Cardiothoracic Surgery Training in South Africa

Johan Brink

Christiaan Barnard Division of Cardiothoracic Surgery
University of Cape Town
College of Cardiothoracic Surgeons of South Africa
Training in Cardiothoracic Surgery in South Africa

❤ The problems:
❤ Inadequate Surgical Experience of Trainees
❤ Inadequate Portfolio’s of Learning (“Logbooks”)
❤ High failure rates in exams (average of 30% pass rate over the last 5 years; 10% in last examination)

❤ The present regulations:
❤ Background: CMSA has an MOU with the HPCSA to certify competent independent practicing Specialists
❤ Since 2014 CTS trainees need 75 cardiac operations as primary surgeon to enter examination.
❤ 4 year Registrarship period is being increased to a 6 year one.
Current Status of Cardiac Surgery in South Africa

- Approximately 120 actively practicing Cardiothoracic Surgeons in SA
- 7 Academic Centres (Medunsa, Wits, Pretoria, KZN, UFS, US, UCT). Plus 2 Provincial Hospitals
  - Approximately 40 “Full-timers”. Up to 30 Registrars
- Approximately 42 Private Cardiac Centres;
  - Approximately 80 Private Surgeons

- 1996 12,000 cardiac cases a year. 60% Public / 40% Private
- 2012 8,200 cardiac cases a year. 40% Public / 60% Private
- 2017 Very rough estimate: <8,000 cases
  - < 3000 cases in the Public sector
  - Private sector: Approximately 5000
  - Average number per centre 160 cases (Cost inefficient)
Cardiac Operations in South Africa

Average: Europe: 729/mio

- **SA: Medical Aid**
- **SA: State Depend.**
- **African Continent**

- 988/mio
- 45/mio
- 19/mio or 0.8/mio w/o SA and Egypt

- 6.8 m
- 49.5 million
- 978 million
Training of Cardiothoracic Surgeons

❤️ Increased service delivery in the Public Sector will increase the Clinical Material and Operative experience which is presently the biggest constraint in training Surgeons

❤️ Solution: Engage with National and Provincial Governments Departments of Health to increase delivery of Cardiothoracic Surgery in the academic and other public tertiary hospitals. (*First meeting with national DOH July ’18*)

❤️ Develop post-qualification career paths for Cardiothoracic Surgeons.

❤️ Tailor the number of trainees to the *realistic* needs.

❤️ Encourage Thoracic Surgery as a career path.

❤️ Simulation and Wet labs as an adjunct to develop skills
Challenges

- Portfolio of Learning: minimum criteria for exam entry
- More objective examinations: MCQ’s vs Written answers
- Training in the more technically demanding procedures: MICS; VATS; Catheter-based (TAVI / Mitra-clip / TEVAR)
- Can resources in the private sector address these challenges?
- NHI: Opportunity or Threat to Cardiovascular Services?
The Cape Town Declaration on Access to Cardiac Surgery in the Developing World

Peter Zilla, MD, PhD, R. Morton Bolman, MD, Karen S. Slin, MD, Phyllis Zilhickie, MD, Alain G. Carpenter, MD, and David Williams, MD

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Rheumatic heart disease and cardiac surgery from all parts of the developing world are农贸市场ing a Common Drive to address the increasing burden of preventable and treatable conditions. This declaration was developed at a consensus meeting, the Cape Town Declaration, to address the urgent need for access to cardiac surgery in the developing world. The declaration calls for urgent action by all stakeholders to provide access to cardiac surgery for those in need. The World Health Organization, United Nations, and other international organizations have endorsed the declaration.

The Cape Town Declaration

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Central Message

To urge all relevant entities within the international cardiac surgery, industry, and government sectors to commit to develop and implement an effective strategy to address the increasing burden of preventable and treatable conditions. The declaration calls for urgent action by all stakeholders to provide access to cardiac surgery for those in need. The World Health Organization, United Nations, and other international organizations have endorsed the declaration.

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Global Unmet Needs in Cardiac Surgery


Cape Town, South Africa; London, United Kingdom; Freiburg, Germany; St. Petersburg, Russian Federation; Constantinople, Algeria; Maputo, Mozambique; Delhi, India; Bangalore, India; Johannesburg, South Africa; Windhoek, Namibia; Tehran, Iran; Beijing, P.R. China; Fortaleza, Brazil; Singapore, Singapore; Baltimore, MD, USA; Barcelona, Spain; Burlington, VT, USA; Durham, South Africa; Philadelphia, PA, USA; Havana, Cuba; Rome, Italy; Paro, Bhutan; South Africa; and Winston Salem, NC, USA

ABSTRACT

More than 6 billion people live outside industrialized countries and are at risk of adverse cardiovascular outcomes as part of the epidemiological transition. The absolute number of patients needing intervention is increasing with rising prevalence of obesity, diabetes, and hypertension. These patients are excluded from trials and prospective cohort studies based on age, comorbidities, and/or obesity. Most of the burden of cardiovascular disease occurs in low- and middle-income countries, where access to care is limited. The economic burden of cardiovascular disease is significant, with annual global costs estimated at 0.5 trillion dollars. The Global Burden of Disease Study estimates that 17.9 million deaths are caused by cardiovascular disease each year, of which 65% occur in low-income and middle-income countries. The number of patients who undergo cardiac surgery each year is estimated to be 200,000-250,000, with most procedures performed in the high-income countries. The number of cardiac surgeries performed in low-income and middle-income countries is estimated to be 1,000,000-1,500,000, with the majority of these procedures being performed in China, India, and the Middle East. However, the number of patients who undergo cardiac surgery each year in these regions is estimated to be 10 million-15 million, indicating a large unmet need for cardiac surgery in low-income and middle-income countries.

The evolution of cardiac surgery after the Second World War was driven by 2 major objectives: to correct congenital heart defects and to restore the function of heart when affected by rheumatic heart disease (RHD). As the discipline became an integral part of medicine, the growing influence in industrialized countries led to the near disappearance of RHD and to the emergence of degenerative and lifestyle diseases as primary indicators for open heart surgery. Further evolution in these high-income countries (HIC) has witnessed the increasing importance of interventional cardiology and eventually an overemphasis in cardiac surgery. The situation in the rest of the world, however, has not followed this pattern and is currently witnessing the early phases of this development, as rheumatic fever and RHD are still prevalent there. Low-income countries (LIC) often mirror the pre-cardiac surgery era, with a high burden of disease caused by rheumatic fever and RHD, and a significant number of patients requiring open heart surgery. In LIC, the majority of open heart procedures are performed in children and young adults for congenital heart defects. However, LIC also have a significant burden of acquired heart disease, mainly due to lifestyle diseases. The data on cardiac surgery in LIC is fragmented and often incomplete, making it difficult to accurately estimate the burden of disease and the potential impact of cardiac surgery on improving patient outcomes.
The Need for Cardiothoracic Surgeons in South Africa

The Epidemiologic Transition (South Korea)
HEART DISEASE TRANSITION

MOZAMBIQUE, NIGERIA, NAMIBIA

SOUTH AFRICA

USA, GERMANY
Conclusions

- Expected epidemic of Cardiovascular diseases and other NCD’s.
- Access to Public sector Cardiac Centres from primary to secondary to tertiary levels of care, is poor.
- Despite this there is an excessively long waiting list of patients for cardiac surgery in the public sector. An opportunity to give trainees extra exposure
- How do we improve access to Cardiac Surgery for the masses?
- Can resources in the private sector address these challenges?
- How can we harness NHI to improve Cardiothoracic Services and Cardiothoracic Surgical training?