



# ADVANCING MATERNAL AND FETAL HEALTH

POLICY AND STANDARDS

POINT-OF-CARE ULTRASOUND (POCUS)  
TRAINING AND CERTIFICATION

Pamela Ruiz  
Chief Business Development Officer  
Inteleos



# The Global Leader in Certification: INTELEOS

## MISSION

Inteleos Fuels the Global Health Community to Ensure Equitable Access to Quality Care.

**45+ Years**  
**130+ Countries**  
**140,000+ Certified People**  
**1,500,000+ Patients Cared For Each Day**  
**18 Medical Certifications in 31 Specialties**  
**500+ Global Experts**  
**90+ Staff**

Inteleos is a non-profit certification organization that delivers rigorous assessments and cultivates a global community of medical professionals dedicated to the highest standards in healthcare and patient safety.



# BETTER HEALTH FOR ALL IN A CHANGING WORLD

**OUTCOME OF PROCEEDINGS From: General Secretariat of the Council: 29 January 2024**

**“Strengthen health systems and advance universal health coverage – to improve equitable access to quality, accessible, acceptable and available health services including sexual and reproductive health care services – with a focus on primary healthcare, community participation and engagement, essential public health functions, research and digitalisation, a skilled and sufficient health workforce”<sup>1</sup>**



# World Bank Group Aims to Expand Health Services to 1.5 Billion People

*Focus on improved affordability, expanded geographic reach, increased scope of services*

**WASHINGTON, April 18, 2024**—The World Bank Group today announced an ambitious plan to support countries in delivering quality, affordable health services to 1.5 billion people by 2030. This is part of a larger global effort to provide a basic standard of care through every stage of a person’s life—infancy, childhood, adolescence, and adulthood.

For decades, the World Bank Group has helped provide health services for women and children in more than 100 countries. A focused effort to become faster, work better with partners, and bring in the private sector has enabled

## RELATED

[Topic: Universal Health Coverage](#)

[Factsheet: World Bank Group Aims to Expand Health Services to 1.5 Billion People](#)

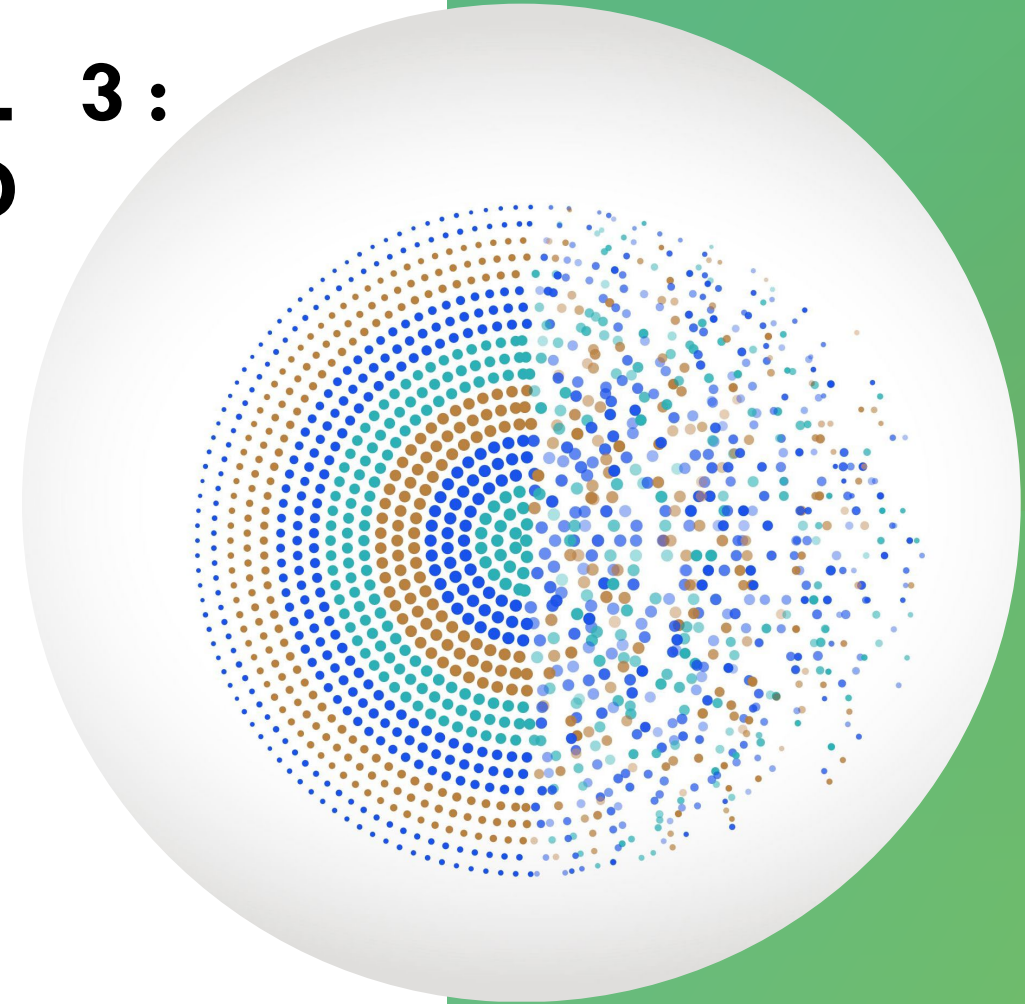
[Expanding Health Coverage For All \(PDF\)](#)

[Feature: New Health Target Announced at Spring Meetings](#)

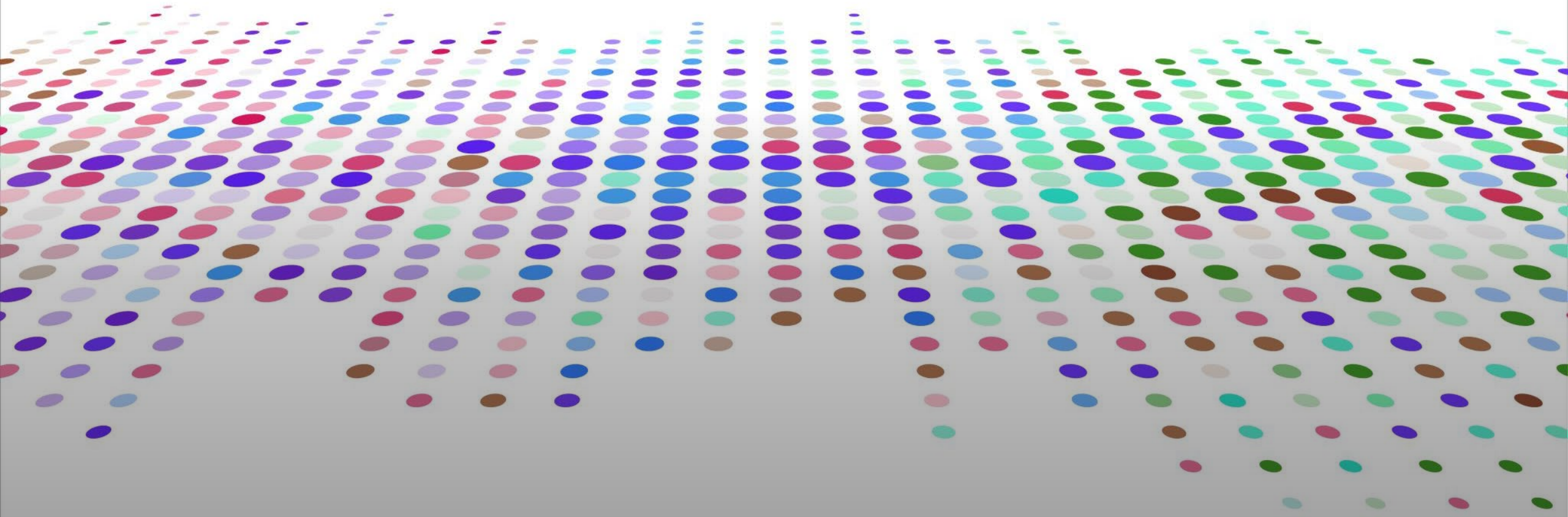
[Human Capital Ministerial Conclave: Realizing the Potential of Digital Technology and AI](#)

# UN STRATEGIC DEVELOPMENT GOAL 3: “GOOD HEALTH AND WELL BEING”

3.1: “BY 2030, REDUCE THE  
GLOBAL MATERNAL MORTALITY  
RATIO TO LESS THAN 70 PER  
100,000 LIVE BIRTHS.”



# PROBLEM # 1

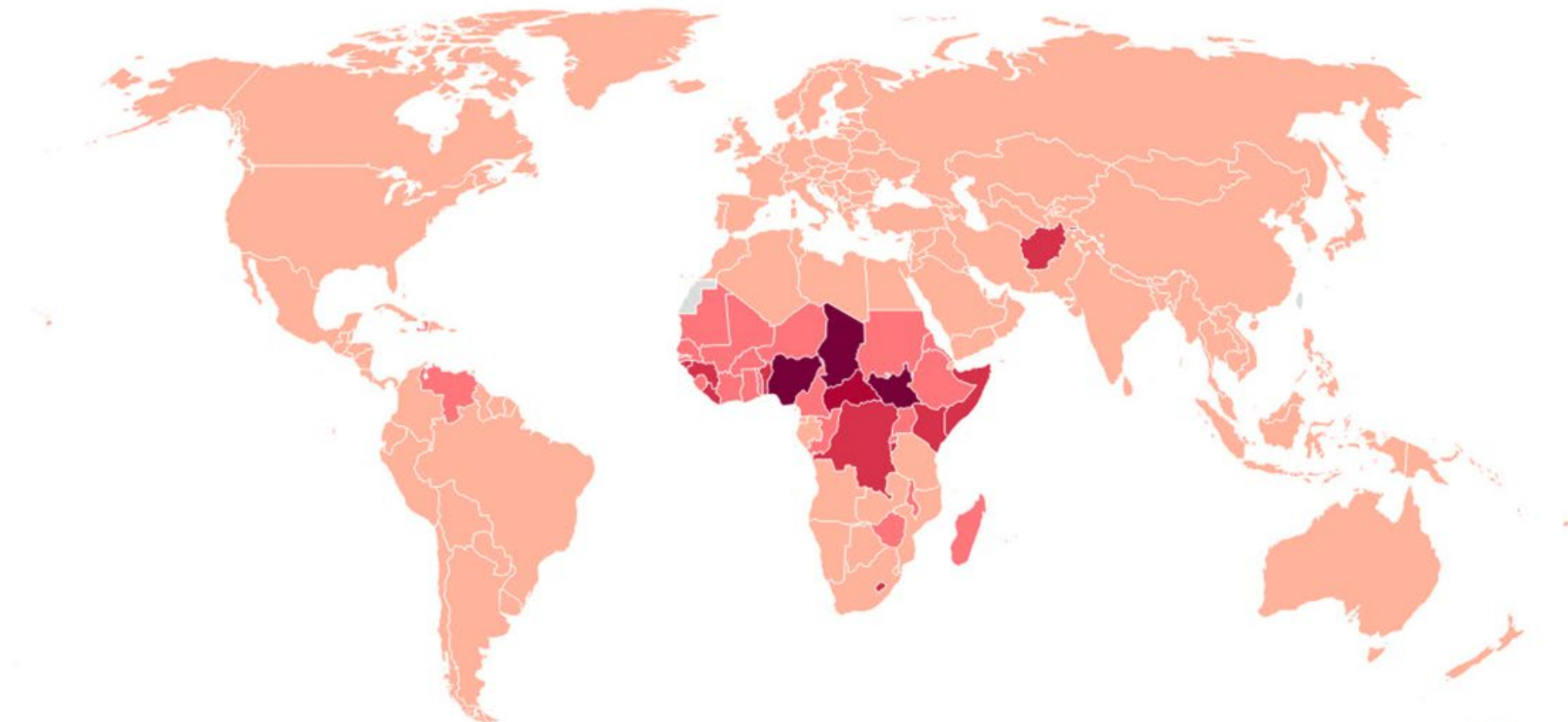


# MATERNAL MORTALITY IN SSA REMAINS STUBBORNLY HIGH

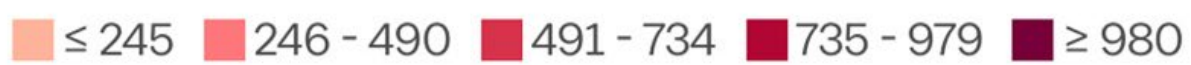
TARGET 3·1



REDUCE MATERNAL MORTALITY



The number of maternal deaths per 100,000 live births in 2020.



Source: WHO

---

## Sub-Saharan Data: Maternal Mortality (2017)

---

- Kenya: 50.22 million population, 25.27 million women
  - 342 women died per 100,000 births
  - 5,000 maternal deaths = .02% of female population
- South Africa: 57.52 million population, 28.9 million women
  - 119 women died per 100,000 births
  - 1400 maternal deaths = .004% of female population
- Nigeria: 190.9 million population, 94.19 million women
  - 917 women died per 100,000 live births – nearly 1%.
  - 67,000 maternal deaths = .07% of total female population
  - Nigeria accounts for 20% of all maternal deaths globally

**Many of these deaths are preventable.**

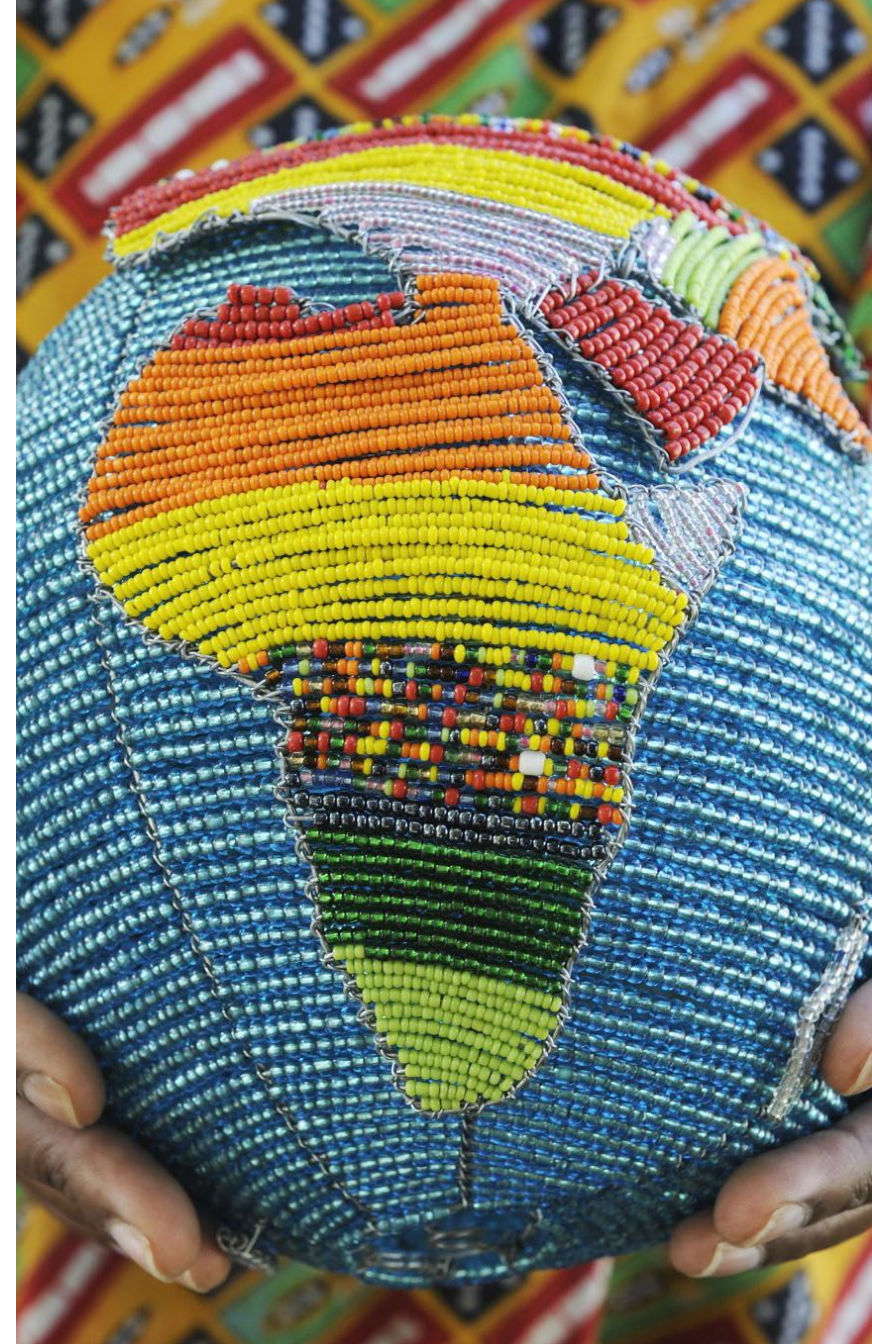


# A CLOSER LOOK

1 in 37 women in Africa have a likelihood of dying of pregnancy-related causes<sup>2</sup>

Hemorrhage accounts for 27% of maternal deaths<sup>3</sup> with 85% of post-partum hemorrhage (PPH) in SSA and Southeast Asia<sup>4</sup>

Many risk factors can be managed if there is quality antenatal care that includes ultrasound<sup>4</sup>



# THREE DELAYS IN CARE

1

Deciding to seek appropriate medical help for an obstetric emergency

2

Reaching an appropriate obstetric facility

3

Receiving adequate care when a facility is reached

[\\*https://pubmed.ncbi.nlm.nih.gov/9579750/#:~:text=The%20%22Three%20Delays%22%20model%20proposes,when%20a%20facility%20is%20reached](https://pubmed.ncbi.nlm.nih.gov/9579750/#:~:text=The%20%22Three%20Delays%22%20model%20proposes,when%20a%20facility%20is%20reached)





## ADDRESS #3: “RECEIVING ADEQUATE CARE WHEN A FACILITY IS REACHED”

- 63% of the Kenyan population is within one hour of a health facility<sup>5</sup>
- Most Kenyan healthcare facilities have at least one nurse or midwife<sup>6</sup> and most antenatal care is provided by midwives and nurses<sup>7</sup>



# ALL WOMEN MUST HAVE ACCESS TO QUALITY HEALTHCARE AT THE POINT OF CARE

- Midwives, nurses, and primary clinicians that stay within scope of OB ultrasound as part of “the referral chain...with structured and certified levels of competencies”<sup>8</sup> can reduce wait times
- Primary clinicians across LMICs can be certified to scan and document:
  - Fetal lie and presentation
  - Detection of fetal cardiac activity
  - Number of fetuses in the uterus
  - Location and position of the placenta
  - Amniotic fluid volume



# ACCESS TO QUALITY CARE

---

At the hands of a **proficient** clinician, ultrasound leads to life-saving interventions in up to 48% of women<sup>9</sup>

---

In a study from Liberia, ultrasound changed patient management in 62% of cases<sup>10</sup>

# IMAGING ULTRASOUND BEFORE 24 WEEKS OF PREGNANCY<sup>11</sup>

## 2022 UPDATE TO THE WHO ANTENATAL CARE RECOMMENDATIONS

TABLE 1: IMPLEMENTATION CONSIDERATIONS FOR INTRODUCTION OF OBSTETRIC ULTRASOUND SERVICES

Consideration	LEVEL			
	National	Subnational	Facility	Health Worker
National policies and standards of practice	Create/update and promote evidence-based policies, quality standards, and key measures for US use. Establish and update standards for education, training, and maintaining competencies to provider cadre. Promote a defined scope of practice for different cadres who conduct routine US. Include both public and private sector in policy dialogue and design.	Provide supervision and training to ensure pregnant women’s confidentiality and adherence to other quality standards. Oversee QI processes to achieve and sustain standards. Promote mechanisms that facilitate sharing US reports among facilities across the continuum of care.	Track key measures to assess adherence to national standards, including those that assess impact on overall quality and coverage of ANC services. Engage staff responsible for IPC in implementation of evidence-based standards.	Conduct/refer for US according to evidence-based practice, and document results. Understand how to determine GA/estimated date of birth and conduct standard components of US using evidence-based guidelines. Understand legal scope of practice for conducting routine obstetric US.

# WHO

## IMAGING ULTRASOUND BEFORE 24 WEEKS OF PREGNANCY<sup>11</sup>

“Countries should adopt a standardised curriculum and competency assessment for teaching health workers”<sup>11</sup>

LEVEL				
Consideration	National	Subnational	Facility	Health Worker
<b>Financial</b>	As part of an overall national maternal health budget, calculate the cost of equipment, ongoing supplies, service contracts, power supply and surge protection, environmental upgrades, and health worker capacity-building.	Contribute to budget estimation, particularly in regard to power supply and surge protection, environmental upgrades, and capacity-building of health workers.		Understand the cost of ongoing training/ refreshers for health workers, additional staff, maintenance, and recurring supplies and implications of adequate versus inadequate care and maintenance of equipment (including maintenance contract).
<b>Service delivery, including environment of care and equipment</b>	Understand geographic distribution of functional machines, health workers, and maintenance. Confirm power supply and surge protection for facilities. Purchase equipment based on intended use or purpose, distribution of working machines, health workers, and clinical needs.	Contribute to national and regional discussions on appropriate settings and timeline for introduction of US services. Guide decisions about rational distribution of US services (geographic, health system levels, etc.).	Install equipment in facilities that have met conditions to protect equipment from heat, electrical power surges, moisture, damage, and theft. Have adequate staff and maintain IPC practices. Comply with standards for equipment care, security, and maintenance.	Understand individual responsibilities for service delivery, including US assessment and/or referral, documentation, counselling, safe and effective use of US equipment, and IPC practices to avoid cross-contamination. Ensure findings from US are used to benefit the ANC clients and stay confidential. Understand and comply with requirements for care, security, and maintenance of equipment at local levels.

ANC: antenatal care; GA: gestational age; IPC: infection prevention and control; QI: quality improvement; US: ultrasound

WHO Department of Maternal, Newborn, Child and Adolescent Health [http://www.who.int/maternal\\_child\\_adolescent](http://www.who.int/maternal_child_adolescent) WHO Department of Reproductive Health and Research <http://www.who.int/reproductivehealth> WHO Department of Nutrition for Health and Development <http://www.who.int/nutrition>



# A GLOBAL STANDARD OF PROFICIENCY FOR POCUS THROUGH CERTIFICATION



Point-of-care ultrasound has been used in Sub Sahara for 10-15 years but not uniformly



Many different trainings and research studies by universities and device manufacturers for OB POCUS, but no cohesive effort or standard



Research states that in LMICs “there is a need for an internationally recognized standard of training or a certificate program”<sup>12</sup> and that “professional organizations and inter-governmental organizations should...create standard curricula and...certification in basic ultrasound for clinicians”<sup>13</sup>

# A STANDARD POLICY FRAMEWORK

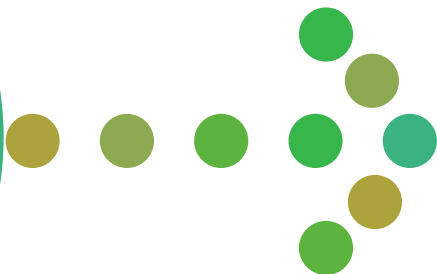
University  
curriculum



On the job  
training



Research  
cohorts



Standard  
Quality

# INFRASTRUCTURE AND STANDARDS ARE NEEDED

“There is a need to **incorporate obstetric ultrasound training** in both the **undergraduate and postgraduate curricula of midwifery training** in African countries. In-service training must be done for the midwives that are already in practice to **expedite the task shifting and extension of scope of practice** regarding obstetric ultrasound training to midwives as they are the **first contact and primary caregivers** for pregnant women across all levels of care in African countries.”<sup>14</sup>

Sanele Lukhele

Lecturer at University of the Western Cape; Midwife, Maternal and Child Health Specialist

# CASE STUDY: KENYA

- Stakeholder engagement, consensus and implementation – Public and Private
- Baseline canvas survey with Ministry of Health
- Ministry of Health: Creation and implementation of scope of practice, policies and procedures with subject matter experts
- Universities: Inclusion in curriculum, certification assessment at end of studies
- Health systems with ultrasound proficient primary clinicians at every level and county
- Initial funding (USAID), sustainable financial models may include:
  - Global and national government subsidies towards workforce development and Universal Health Coverage (UHC)
  - Fee-based, building local economies
  - Bundled and subsidized by device manufacturers



# CERTIFICATION AS A GLOBAL STANDARD

“A standard provides a framework for ensuring **quality, transparency, and interoperability**. The international standard ISO/IEC 17024, Conformity assessment — General requirements for bodies operating certification of persons, provides a **global benchmark for quality certification**.

During recent years, this standard — developed by the International Organization for Standardization (ISO), Online 12 International Journal of HRD Practice Policy, and Research which represents members from **162 countries** — has fundamentally altered the delivery of certifications and created a very strong drive to **globalize personnel certification**.”<sup>15</sup>

Vijay Krishna, Ph.D

Consultant, International Organization for Standardization (ISO)  
Vice President, Credentialing, ANSI National Accreditation Board/ANAB

# CALL TO ACTION



Certification enables a **sustainable** common language and **standard** within healthcare that cuts across hospital systems and national borders



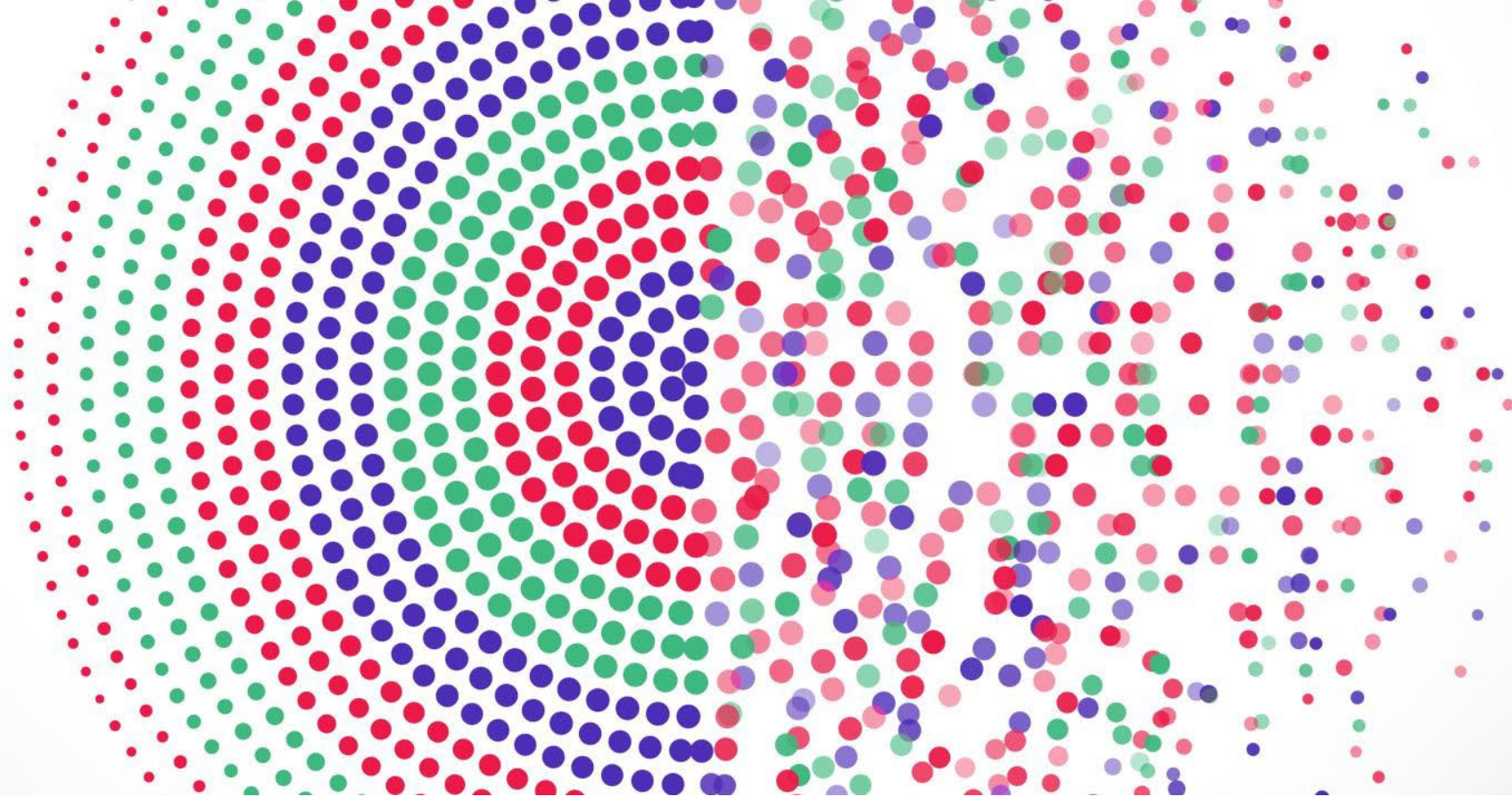
Ultrasound at the point of care is clinically sound and cost-effective<sup>16</sup> but capacity-building, policy and scaling needs **global support**



Global and national government subsidies towards workforce development and Universal Health Coverage (UHC) **will strengthen health systems**



Through global standards and certification as policy, access to **quality care rises for all**



# THANK YOU



[WWW.INTELEOS.ORG](http://WWW.INTELEOS.ORG)

[PAMELA.RUIZ@INTELEOS.ORG](mailto:PAMELA.RUIZ@INTELEOS.ORG)

[HTTPS://WWW.LINKEDIN.COM/IN/PAMELAMRUIZ/](https://WWW.LINKEDIN.COM/IN/PAMELAMRUIZ/)

# REFERENCES

1. <https://data.consilium.europa.eu/doc/document/ST-5908-2024-INIT/en/pdf#:~:text=The%20Council%20acknowledges%20that%20the,societies%2C%20including%20within%20the%20EU>
2. <https://www.globalcitizen.org/en/content/maternal-mortality-sub-saharan-africa-causes/>
3. [https://www.who.int/news/item/14-08-2023-who-announces-the-first-meeting-of-the-postpartum-haemorrhage-\(pph\)-bundle-guideline-development-subgroup#:~:text=Obstetric%20haemorrhage%20is%20the%20leading,to%20postpartum%20haemorrhage%20\(PPH\).](https://www.who.int/news/item/14-08-2023-who-announces-the-first-meeting-of-the-postpartum-haemorrhage-(pph)-bundle-guideline-development-subgroup#:~:text=Obstetric%20haemorrhage%20is%20the%20leading,to%20postpartum%20haemorrhage%20(PPH).)
4. <https://www.un.org/africarenewal/magazine/october-2023/who-issues-plan-tackle-leading-cause-death-childbirth#:~:text=Over%2085%25%20of%20deaths%20from,as%20infections%20and%20pre%20Declampsia.>
5. Noor AM, Amin AA, Gething PW, Atkinson PM, Hay SI, Snow RW. Modelling distances travelled to government health services in Kenya. *Trop Med Int Health*. 2006 Feb;11(2):188-96. doi: 10.1111/j.1365-3156.2005.01555.x. PMID: 16451343; PMCID: PMC2912494.
6. <https://dhsprogram.com/pubs/pdf/spa8/02chapter2.pdf>
7. Bidner, A., Bezak, E., & Parange, N. (2022). Evaluation of antenatal Point-of-Care Ultrasound (PoCUS) training: a systematic review. *Medical Education Online*, 27(1). <https://doi.org/10.1080/10872981.2022.2041366>
8. Wanyonyi SZ, Mariara CM, Vinayak S, Stones W. Opportunities and Challenges in Realizing Universal Access to Obstetric Ultrasound in Sub-Saharan Africa. *Ultrasound Int Open*. 2017 Apr;3(2):E52-E59. doi: 10.1055/s-0043-103948. Epub 2017 Jun 7. PMID: 28596999; PMCID: PMC5462610.



# REFERENCES (CONT.)

9. Okong P, Byamugisha J, Mirembe F, Byaruhanga R, Bergstrom S. Audit of severe maternal morbidity in Uganda--implications for quality of obstetric care. *Acta Obstet Gynecol Scand*. 2006;85(7):797-804. doi: 10.1080/00016340600593331. PMID: 16817076.
10. Kotlyar, Simon1,; Moore, Christopher L1. Assessing the utility of ultrasound in Liberia. *Journal of Emergencies, Trauma and Shock* 1(1):p 10-14, Jan–Jun 2008. | DOI: 10.4103/0974-2700.41785
11. <https://iris.who.int/bitstream/handle/10665/362037/9789240051461-eng.pdf?sequence=1>
12. Kim, E.T., Singh, K., Moran, A. *et al*. Obstetric ultrasound use in low and middle income countries: a narrative review. *Reprod Health* **15**, 129 (2018). <https://doi.org/10.1186/s12978-018-0571-y>
13. Sippel, S., Muruganandan, K., Levine, A. *et al*. Review article: Use of ultrasound in the developing world. *Int J Emerg Med* **4**, 72 (2011). <https://doi.org/10.1186/1865-1380-4-72>
14. Lukhele S, Mulaudzi FM, Sepeng N, Netshisaulu K, Ngunyulu RN, Musie M, Anokwuru R. The training of midwives to perform obstetric ultrasound scan in Africa for task shifting and extension of scope of practice: a scoping review. *BMC Med Educ*. 2023 Oct 12;23(1):764. doi: 10.1186/s12909-023-04647-w. PMID: 37828497; PMCID: PMC10571413.
15. Krishna, V. (2019). Developing a Competency-Based Credentialing Framework for National Human Resource Development. *International Journal of HRD Practice, Policy and Research*, 4(1). doi: 10.22324/ijhrdppr.4.102
16. Bussmann, H., Koen, E., Arhin-Tenkorang, D., Munyadzwe, G. and Troeger, J. (2001), Feasibility of an ultrasound service on district health care level in Botswana. *Tropical Medicine & International Health*, 6: 1023-1031. <https://doi.org/10.1046/j.1365-3156.2001.00807.x>