WCA2026 · Abstract #2352 · Track: Safety & Quality

Fifteen Years of Change: Advancements and Ongoing Challenges in Anaesthetic Equipment Availability, Maintenance, and Training at Korle Bu Teaching Hospital, Ghana

Asamoa-Agyepong Kelvin[1], Amegashitsi Joseph[1], Bruce Anastasia N.K[1,2], Vowotor Janine[1], Kusi-Mensah Yaw[1,2], Azas Alberta[1], Tahiru Zan-nairah Napaga[1], Kwabena-Adade Andrews[1], Boni Frank[3]

1. Korle Bu Teaching Hospital, Anaesthesia, Accra, Ghana | 2. University of Ghana Medical School, Department of Physiology, Accra, Ghana | 3. University of Ghana Medical School, Department of Anaesthesia

BACKGROUND & OBJECTIVES

Reliable anaesthetic equipment is fundamental to safe surgical care, yet availability and maintenance remain a major challenge in low and middle-income countries (LMICs). In 2010, the Korle Bu Teaching Hospital (KBTH), Ghana's largest tertiary referral centre faced significant limitations in equipment availability, maintenance, and staff training. This review compares the situation in **2010, 2020,** and **2025**, highlighting improvements, persistent challenges, and lessons for LMICs.

METHODS

Departmental records from 2010–2025 were analysed, equipment audits, biomedical engineering logs, and training reports were used. Indicators included equipment functionality, monitoring availability, downtime, and staff training activities.

RESULTS — 15-YEAR RESOURCE COMPARISON

Indicator	2010	2020	2025
Hospital Beds	1,600	2,000	2,000
Consultants	5	15	16
Specialists	7	24	32
Med Officers / Diplomates	5	29	43
House Officers	0	8	8
Nurse Anaesthetists	21	21	—
ICU/HDU Ventilators	0 (6 added 2012)	6	7 (replaced)
Operating Theatres	20	24	27
Training Activities	Maiden refresher course (2011) + weekly meetings	Annual refresher course + weekly meetings	Annual course + workshops + weekly meetings

KEY FINDINGS

40% Functional 2010

80%+ Functional 2025

3× Physician growth

27 Theatres in 2025

FIGURES

Fig 1a & 1b: Donated obsolete machines (2010) & PACU/HDU/ICU in 2010

Fig 2a: PACU/HDU/ICU in 2025

DISCUSSION & CONCLUSION

2010: Only 40% of machines were functional; pulse oximetry was unreliable; external servicing and irregular training. UK benchmark: >98% functional.

2025: >80% of theatres were functional with integrated monitoring still lagging behind near-universal US levels. ICU ventilator demand outpaces availability; in-house maintenance improved but spare part delays and high patient load persist.

Conclusion: Notable progress 2010–2025. There were weaknesses in procurement, servicing, and inadequate staff training threaten sustainability. Regular workshops, international collaboration, and training exchanges are essential for safe, reliable anaesthesia in LMICs.

Refs: 1. rcoa.ac.uk/media/9406 2. apsf.org/article/anesthetic-monitoring-recommendations 3–4. KBTH Anaesthesia Dept. Equipment Audit 2010–2025 (unpublished) | No COI | Unfunded