

Cardiac Surgery Publications in Africa Over the Last 20 years: A Literature Review

Nguyen Lu, Yihan Lin MD MPH, Brian Till MD, Sojung Yi MD, James Dahm MD, Kathryn Taylor MD, Peter Zilla MD, Ralph M Bolman MD
University of Colorado Department of Surgery

Introduction

- Surgically amenable congenital heart disease accounts for 63,302 disability-adjusted life years (DALYs) in sub-Saharan Africa and an additional 1,692,728 DALYs in North Africa.
- Rise in CVD typically associated with high-income countries.
- Quantity, quality, location, and scope of cardiac surgery research emerging from Africa is poorly defined.
 - 62% case reports/series
 - 43% lacked clinical outcomes
- Paucity of literature surrounding engagement between high-income countries' (HIC) cardiac surgery programs and African institutions.
- We aim to describe the demographics of those producing literature on cardiac surgery in Africa over the previous 20 years to:
 - Describe the degree of collaboration between HIC and low-middle income countries (LMIC).
 - Analyze whether the origin, types, and quality of research have evolved over the study period.

Method

- PubMed, Embase, and African Index Medicus were queried.
- Articles were compiled on EndNote X7 and duplicates were screened.
- Data abstraction through Microsoft Excel.

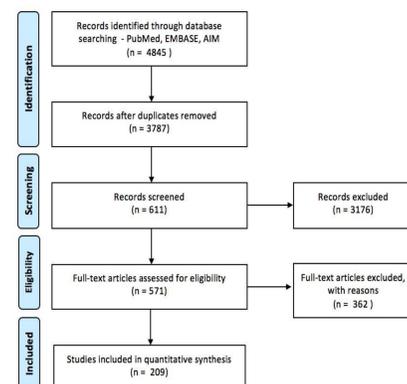


Figure 1. Prism Flow Diagram

Publication Demographic

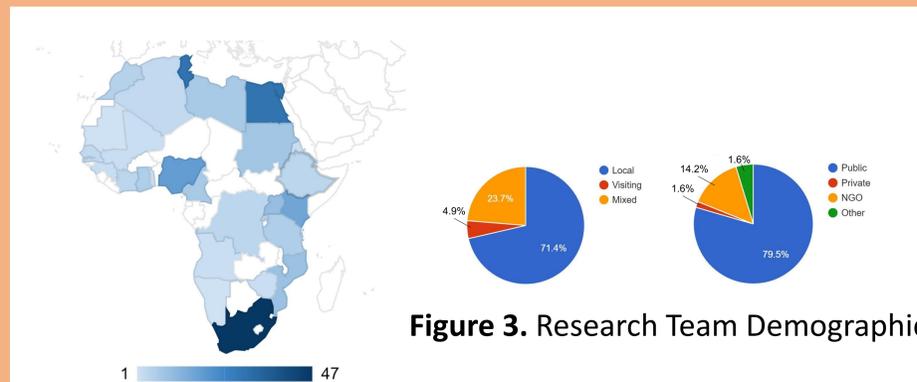


Figure 2. Contributing Countries

Figure 3. Research Team Demographic

Publication Output Over Last 20 Years

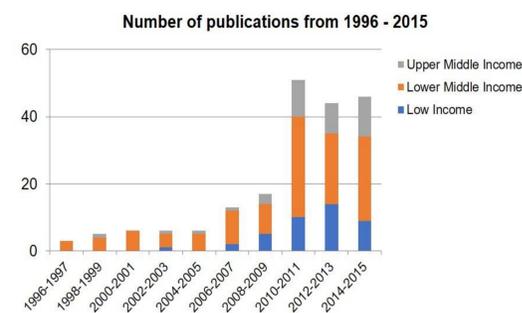


Figure 4. Number of Publications from 1996 - 2015

Types of Studies

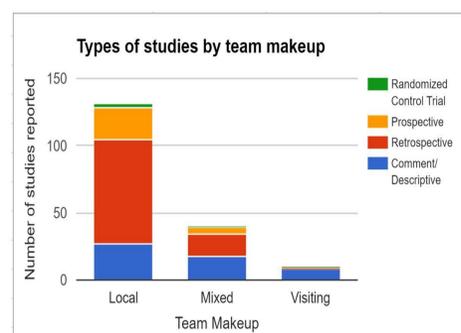


Figure 5. Types of Studies by Team Makeup

Conclusion

- Majority of the publications came from local research teams affiliated with public hospitals which suggests strong local engagement in research and cardiovascular care.
- Research output significantly increased and the share of literature from major research contributors has relatively shrunk over the study period, which suggests emerging research capacities from previously underrepresented regions.
- Studies were set in countries from all income brackets, with most of the studies originating from LMIC.
- Need to standardize reporting of surgical outcomes which is dependent on perioperative care and maintenance of high-quality health records.

Future Directions

- Identify factors that limit research collaboration between HIC and LMIC.
- Assess the effectiveness and sustainability of current research investment and training programs from HIC in Africa.
- Identifying more encompassing measurements of cardiac care in Africa.

Implications of Research

- Informed policy changes to restructure partnerships around prospective and randomized trials between HIC and LMIC.
- Efficient and informed investment in building research capacity.