come up with CPD points and evaluate how to regulate the training
- The 3 key target areas are: real rural, peri-urban areas/slum areas and urban areas
- Financing: How are we going to finance the project? Equipment and commodities that will be used during the training
- Mentorship for the participants

Working Group Focused on Sustainability: Recommendations

- The service needs to be affordable



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- Availability of affordable equipment
- Skilling of the health workforce that have direct contact with the mothers
- Product awareness/Service awareness
- Providing alternative sources of energy to make the machines run for the areas where there is no electricity. The product manufacturers need to consider this for their equipment
- Fighting corruption to ensure the project is well implemented and sustainable.
- How do the patients get funding to afford the service? The national and private insurers need to be included in this conversation for POCUS to be included in various packages
- Ensure the training is sustainable by encouraging employers - both government and private employers - to sponsor the staff members and have a committal agreement to retain the worker for a specific timeline to reduce staff turnover.
- For longevity, incorporate the training in the main service curriculum of training
- Engage the national regulators to accredit the curriculum at the national level
- The method of implementation should consider self-paced learning with intermittent in person learning or in-job training/mentorship
- Certification should be standard and accepted and should contribute to professional development
- Content should be standardized

INDICATED NEXT STEPS

With the conclusion of the successful Maternal Health Summit in Nairobi, the stakeholders agreed that it would be beneficial for midwives, nurses, and clinical officers to be clinically trained and certified in point of care ultrasound to enhance their specific clinical practice and to know when to refer. Key Leaders in health: Dr Marleen Temmerman (Aga Khan University), Dr Judith Awinja (Kenya Ministry of Health) and Professor Esha (AMREF International University) provided perspective on the current state of health systems in resource constrained settings and placed emphasis for the need for increased access to quality health services through purposeful investments in infrastructure, supply chain, medical equipment, technology, partnerships and importantly, development and retention of human capital.

There was none disputed consensus that standardized protocols guided by national policy, regulatory alignment, accelerating training and certification are priorities to achieving the targeted goals. Increased evidence would be extrapolated from existing interventions and scaling programs and strengthening data insights through ongoing monitoring, evaluation, and research.



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The two-day forum reinforced the need to strengthen access and reach to quality health services and address existing human resource for health gaps by supporting experts (Sonography and Radiography). Adopting recognized training and certification programs for nurse midwives and clinical officers in point of care ultrasound (POCUS) as a perinatal rapid assessment screening towards improving maternal-fetal health outcomes.

Collaborating with Kenyan leaders, Inteleos is privileged to embark on a trajectory towards transforming communities served.

Addendum: Event Survey Feedback

Kenya Summit Stakeholder Survey

UPGC Kenya Summit 2022

The convening brought together key stakeholders and thought leaders to discuss how to improve maternal-fetal outcomes in Sub-Saharan Africa through access to diagnostic point of care ultrasound and upcoming innovations and opportunities in emerging markets, focusing on the following goals and desired outcomes:

- Understanding the current state and access to quality health services in resource constrained settings.
- Training and certifying midwives and clinical officers in point of care ultrasound.
- Ongoing maintenance of proficiency, certification, and implementation train of trainer models.
- Viable economic models for clinicians, hospital systems, insurers, manufacturers, and funders to ensure a sustained Kenyan model.

The forum aims to strengthen dialogue, create an enabling environment to develop a unified roadmap to strengthening skills of our health cadres through implementing ultrasound education, training, and certification as a focused strategy to reducing preventable maternal-fetal morbidity and mortality throughout the region.

Would you recommend this event?

Yes, quarterly or bi-annually	2
Bi-annually	2
Yes, every quarter of the year	2
3 months and frequently to get in touch on what has been implemented today.	2
Yes, at least twice a year to assess progress and plan of action	1
Yes	3
Yes, policy preparedness pilot and implementation structure	1
Yes I would highly recommend more summits for following and possibly twice a year	1
I would recommend quarterly if we are to push for POCUS to be adopted in our system	1
Yes, frequently. Depends on the implementation plans, minimum once a year	1
At least one to twice a month	1
Yes, should be done mainly in the initial phases of the project but afterwards on a quarterly basis	1
Yes, as often as practically possible to a point where contentious issues are satisfactorily handled bearing in mind country's legal systems and professional ethics.	1
I would recommend another meeting once we have clarity on positions about the policy makers of the country. Also, maybe more focus group to work on a potential new policy to propose to the government.	1

Which presentations were most useful? Please advise on any additional materials or resources that would be useful.

- Individual perspectives; Midwives & beneficiary of care. Group presentations on 2022-2023 Action Plans
- All of them were useful
- On training and certification
- Presentation on policy, academia, implementation, and sustainability was useful
- All were invaluable
- Action plan
- Accelerating specialization training and certification
- Insights on human resources in lower middle-income countries. Accelerating specialization, training and certification
- All presentations were very useful to my day-to-day work
- Curriculum, Training
- Accelerating specialization training and certification
- Insights on human resources in lower middle-income countries



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All presentations were useful. Kindly avoid commercialization of POCUS rather focus on patient care and clinical significance.

Panel discussions were most useful

The action plans on policy, academia, training. Implementation, sustainability and finance

Policy development where the summit and POCUS should be laid

I loved the presentations of stakeholders, but I would recommend they lower the process so that facilities can be able to afford.

Insights on Human Resources in LMIC

I enjoyed most of the sessions by OEMs and the panel on training and certification or regulations

Human Resources in health care and experience of a service provider and consumer on POCUS. Focusing on multidisciplinary team approach and including the voice of the consumer while planning

Please provide feedback on strengthening the Program.

Moving forward plan on involving actual midwives from all settings

Renumeration of the midwives would be key in structuring it

Make the training on POCUS be affordable for all and precise so as more midwives and other healthcare cadres are able to attend and provide sponsorship for the trainees.

Begin from policy level involving the intervention of the national government trickling to the counties

Harness all available data and make strong document and utilize available resources to begin with. Focus on and address data from as audit and research clientele, human resources but on systems as well. Focus on and address data from as audit and research

It was great to come for the summit because it has become an eye opener to me that it can assist the midwives in prompt and efficient managed detection, referral and follow-up.

Emphasis should be on implementation

In future, please include the county decision makers to have inclusivity

Allow more time for questions during hot topics sessions. I do believe that the brainstorm session on the 4 Develop policy of the role extension, scope of practice and certification or regulations of POCUS practice among midwives.

Early involvement of stakeholders

Have more of these meetings and get more ideas

Involve all in implementation

This summit should be frequent and consistent. Same attendees should be called again and again until POCUS is rolled out.

If possible, a residential summit will be better

Do you have any additional comments or suggestions?

The program should be incorporated in our training institutions

Very well presented. Thank you. The presentations hold a lot of knowledge, keep up.

Probably policy, did not feel the presence of MOH

Sustainability and financing of both training and equipment as well as integrating the training in basic courses will help maintain the skill through generations

Disseminate and publicize data. Continually engage stakeholders across all counties.

Great work. Looking forward to program implementation and delivery

Great job having all the stakeholders under one roof.

Consistent stakeholders' information and engagements are necessary.

Steering committee should be informed and meet soon.

Involve the FBOs more e.g CHAK, Catholic Secretariat and SUPKEM. Time was short, please increase it to 3 full days if possible.

POCUS is a necessity in midwifery and when incorporated in the curriculum so that it would be more effective