Outcomes in a resource-constrained economy

Results from the multi-centre South African SHARE-TAVI registry

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BACKGROUND

South African health care:
Private insurance = 16% of population
Private sector = 80% of specialists

15% of all TAVIs done are in State (public sector) facilities

In the dichotomous healthcare economy of South Africa, 84% of the population is uninsured and relies on severely resource-constrained State-provided facilities which focus on primary healthcare and treatment of communicable diseases (AIDS, TB). The private sector accounts for 52% of all national healthcare spend.

Despite proven lower complication rates in newer generation valves, funders mostly only prepared to fund to the value of the earlier generation implant.

PURPOSE

The SHARE-TAVI registry was set up by SA Heart to prospectively study all patients receiving TAVI in South Africa, delineating the unique challenges faced and comparing outcomes to international data.

METHODS

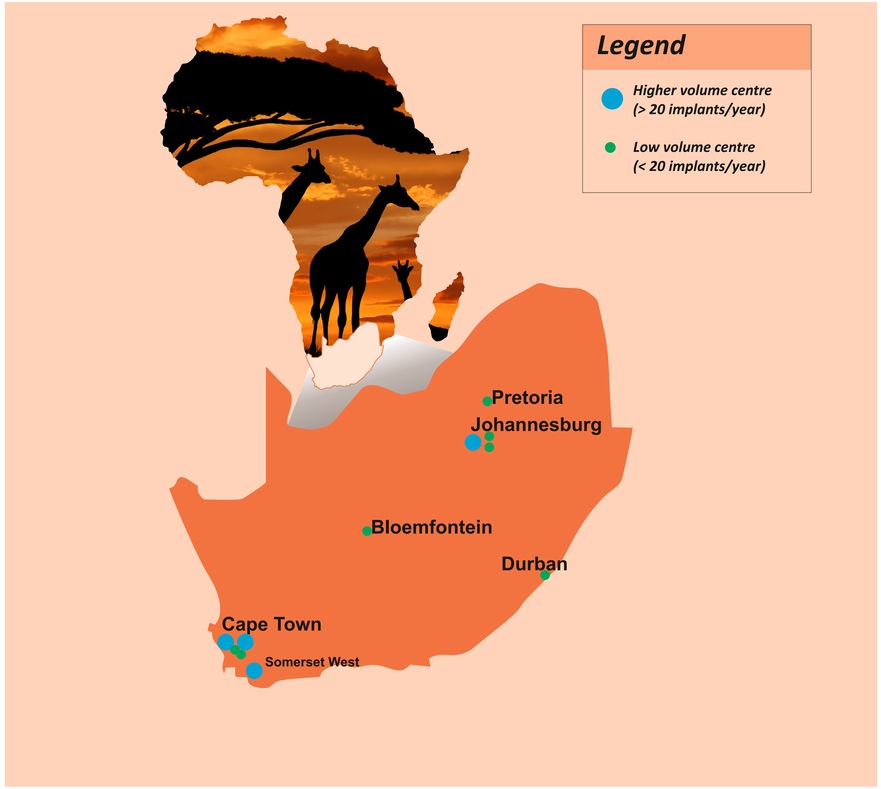
The prospective multicentre registry is designed to capture data for all patients undergoing TAVI at all active TAVI centres across South Africa, in a dedicated web-based database.

From Sept 2014 to Feb 2017, a total of 453 patients were entered and 318 of these received implants.

New patients will be captured until August 2020 and follow up will continue for five years.

PATIENT CHARACTERISTICS

n=318	SHARE-TAVI	PARTNER A[1]	CoreValve US[2]	GARY registry[3]
Age [years]	80	84	83	81
Male [%]	50	57	53	45
STS %	6.7	11.8	7.3	
logEuro	19.8	29	18	26
EuroSCORE 2	7.4			
NYHA >2 [%]	66	94	86	85
GABG [%]	24			21
Contra-indications [%]				
Porcelain Ao	6.0	1		8
Hostile thorax	3.1	1		
Fragility	39	17		46
Patent LIMA	12.6			



PROCEDURAL OUTCOMES

n=318	SHARE-TAVI	PARTNER A	CoreValve US	GARY registry
TAVI in hybrid OR [%]	19	n/a		
Procedure under GA [%]	94		95	60
Femoral access [%]	91	70	82	70
Success [%]	94		96	
Device closure [%]	42			
Major vascular complication [%]	7.5	11.4	6.2	12
30-day all-cause mortality [%]	8.5	3.4	3.5	6

LENGTH OF STAY

Length of stay (days)	Hospital total LOS (average)	ICU LOS (average)	High Care LOS (average)	Ward LOS (average)
Private	5.5 ± 4.8d	2.6 ± 2.1d	1.8 ± 2.2d	3.1 ± 2.6d
Public	3.8 ± 2.2d	1.8 ± 1.5d	1.00 ± 0.0d	3.2 ± 1.6d
Total	5.2 ± 4.6d	2.4 ±2.0d	1.72 ± 2.2d	3.1 ± 2.5d

1 YEAR OUTCOMES

n=165	SHARE-TAVI	PARTNER A	CoreValve US	GARY registry
All-cause mortality [%]	18.2	23	14	22
Implant : mortality ratio				
Higher volume centres (>20 implants/year)	17.2%			
Lower volume centres (<20 implants/year)	20.4%			
Cardiac Mortality [%]	11.5			
Non-cardiac mortality [%]	6.7% Mostly malignancy			
Re-hospitalisation [%]	16.3	17		
Stroke/TIA [%]	4.9	8.4	8.8	4.5
NYHA <3 [%]	90	70	80	70
Pacemaker [%]	6.7	5.4	22	22

RESULTS

- 11 centres perform TAVI
- 7 centres perform less than 20 implants per year
- 15% of procedures were in the 3 State teaching facilities
- 453 patients evaluated for TAVI are entered
- Funding approved in only 318 patients
- 54 patients either declined funding/mortality
- 81 patients still awaiting funding application response
- Average wait for funding decision is >103 days
- Days to procedure is 92d (range 1-1124d) from 1st TAVI evaluation
- Only 38% of all implants are fully funded
- The average patient co-payment is R127 000/ €8200

Outcomes reported as defined by the VARC-2 criteria.

- Outcomes and patient population comparable to GARY registry
- Mortality for low volume centres was comparable to higher volume centres
- PPM rates very low
- State patients had shorter hospital stays than Private sector patients.

CONCLUSIONS

The outcomes for South African centres are comparable to international figures at 1 year, and health care delivery and outcomes in the resource-constrained State sector are comparable to the private sector.

With an average waiting period of >90 days from TAVI evaluation to implant date, and only 38% of procedures fully funded by medical insurance, the average co-payment by patients of R127 000 / €8200 is iniquitous and unaffordable for all but the most elite privately funded patients, and so funding remains a major challenge for the appropriate use of TAVI in this resource-constrained economy.

Although the volume of implants done in South Africa is predominantly low compared to that seen internationally, outcomes at both the higher (>20 implants/year) and lower volume (<20 implants/year) centres were comparable to international figures at 1 year.

References
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SHARE South African Heart Association Registry
TAVI
Shared experience, improved patient care