

## A Pan-African perioperative care registries network – collaborative efforts to share learning and maximise opportunities

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This issue of the Journal features an article describing the Mbarara Surgical Services Quality Assurance Database (Mbarara SQUAD). The authors are to be congratulated on successfully implementing a 5-year surgical registry in Uganda, inclusive of all surgical specialities and registering more than 50 000 patients.<sup>1</sup> The effort both underlines the importance of constructing such databases and the need to improve methodologies for collecting data.

Implementing these clinical registries in Africa and other locations where medical records are kept on paper has never been easy, and is a complex endeavour, regardless of the goal. As seen in the implementation process, the SQUAD team had to use various approaches to complete their plan successfully.

Perioperative registries play an essential role in identifying gaps in care, providing process maps of care, evaluating and predicting patient outcomes, and strengthening evidence-based research collaborations and clinical audit standards through the generation of continuous clinical data. The African Perioperative Research Group (APORG) has established a foundation for developing collaborative perioperative registries in Africa, including the development of a minimal perioperative dataset for Africa, establishing a continental research collaboration network, and the development and validation of a postoperative risk prediction tool.<sup>2,3</sup> These important efforts can aid in prioritising data registries across Africa. APORG can support and should collaborate with projects like the Mbarara SQUAD initiative. Indeed, Uganda and Africa as a whole need more of these registry initiatives to address one of the African Perioperative Research Priorities, which is the establishment of a minimal surgical data registry.<sup>4,5</sup>

The Mbarara SQUAD study showed the feasibility of developing a scalable surgical registry in Uganda. It also demonstrates the challenges of registry implementation and the gaps in existing data collection methods. The study identified multiple problems associated with paper-based perioperative data collection in Uganda: patient charts were missing as some patients left with their records, charts were misplaced or lost, and documents in the medical records room could not be retrieved. These gaps

exist in all countries where paper-based documentation is still in use, posing considerable challenges when data needs to be reentered electronically, for medico-legal, audit, or research purposes.<sup>6,7</sup> For this reason, digital documentation of clinical care should be a priority, even in low-resource environments. It will allow not only improved research, but also better quality improvement efforts and clinical guidance. However, the price tag for such systems is immense, and they depend heavily on existing information technology infrastructure. Therefore, alternative approaches must be investigated, for instance, using eHealth devices with mobile interfaces, and machine learning approaches to extracting digital data from hand-written records.

Considering the continent's unmet surgical need of 257–294 million and high mortality rates for the surgical procedures,<sup>8,9</sup> Africa should leverage these surgical data resources and make sure not to fall behind the ongoing surgical data-related global technological advances. Data access will improve not only quality of care but also access to care, for instance, by using workflow and care load information to optimise the assignment of scarce human resources. The Harnessing Data Science for Health Discovery and Innovation in Africa (DSI-Africa) programme, recently funded through the National Institutes of Health in the US, will be a major enabler to achieving these objectives.

Therefore, the SQUAD registry in Uganda and similar efforts in other African countries should continue and be supported to improve patient outcomes through the benchmarking necessary for quality improvement initiatives. Establishing a Pan-African perioperative data registry network, which is currently being advocated and shaped by the APORG network, will further enable this vision. Linking these individual efforts in African countries will reduce implementation challenges, maximise opportunities for African scientists and clinicians to share experience, foster patient-centred collaborations by generating consistent longitudinal data across sites, allow risk adjustment and hence benchmarking, and support local and collaborative quality improvement projects. Finally, it would provide the data necessary to advocate for prioritising surgical care in Africa and supporting evidence-based decision-making.

## References

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