

# ANNUAL REPORT



**MAGDI YACOUB**  
HEART FOUNDATION  
ASWAN HEART CENTRE

2018









# MAGDI YACOUB HEART FOUNDATION



Preamble	8
<b>MYF Board of Trustees and Management Committee</b>	9
Members of the Board of Trustees:	12
MYF Executive Committee	15
AHC Management Committee	15
Aswan Research Centre Management Committee	16
<b>A Message from Prof Sir Magdi Yacoub</b>	17
<b>Chairman of the Executive Committee Report</b>	18
<b>Performance Review</b>	20
A message from our Medical Director	20
Clinical Performance Review	22
Research Performance Review	30
<b>Financial Overview</b>	34
Income / Revenue:	34
Cost of raising revenue (donations):	34
MYF total expenditure:	35
<b>Developments and Updates</b>	36
The New Magdi Yacoub Global Heart Centre-Cairo	36

Preamble

Aswan Heart Centre (AHC) is the main facility owned, operated and funded by the Magdi Yacoub Heart Foundation (MYF), AHC has achieved regional and international recognition as a centre of excellence for the treatment and research of cardiovascular diseases.

The Centre has three main objectives:

- 1. Offer state-of-the-art, free-of-charge medical services mainly to the Egyptian people,particularly the underprivileged,
- 2. Offer training to a generation of young doctors, scientists, nurses and technicians at the highest international standards from Egypt and beyond,
- 3. Advance basic science and applied research as an integral component of the program

We challenge ourselves not only to maintain the status of excellence, but to continuously improve on it till we reach the summit of mount excellence.

Aswan Heart Centre performs approximately 4000 Surgical and Cardiac Procedures annually, 55% of our surgical procedures are offered to children. Annually, AHC reviews up to 33,000 patients in the outpatient’s department. Our research program is integrated with the clinical services and it includes population science, translational research, and basic science research with emphasis on innovation.

Due to the ever-increasing demand, we give priority to patients with complex cardiac diseases and as equity dictates this positive discrimination is in favour of the very sick, as they may have nowhere else to go.

The current facility in Aswan has been stretched beyond its capacity and is unable to meet the needs and demands within its current resources. Therefore, building the new Magdi Yacoub Global Heart Centre in Cairo, has become our top priority. We aim to increase our capacity by three-folds and maintain our services at the Aswan Heart Centre in Aswan to serve patients from the south of Egypt and the neighboring cities to Aswan.

The Board of Trustees

MYF Board of Trustees and Management Committee



The Board of Trustees has the ultimate authority in managing all aspects of the foundation, it’s assets, divisions and subsidiaries, and developing the over all vision and strategy. The Board delegates its executive authority to the Executive Committee.

The Executive Committee is formed of 5 trustees, the committee meets 10 times a year and have the responsibility to manage all aspects of budgeting from management accounts, assets management and audits.

The Committee also oversees human resources, pay reviews and remuneration and management structure. The Committee insures compliance with corporate governance and all the laws and regulations governing NGOs in Egypt.

The Executive Committee reports to the Board and is fully accountable to the Board.

The Management Committee is formed from; the Medical Director, Head of Cardiac Surgery and Cardiology departments, the Hospital Director, the Finance Directors, the Nursing Director. It is Chaired by Professor Sir Magdi Yacoub, it has all the responsibility of all the- day-to-day management of the hospital and research facilities.







Members of the Board of Trustees:



Professor Sir Magdi Yacoub  
*FRS, OM*  
*(Honorary President)*



Mr. Moataz Al-Alfi  
*(Chairman)*



Mrs. Hala Zaki Hashem  
*(Trustee)*



Dr. Aly El Korey  
*(Trustee)*



Dr. Assem Allam  
*(Trustee)*



Professor Magdy Ishak  
*FRCS, CCIM, FRSM*  
*(Vice Chairman and Acting CEO)*



Dr. Ahmed Shawki  
*(Secretary General)*



Mr. Mohamed A. El-Hamamsy  
*(Treasurer)*



Ambassador Gehad Madi  
*(Trustee)*



Mr. Tawfik S. Diab  
*(Trustee)*



Dr. Akef El-Maghraby  
*(Trustee)*



Dr. Hani Sareieldin  
*(Trustee)*



Mrs. Marwa Saïd  
*(MYF Executive Director)*



Mrs. Zeina Tawakol  
*(Director of Business Development)*



Ms. Reem Gadelrab  
*(Marketing Director)*



Mrs. Mary Iskandar  
*(Ambassador to MYF)*



Mrs. Dina El Gazzar  
*(MYF VP for Development and Fundraising)*

## MYF Executive Committee

<b>Professor Magdy Ishak</b>	Chairman
<b>Dr. Ahmed Shawki</b>	Member
<b>Mr. Mohamed El Hamamsy</b>	Member
<b>Mr. Moataz Al Alfi</b>	Member
<b>Ambassador Gehad Madi</b>	Member

## AHC Management Committee

<b>Professor Sir Magdi Yacoub,</b> FRS, OM	Chairman
<b>Dr. Wael Abdel Aal</b>	Vice-Chairman and Medical Director
<b>Dr. Ahmed El Guindy,</b> MSc, MD, MRCP, FACC	Head of Cardiology Department
<b>Dr. Ahmed Afifi,</b> MD, FRCS (CTh), FACC	Head of Cardiac Surgery Department
<b>Mr. Ahmed Soliman</b>	Chief Operating Officer and Director of Finance
<b>Dr. Mohamed Zakaria</b>	Hospital Director



Aswan Research Centre Management Committee

<b>Professor Sir Magdi Yacoub,</b> FRS, OM	Director of Research
<b>Dr. Ahmed El Guindy,</b> MSc, MD, MRCP, FACC	Deputy Director of Research for Clinical Research
<b>Heba Aguib,</b> Dr.-Ing	Deputy Director of Research for Biomedical Engineering and Innovation
<b>Yasmine Aguib,</b> Dr. rer. nat.	Deputy Director of Research for Molecular Research

A Message from  
Prof Sir Magdi Yacoub

This year has witnessed considerable progress in the integrated clinical, training and Research programmes. This was exemplified by an increase in the number, diversity, complexity and novelty of many of the procedures being applied at the Centre. These procedures included new approaches to dealing with completely blocked coronary arteries, percutaneous valve procedures, advanced Heart Failure, Heart Attacks, neglected complex congenital Heart Disease, Rheumatic Heart Disease and others.

Apart from its obvious value for the local and global community, these services provide a unique resource for teaching and Research, with many of these advances being reported in international meetings and peer review Journals as detailed in the recent report to the scientific advisory Board (available on demand from the MYF). This report includes disease-based Research projects, population studies and importantly basic science and bioengineering Projects emanating from the basic science platforms available in AHC. In conclusion the expanded activities of the AHC this year has helped to enhance the sense of commitment and excitement of the entire staff in preparation for the New Global Aswan Heart Centre, considered by many to be the ultimate step towards achieving “Excellence”.

*Magdi Yacoub*  
Prof Sir Magdi Yacoub, OM, FRS





# Chairman of the Executive Committee Report

On behalf of the Chairman and the Board of Trustees, I have the pleasure to present our Executive Report for the year ended in December 2018.

**The Board, Management, and Staff** continue in their determination to provide all members of the public with the best level of healthcare service available world-wide, completely free-of-charge at the point of delivery.

To ensure such high calibre of service is provided, we believe that such services cannot be delivered without ensuring the highest level of training and continuous education, to create professional and skilled healthcare staff.

While such training and education takes place in-house or abroad is costly. The Board believes that the training program is a fundamental component of our mission and objectives. The indicator that these training programs have been successful, is the fact that our doctors, nurses, and technicians are highly sought after worldwide.

Our training program for young professionals is supported by a substantial research program, which enables us to develop our service and push the frontiers of treatment beyond the current boundaries; This is why Aswan Heart Centre has developed such a great reputation and attained international recognition, as perceived by The American Heart Association (AHA) and the European Society of Cardiology (ESC) and others, as a land mark in treating the most complex heart diseases in both children and adults.

Our apprenticeship scheme takes between three to five-years to have a qualified and skilful surgeon or a cardiologist, and about two to three-years to train a proficient nurse.

**There are no secrets why Aswan Heart Centre achieved an international standing in 9 years.**

1. Aswan Heart Centre is led and inspired by the greatest heart surgeon and scientist the world has ever known, Professor Sir Magdi Yacoub.
2. Aswan Heart Centre has the ability to train and develop a great team of young talented Egyptian doctors, nurses, and researchers.
3. Aswan Heart Centre and Magdi Yacoub Heart Foundation has strategically planned sustainability for future years ahead.
4. We believe that operating on high complexity require planning and preparation not only by creating a skilled team, but also by having the best diagnostic means which includes 3D modelling of the patient's heart before we operate and the support of the best intensive care facility post-operatively.
5. A Board that is committed to serve the foundation's mission to the benefit of the patients and staff.
6. A team believing that excellence is the norm of what we do, the challenge is how to improve on it.

We as the Board and Staff take the greatest pride in such achievements, albeit humbly so; Equally we believe that we still have a long road ahead of us to treat more patients and train more of our bright young professionals.

Our founder, Professor Sir Magdi Yacoub had placed the United Kingdom in the forefront of heart transplantation. We all have the determination to place Egypt at the forefront of Cardiac Disease Treatment and Research.

The New Magdi Yacoub Global Heart Centre, after discussions and consultations, the Board have decided that we will be serving the public more effectively by maintaining our current centre at the city of Aswan to serve the city and the southern governorates of Egypt and relocate the planned New Centre to Cairo to help a fair delivery of services to the rest of the country, such strategy provides a total provision of 400 beds with 100 beds located in Aswan and 300 beds located in Cairo. This will give us the capacity to perform 4000 complex heart surgeries and 10,000 cardiac interventions annually.

Such services will be supported by 7 Operating Theatres, 7 Cath Labs and 150 cardiac intensive care beds in addition to a major diagnostic facility that includes nuclear medicine.

We believe that such facility will meet the overwhelming demand not only in Egypt, but it will also enable us to increase our treatment to the children of the Sub-Saharan Africa. It will also enable us to participate in combating the evil of Rheumatic Heart Disease within Africa, a disease that has been eradicated in the developing countries. Rheumatic Heart Disease claims the lives of more than one million children annually, most of them are Africans.

To this effect, we have acquired 35 acres of land in 6<sup>th</sup> of October city which is located in a close proximity to the Zewail City. We believe that this site will have an added advantage of enhancing the joint research partnership to the benefit of Egypt and the world.

The two-institution side-by-side will truly enhance Egypt's standing in the world of Health and Science.

We will be ready to start with the foundation and the construction of this project in October 2019, subject to finalizing all the necessary governmental approvals.

The centre will be set up by the Egyptians, run by the Egyptians and owned by the Egyptian public. Your support will be the main force in helping us achieve our objectives in building a state-of-the-art facility. The New Magdi Yacoub Global Heart Centre in Cairo is designed by two renowned firms: Foster and Partners and DAR Group.

In this report, we will be sharing with you our clinical and research activities for the year 2018 as well as our financial review including spending, donations and the cost of raising funds.

The Board of Trustees members provide all their services free-of-charge and we intend to make our audited budget available on our website, so every donor and supporter is fully aware of how we spend the money donated.

The Board and the Staff are grateful to all the Egyptians for their continuous support over the last nine years, and we hope that this support will continue for the future years to come, as we are embarking on building the New Magdi Yacoub Global Heart Centre in Cairo.



**Magdy Ishak**  
*Vice-Chairman of The Board*  
*Chairman of Executive Committee & CEO (gratis)*



# Performance Review

## A message from our Medical Director

As we approach our ten years anniversary, it is heartening when I look back at where we started and what we have achieved.

Veterans and newcomers continue to work together in our multidisciplinary teams and provide very delicate care and hope to the underprivileged and vulnerable patients.

Challenging cases like Arterial Switch Operations, Primary PCI, TAVI and LVAD are now part of our daily routine.

As we approach our anniversary, we also approach the inauguration of our new audacious dream the Magdi Yacoub Global Heart Centre, as well as our state-of-the-art Research Centre (MYGH). MYGH will hopefully open its doors to the public in 2022, enabling us to increase our capacity by more than three-folds allowing us to help many more of the needy population as well as expanding our services to Africa and the world at large. Having gone through the different stages of growth at AHC and the many hurdles we faced over the past years we are fully conscious that the MYGH project is a formidable challenge and overtaking. As we move forward with funding and construction of MYGH our primary challenge is to gradually grow our workforce while sustaining the AHC culture and quality of service, while maintaining our core AHC genes of perseverance, resilience and compassion.

As we expand our focus is to sustain our Magdi Yacoub doctrine and continue to pursue our Mission Statement: "offering state-of-the-art free-of-charge medical service with respect, training a generation of young doctors, scientists, nurses and technicians at the highest international standards; advancing basic science and applied research as an integral component of our program".



**Dr Wael Abdel Aal**  
Medical Director





Clinical Performance Review

Outpatients department:

The total number of patients reviewed in our outpatient clinics in 2018 were 33,120 patients in comparison to 24,261 patients in 2017. *Figure 1 shows the activity in the outpatient department in the last four years.*

The total cost of tests per patient in the outpatient department was LE 132 in 2018. *Figure 2 shows the cost per patient in the last four years for the outpatient department.*

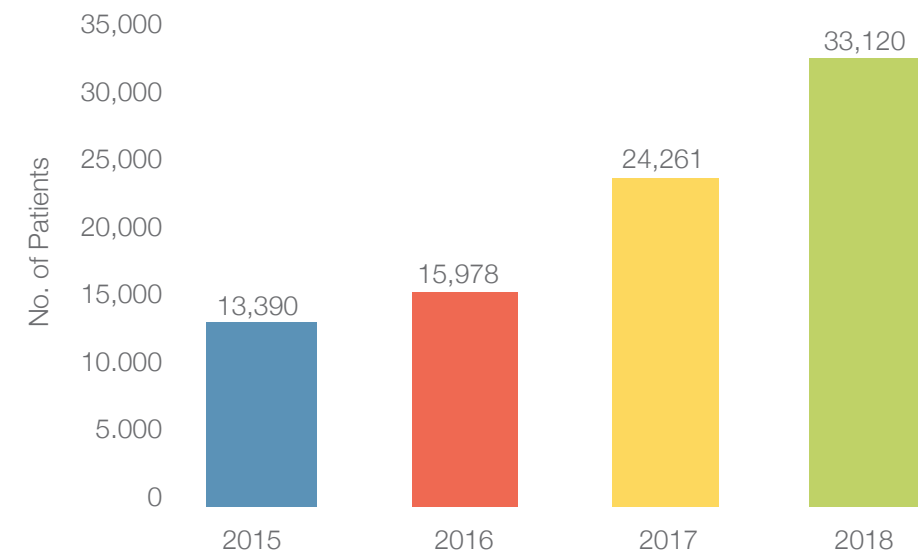


Figure 1 shows the outpatient department activity in the last four years.

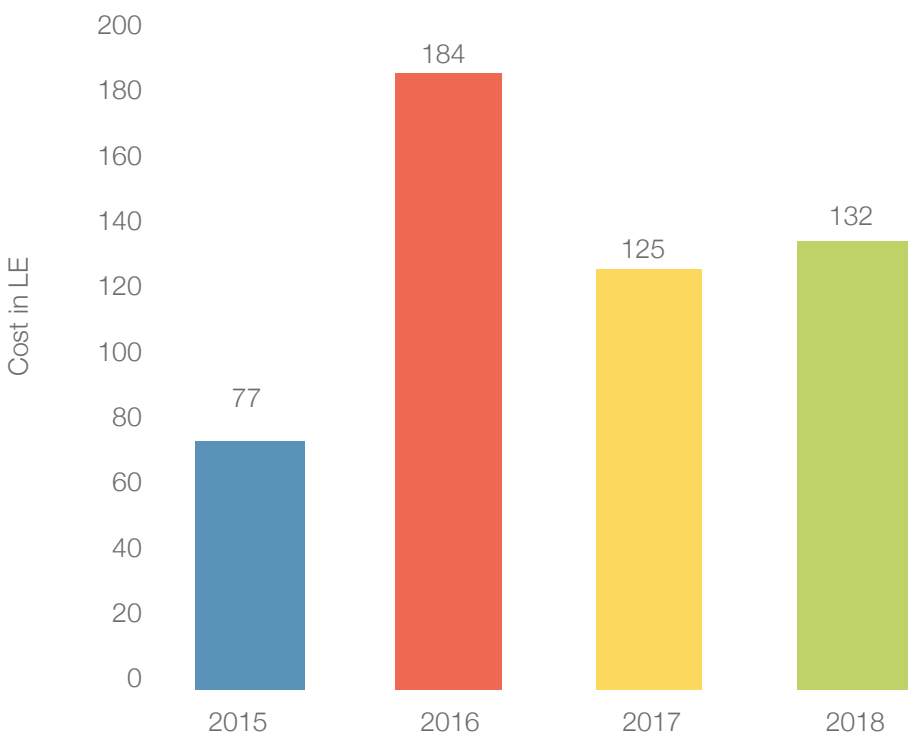


Figure 2 shows the cost per patient in the last four years for the outpatient department.

Cardiac Surgery Department:

The total number of cardiac surgeries performed at AHC in 2018 were 1,055 surgery including 10 Left Ventricular Assist Device (LVAD)\* surgeries in comparison to 1,023 in 2017. 63.3 % of the surgeries were performed on children. *Figure 3 shows the activity in the cardiac surgery department in the last four years.*

The average cost of per patient for a surgical procedure in 2018 was LE 91K compared to LE 80K in 2017, this is excluding the cost of LVAD operations. *Figure 4 shows the average cost per surgery in the cardiac surgery department for the last four years.*

*\*Left Ventricular Assist Device surgery is performed on patients suffering from severe heart failure, without this device or a heart transplant the patient will not survive.*

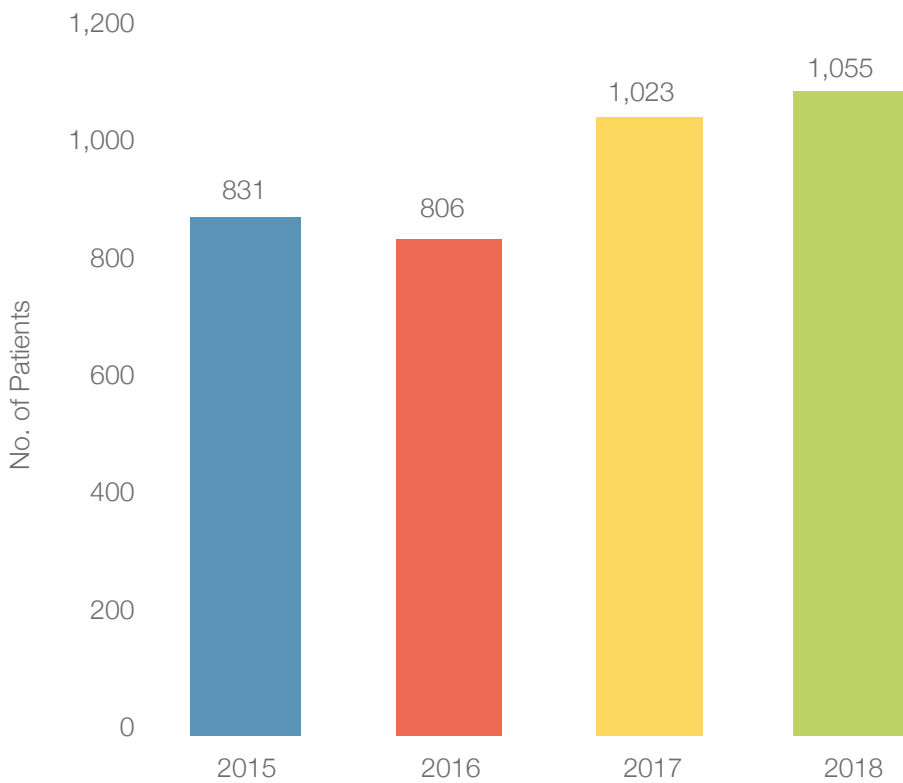


Figure 3 shows the cardiac surgery department activity in the last four years.



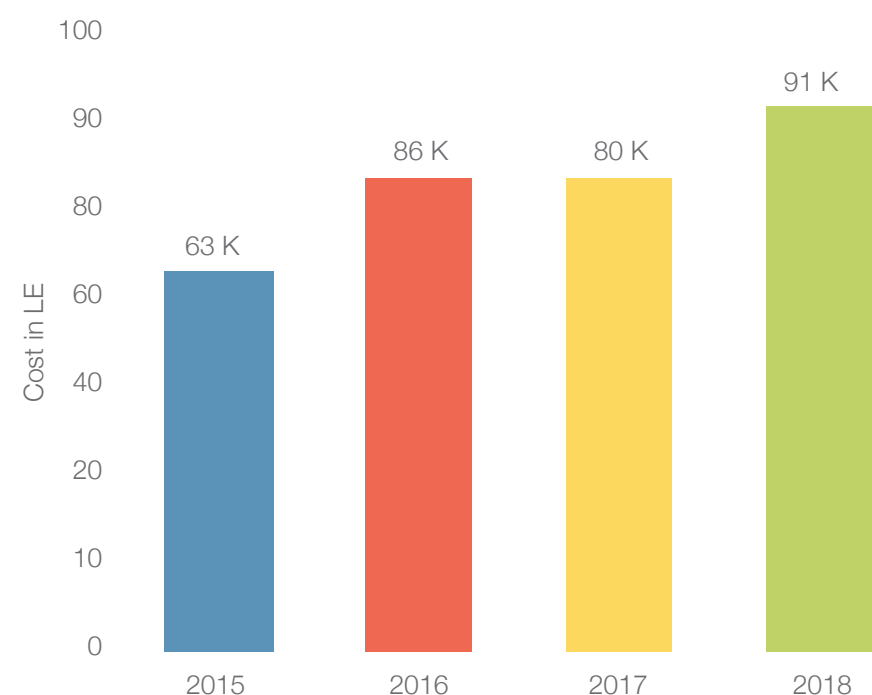


Figure 4 shows the average cost per surgery in the cardiac surgery department for the last four years.

## Cardiac Catheterization Department:

The total number of cardiac catheterizations performed in 2018 were 2,888 in comparison to 2,618 in 2017. Figure 5 shows the activity in the cardiac catheterization department in the last four years.

The number of adult cardiac catheterizations procedures performed were 1,808 at an average cost of LE 42K per patient. Figure 6 shows the average cost analysis per adult procedure in the cardiac catheterization department for the last four years.

The total number of paediatric cardiac catheterizations procedures were 747 at an average cost of LE 47K per patient. Figure 7 shows the average cost analysis per paediatric procedure in the cardiac catheterization department for the last four years.

The number of Electrophysiology (EP studies) procedures were 333 at an average cost of LE 59K per patient. Figure 8 shows the average cost analysis per EP procedure in the cardiac catheterization department for the last four years.

The total number of Transcatheter Aortic Valve Implantation (TAVI)\* procedures were 20 at an average cost of LE 400K per patient.

\* TAVI is a minimally invasive procedure that repairs the aortic valve without removing the old, damaged valve. Instead, it wedges a replacement valve into the aortic valve's place.



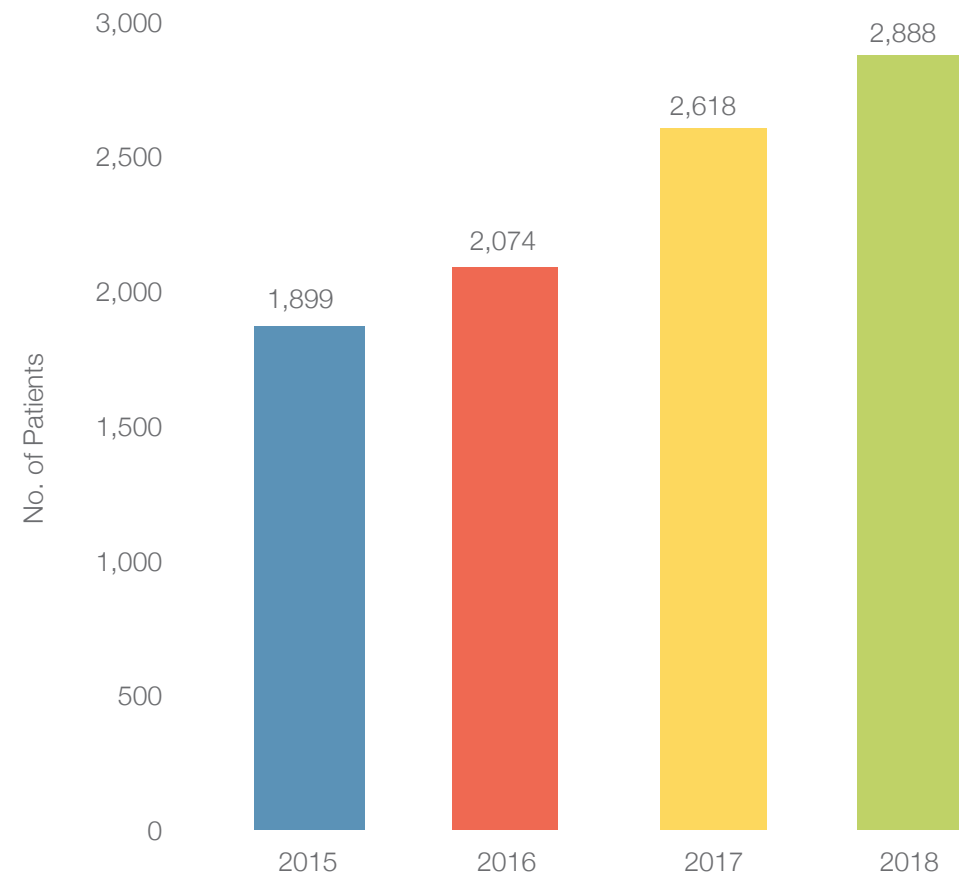


Figure 5. The activity in the cardiac catheterization department in the last four years.

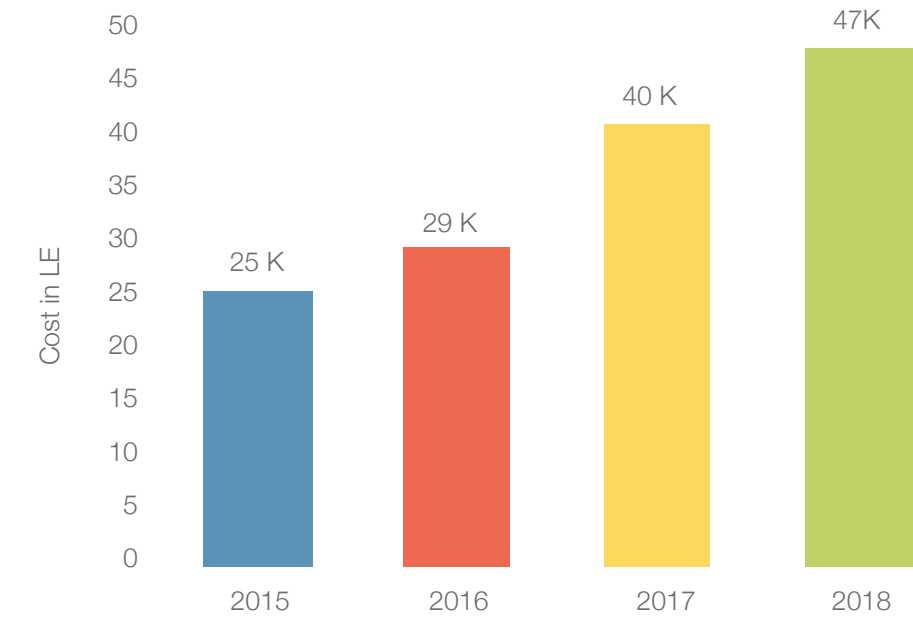


Figure 7. average cost analysis per paediatric procedure in the cardiac catheterization department for the last four years.

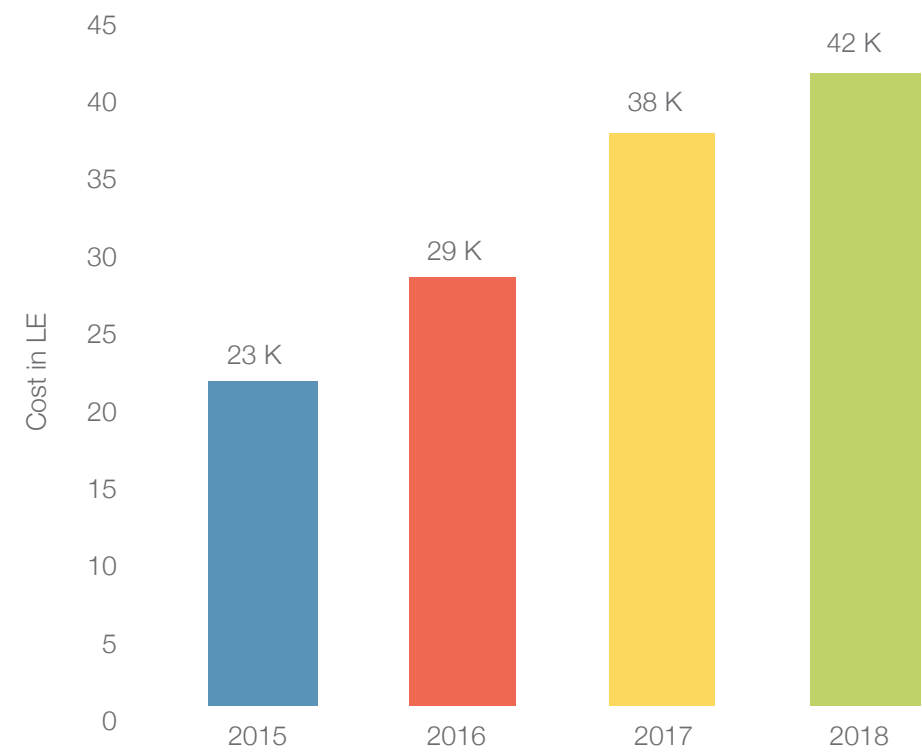


Figure 6. Average cost analysis per adult procedure in the cardiac catheterization department for the last four years.

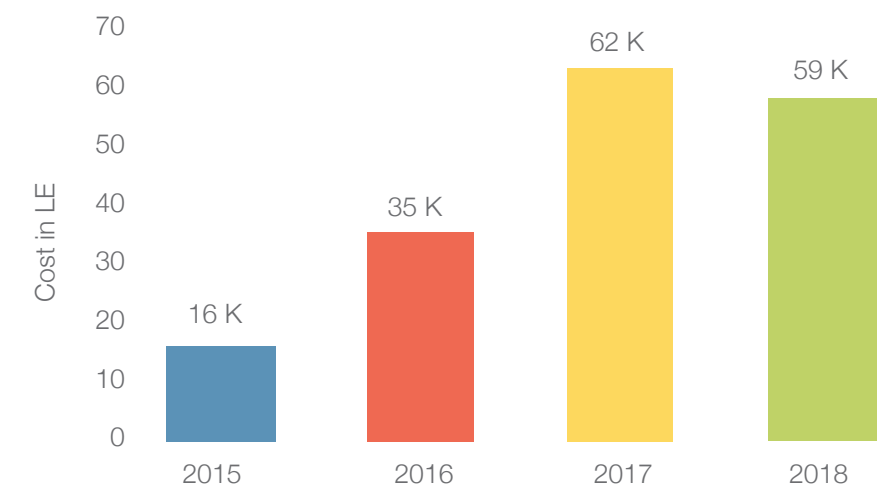


Figure 8. average cost analysis per EP procedure in the cardiac catheterization department for the last four years.



## Human Resources:

The total number of employees at the Aswan Heart Centre and Aswan Research Centre by December 2018 were 721 full-time employees and distributed as follows:

- The total complement of doctors employed is 120, giving a ratio of 1.2 doctor per bed.
- The total number of nurses is 268, giving a ratio of 2.7 nurse per bed.
- The total number of researchers employed is 52. The research manpower is distributed over 6 units in Aswan, Ballana, Cairo (AUC, Research Clinic in Abdeen), Menoufia, and London,UK.
- The total number of technicians 45.





### 2018 Milestones

#### A. Research Strategy and Programme:

- An Evaluation of the Research Programme by the external Scientific Advisory Board (SAB)\* took place in March 2018.

\*The external SAB committee is an independent advisory board, its remit is to supervise, guide, and evaluate all the research done at Aswan Heart Centre; as well as make recommendations for improvement to the Director of Research. The SAB committee meets twice a year and is composed of:

- Professor Kim Fox, Chairman: Professor of Clinical Cardiology and previously Head of the National Heart and Lung Institute at Imperial College London.
- Professor Josep Brugada: Professor of Cardiology, University of Barcelona. Senior Consultant in cardiology, Hospital Clinic de Barcelona. Head of Arrhythmia section of the Pediatric Hospital San Joan de Déu, Barcelona.
- Professor Sir Salvador Moncada: Research Domain Director for Cancer at the University of Manchester
- Professor Dame Anna Dominiczak: Regius Professor of Medicine, Vice-Principal and Head of the College of Medical, Veterinary and Life Sciences at the University of Glasgow as well as honorary consultant physician and non-executive member of NHS Greater Glasgow and Clyde Health Board.
- Dr. Mohamed A Ghoneim: Emeritus Professor at The University of Mansoura involved in basic research attempting to differentiate Mesenchymal Stem Cells into insulin producing cells.

#### B. Collaborations and Grants:

##### Received in 2018

- Foundation Leducq Transatlantic Networks of Excellence Programme, Redox Regulation of Cardiomyocyte Renewal', joint partnership with Magdi Yacoub Institute, \$6,000,000 over five years for 8 involved partners. PI: MH. Yacoub, Co-PI: Y. Aguib. <https://www.leducqredox.com/network/>
- Biomarkers Assessment in frame of Clinical Study: G-CHF Study: A collaboration between LS and the clinical team to measure Point of Care HF biomarkers Patients are enrolled in the Global Congestive Heart Failure (G-CHF): A global registry to study the demographics, socioeconomic and clinical factors, etiologies, pathophysiology, management, barriers to care and outcomes of heart failure patients. Study costs covered by G-CHF Grant.
- German Academic Exchange Service (DAAD): The GE-GPx Core, German- Egyptian Core for Advancing Genomics and Population Health. Joint partnership with Zewail City for Science & Technology, American University in Cairo and Cairo University.





Ongoing

- Al Alfi Foundation, two MSc Scholarships in the fields of Genetics of Human Diseases & Health Policy, graduated in 2018. Three PhD scholarships in the fields of Genomic studies, Bioinformatics and Bioengineering are still enrolled. A total of 2,250,000 L.E from Al-Alfi grant received in 2018.
- AGBL training and conference agreement: AGBL agreed with AHC on contributing to the training and continuing education of 4-5 researchers (Approximate amount \$10,500).

C. List of Publications in 2018:

Disease-specific variant pathogenicity prediction significantly improves clinical variant interpretation in inherited cardiac conditions. Submitted, Nature Genetics (2018). Walsh R., Whiffin N., Buchan R., Midwinter W., Wilk A., Govind R., Li N., Ahmad M., Mazzarotto F., Roberts A., Theotokis P., Mazaika E., Cook S., Barton P. J. R., Marvao A., O'Regan D., Thomson K., Watkins H., **Allouba M., Aguib Y., Yacoub M.** et al.

Egyptian Genetic Variations and Cardiovascular Phenotype. The Genetic and Environmental Basis for Diseases in Understudied Populations, Frontiers in Genetics. Abstract Accepted (2018). **Aguib Y., Allouba M., Halawa S.,** Walsh R., **ElKhateb M., Afify A., Galal A., Sous M., Shehata N.,** Govind R., Whiffin N., **Shorbagy S., Rahman E.A., El-Mozy W., Essam A., Maghawry M., Anwer S.,** Philip P., **Wagdy K.,** Lee S., Cook S., Ware J., **Aguib H., Elguindy A.,** Barton P. J. R. & **Yacoub M.**

Revival and Modification of the Mustard Operation. Journal of Thoracic and Cardiovascular Surgery. (2018). **Hatem H., Sedky Y., Simry W., Afifi A., Romeih S., Elsayy A., Elguindy A., Aguib H. & Yacoub M.**

Yacoub Operation in Surgical Management of Aortic Pathology Springer (2018),**Yacoub M., Aguib H., Afifi A.**

Surgical relief of the left ventricular outflow tract in pediatric hypertrophic cardiomyopathy: the need for a tailored approach. The Journal of thoracic and cardiovascular surgery. (2018). Karamichalis JM., **Aguib H.,** Anastasopolous A. & **Yacoub M**

Aortic root dynamism, geometry and function after the remodeling operation: clinical relevance. The Journal of thoracic and cardiovascular surgery. (2018). **Yacoub M., Aguib H., Gamrah M., Shehata N., Nagy M., Donia M., Aguib Y., Saad H., Romeih S., Torii R., Afifi A. & Lee SL.**

Mid-term outcome of a modified Mustard Operation for neglected transposition of the great arteries. Journal of the American College of Cardiology. (2018). **Yacoub M., Hosny H., Romeih S., Aguib H., Simry W., Afifi A. & Sedky Y.**

D. Magdi Yacoub Heart Foundation- Research Ethics Committee (MYF-REC)

The ethical and scientific standards for carrying out research and biomedical research on human subjects have been developed and established in international guidelines, including the Declaration of Helsinki, the CIOMS (), the WHO (World Health Organization) and ICH-GCP (International Conference on Harmonization for Good Clinical Practice) as well as NHS (National Heart Service - UK). Compliance with these guidelines helps to ensure that the dignity, rights, safety, and well-being of research participants are promoted and that the results of the investigations are credible.

All these international guidelines require the ethical and scientific review of biomedical research alongside informed consent and the appropriate protection of those unable to consent as essential measures to protect the individual person and the communities who participate in research.

For the purposes of these guidelines, biomedical research includes research on pharmaceuticals, medical devices, medical radiation and imaging, surgical procedures, medical records, and biological samples, as well as epidemiological, social, and psychological investigations.

A core component of all contemporary research ethics guidelines is that research should be subject to prior review

by a competent REC (Research Ethics Committee). Such review is intended to ensure that the ethical principles and practices put forward in the guidelines will be followed in the proposed research.

These guidelines include 3 principles: autonomy (respect for persons), beneficence (protecting subject welfare) and justice (avoidance of exploitation, benefits and risks of research be distributed fairly among all groups and classes in a society, as well as between the different countries who are participating in the research).

A key component of the foundations mission is offering high quality research, such research is only possible through the participation of humans as subjects in research.

Therefore, the first step in establishing an institutional culture of research excellence is through the establishment of an independent research ethics committee.

MYF-REC’s operational policies and standard operating procedures (SOPs) address the regulatory requirements, ethical conduct and sound implementation of all research conducted by investigators and staff employed by MYF.



# Financial Overview

## Income / Revenue:

Magdi Yacoub Heart Foundation provides all its services free-of-charge at the point of delivery, the foundation depends solely on donations and the generosity of the Egyptians and Egyptian corporations.

Actual donations received in 2018 were LE 627.5 Mil. *Figure 9 shows the total donations received over the last four years.*

The cost of raising revenue (donations) was approximately 14% in 2018. *Figure 10 shows the revenues (donations) in comparison to the cost of raising funds, that includes (TV marketing, digital media, call centre, and SMS campaigns) in last four years.*

## Cost of raising revenue (donations):

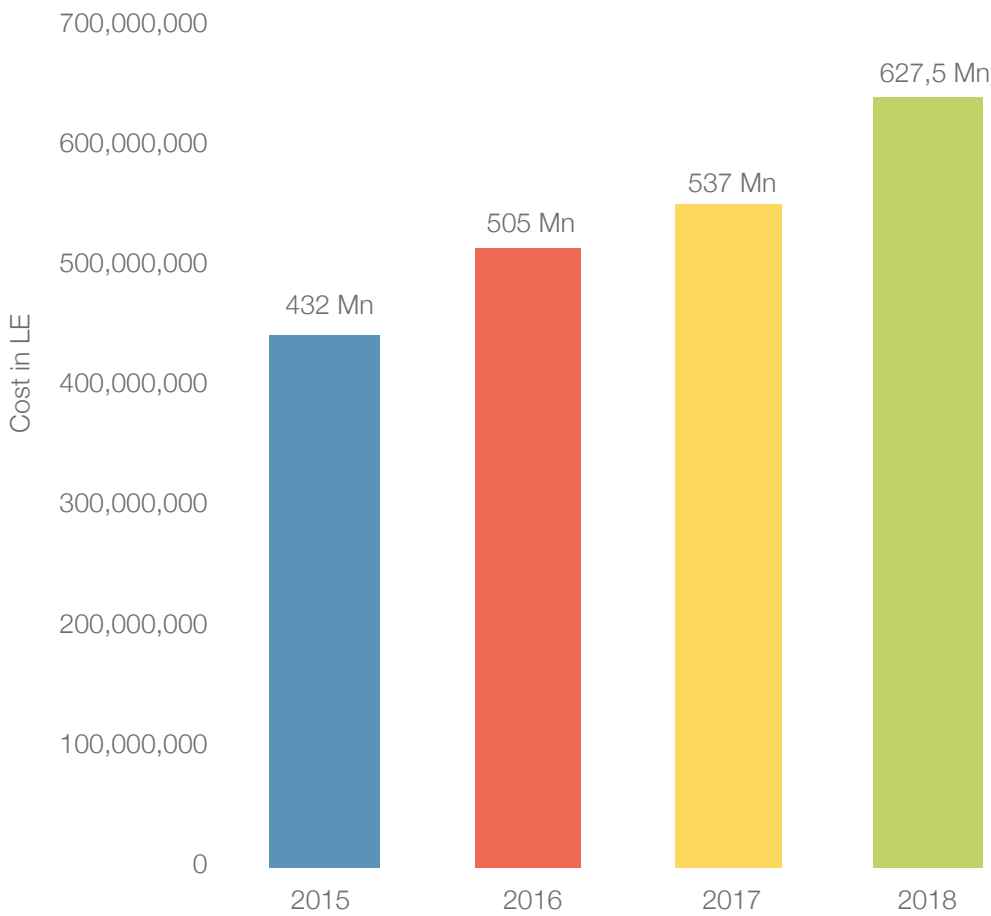


Figure 9 shows the total amount of donations received over the last four years.

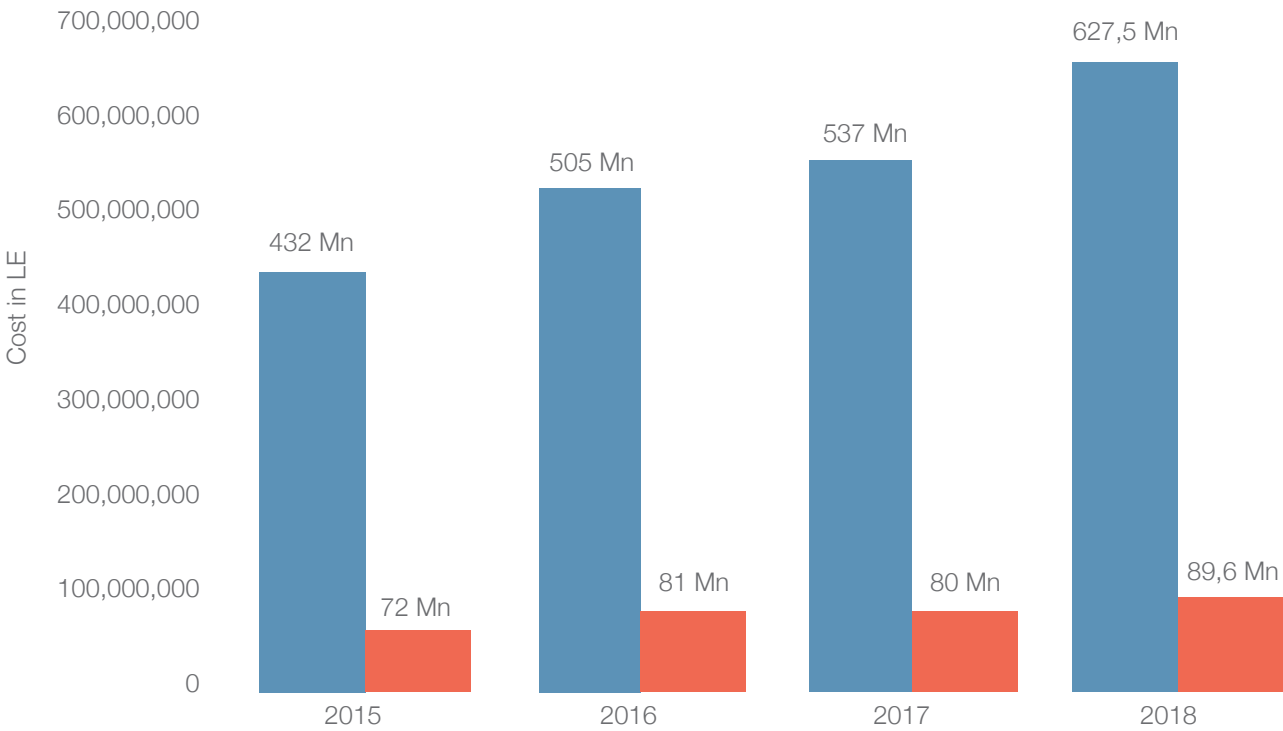


Figure 10. shows the revenues (donations) in comparison to the cost of raising funds, that includes (TV marketing, digital media, call centre, and SMS campaigns) in last four years.

■ Donations ■ Marketing

## MYF total expenditure:

The total expenditure in 2018 was LE 490 Million. The total expenditure on Aswan Heart Centre in 2018 was LE 256 Million which represents a 7% increase year on year. The total research expenditure in 2018 was LE 57 Million which represents a 21% increase year on year. The total expenditure on marketing was LE 89.6 Million in comparison to LE 80 Million in 2017.

In 2018 we spent LE 82 Million on the New Magdi Yacoub Global Heart Centre in Cairo. *Figure 11 shows the total expenditure breakdown in 2018.*

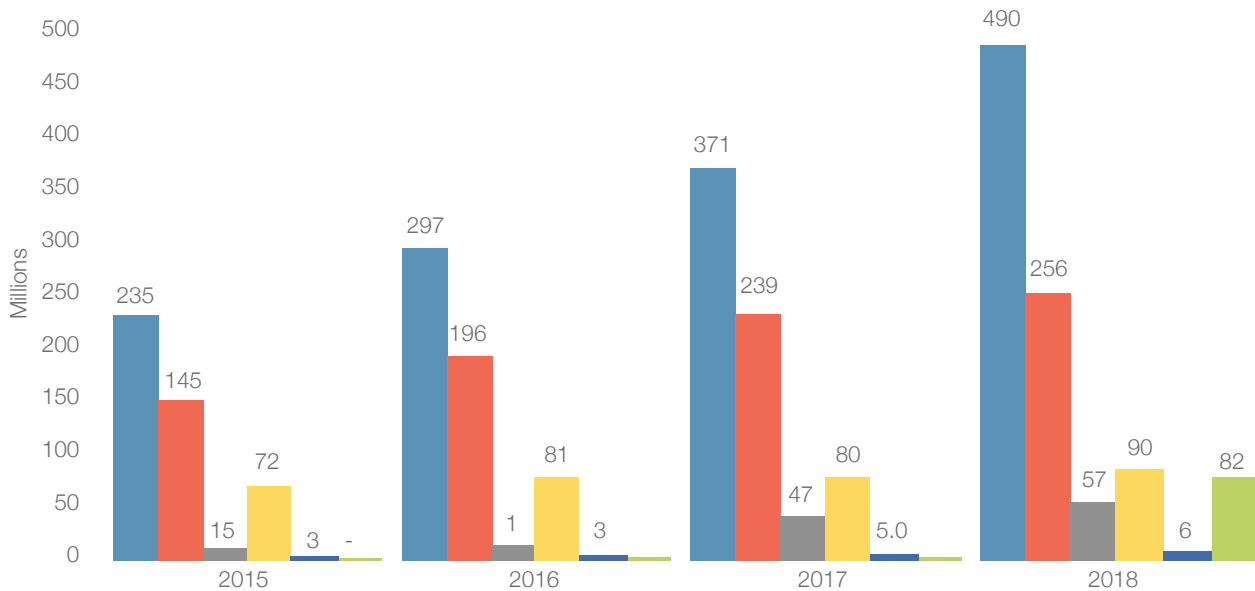


Figure 11. shows the total expenditure of MYF over the last four years.

■ Total Exp ■ Clinical ■ Research ■ Marketing ■ HO ■ New Global Aswan



# Developments and Updates

## The New Magdi Yacoub Global Heart Centre-Cairo

### Goals

Magdi Yacoub Heart Foundation's aspiration is to scale up operations to meet the significant and growing demand for cardiovascular treatment by those who need it most, integrating treatment, research, and talent development in a way that currently does not exist in the region.

### Our vision has three main objectives:

- Expand access to world-class treatment

Our objective is to meet the increasing demand for cardiovascular care mainly in Egypt and Africa by expanding the size of our facilities, to be able to:

- Accommodate almost four times as many outpatients up to 120,000
- Treat more than four times as many patients in need up to 12,000

We hope, specifically, to be able to enhance the type of care that we provide to new-borns with congenital heart disease. Currently, we are able to treat less than half of all such cases presented. If treated at our centre, a child has a 95.6% chance of living a normal life.

We will continue to endeavour to reduce the mortality rates and hence improve the survival rate, not by selection of non-complex cases, but by actively improving and modifying the surgical procedures and building up the physiological reserves and decontamination of our patients before operating.

One of the major issues facing the surgeons in Egypt is the misuse of antibiotics, more than 80% of our patients test positive for multi-resistance bacteria, there is a great need for a national campaign to rain the misuse of antibiotics.

In addition to expanding our facilities, we plan to build a dedicated facility for tele-medicine to enhance our reach to support patients in more remote areas of Africa.

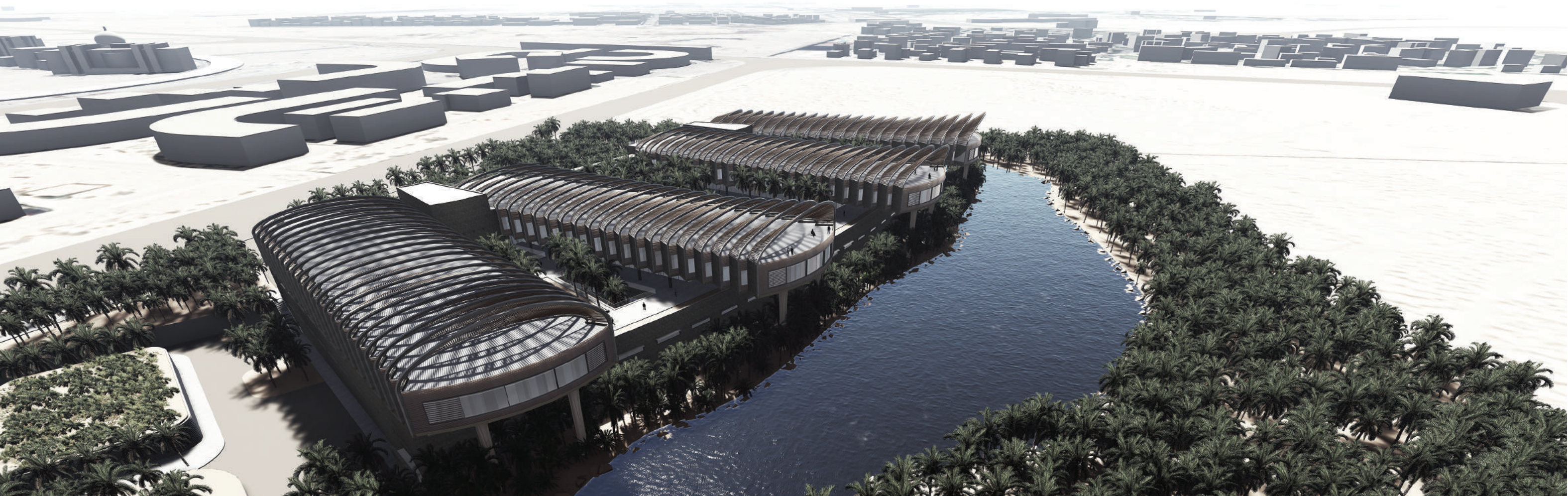
- Triple the number of training graduates

Saving lives is not only about increasing the capacity of our facilities; we also need qualified staff to provide care, both at the New Magdi Yacoub Global Heart Centre and more broadly throughout the region. Therefore, we have a goal to expand our training program to train ~1,750 healthcare professionals and scientists annually (compared to 550 today), not only from Egypt, but from the region more broadly while ensuring the same level of quality we provide today.

- Develop an advanced scientific research centre

We aspire to become a centre for innovation in heart-related medical research; with the objective of reducing the prevalence of cardiovascular disease in some of the poorest areas of Africa by developing advanced treatments for complex diseases.

The Magdi Yacoub Global Heart Centre Research Centre will cover among other congenital heart diseases, precision medicine topic and diseases specific to the developing world (e.g. rheumatic diseases). This research will benefit from exposure to the large number of cases we expect to treat, covering cardiovascular disease specific to the developing world as well (e.g., rheumatic diseases). We also plan to create a broader hub for talented scientists and doctors by building an innovation unit to be an incubator for talent and innovation.





## Facilities

The New Magdi Yacoub Global Heart Centre- Cairo will be built on 35 acres in the 6th of October city in Cairo.

The concept for the complex has been designed by Lord Norman Foster of Foster and Partners and DAR Group; two of the most renowned international architects and consultants in the world. The design aims to create an environment that is:

- Environmentally efficient and friendly
- Healing-enhanced
- Stress-free for working and learning
- Patient- and user-friendly

The New Magdi Yacoub Global Heart Centre-Cairo will include:

- The hospital:
  - 300 beds capable of accommodating 150 adults and 150 paediatric patients, in line with current demand
  - 40% of bed capacity reserved for intensive care and coronary high-dependency units
  - Integrated central hub housing five operating theatres and five catheterization laboratories, including a hybrid operating room with high quality imaging and diagnostic centre including nuclear imaging.
  - An outpatient department which will allow us to process and diagnose children and adults more than 120,000 patients annually.
- Scientific Research Centre

The New Magdi Yacoub Global Heart Centre – Cairo will also include an integrated scientific research centre, equipped with the latest research technologies.

## The Budget:

A centre of this magnitude and the global nature of the services provided; from treatment, research and valued training will be costly.

The estimated cost so far, is in the region of \$ 240 million, hence we have a considerable shortfall, but the Board believes that with the goodness of the Egyptian donors and the generosity of others in the Arabian Gulf and USA, we will be able achieve our target and thus achieve our objectives.

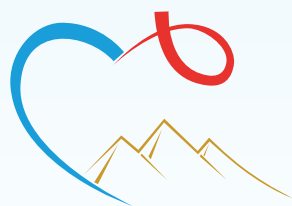












**MAGDI YACOUB**  
HEART FOUNDATION  
ASWAN HEART CENTRE

Published in October 2019