



**MAGDI YACOUB**  
HEART FOUNDATION  
SERVING EGYPT

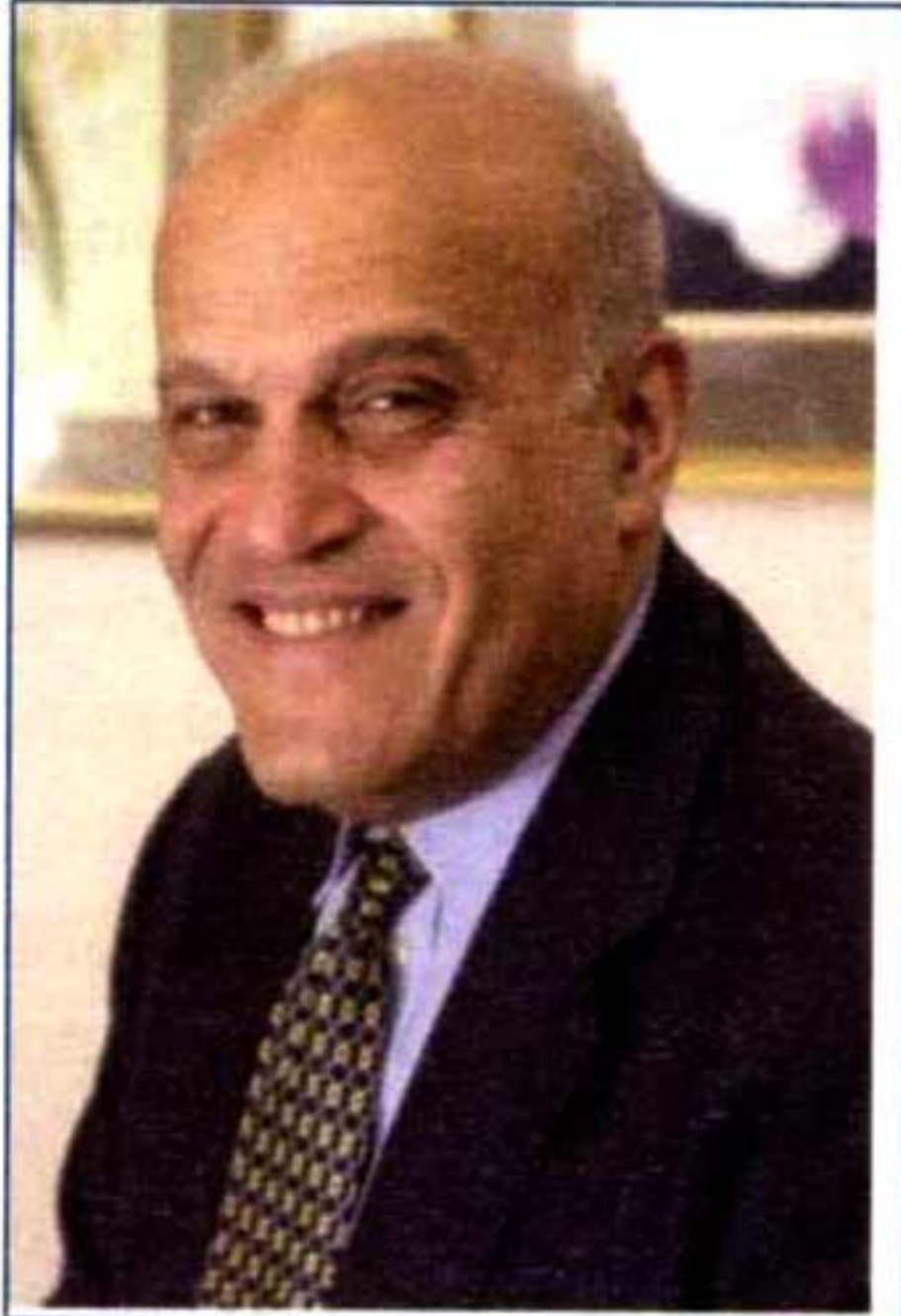
## ASWAN HEART CENTRE

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### **Funding and Sponsorship Opportunities**

December 2009

## Introduction



We have begun an exceptional project which could be of great significance to the health and well being of the People of Egypt, particularly the underprivileged. Another major objective of the programme is the development of science in the region. Establishing and sustaining the Aswan Heart Centre of excellence is a daunting task and we do not underestimate the challenge we face.

However we are confident that with strong financial support, effective management, existing local talent, nurtured by appropriate academic leadership, career development plans and extensive international connections and good will, we have a very good chance of achieving all our goals.

All the components of the programme have already started, albeit at a small but rapidly accelerating scale. The three components consist of:

1. A state of the art clinical cardiovascular service.
2. An extensive training programme for all professionals including nurses, doctors, scientists and technicians.
3. An integrated advanced Research Programme which includes population, basic science (genetic, proteomic, metabolomic and cellular), clinical and translational components.

### **The Aswan Heart Centre Project (AHC)**

This consists of two phases which are closely linked, essential for each other and progressing according to a common plan. The first phase is located on a site adjacent to the Aswan Teaching Hospital, whilst the second phase will be located on a large piece of land (more than 23 acres) in new Aswan in a commanding, prime location on the Nile. The land has been generously allocated by the government for the project and has been fully purchased by the Foundation at a nominal price.

#### **The First Phase of the AHC**

This is an autonomous unit (part of a joint venture agreement with the Egyptian Ministry of Health.). It is an autonomous unit (part of a joint venture agreement with the Ministry of Health) comprising four floors and an extensive Catheter Suite. The facilities include dedicated operating theatres (2), catheter labs (2), a critical care unit (12 beds), and two wards providing 21 pre and post-operative beds, extending in total to 2,565 metres<sup>2</sup>.

A building programme has started on a substantial expansion that will add, in May 2010, a further 3,500 metres<sup>2</sup> of clinical and research services space across four floors, including a state of the art imaging suite, and a dedicated paediatric unit incorporating ICU and pre and post-operative wards. A basement will house support service areas.

Significant investment has been made in modern cardiac imaging modalities – multi-slice CT and magnetic resonance (cardiac MR), which will be housed in the new Imaging Suite.

The combined facilities will provide the following bed capacity:

- 24 bed Paediatric Unit (10 ICU)
- 24 bed Adult Unit (10 ICU)

- 6 bed Private Patient Unit
- 6 bed Catheter Lab Recovery Unit

### **Funding Opportunities**

The support of donors within Egypt and internationally is crucial to the Centre's continuing success. To date, the generous donations of several organisations and individuals amounting to \$16 million enabled the Centre to achieve its initial phase with the resulting progress in all three components of the programme (clinical, training and research). We are now seeking urgent financial support to continue this accelerating progress. The funding opportunities range from supporting specific patient or research projects to sponsorship of an integrated multi-year programme, and therefore can vary from \$2,500 to \$5million as outlined in the following pages.

## **Funding Opportunities – Training Programmes**

Cardiovascular Nurse Education and Training Centre

Cardiovascular Medical Training Centre

# Cardiovascular Nurse Education and Training Centre

## Sponsorship Options

### 1. Naming Rights and Wall Plaque

The "XXXX" Cardiovascular Nurse Education and Training Centre.

**\$1 million dollars per year with a 4 year commitment (\$4m)**

### 2. Sponsor a Student Nurse

Cover the cost of a nurse's education and training.

**\$50,000 p.a. per nurse (pay, benefits, 1:1 coaching, Graduate)**

**2 year commitment \$100k**

### 3. Sponsor a Nurse Educator

Cover the cost of a full-time nurse educator

**\$75,000 p.a.**

**Six sponsors are needed for this.**

## Description

Nursing is a high priority. The quality of available nurses is generally poor, requiring the Centre to recruit and retain highly qualified international staff. Recruited trainees will be provided with the opportunity of working with the senior cardiac nurses with experience from some of the best cardiac centres in the world. Our requirements are in ICU (intensive care unit), both adult and paediatric; in cardiac pre/post operative wards; in outpatient clinics; and in catheter lab.



## Process

As part of a collaborative agreement with the Ministry of Health (represented by the Chief Nurse) we aim to recruit 20 nurses onto the Nursing Training Programme in each of the next 4 years. These will be a mix of masters/BA or Higher Degree nurses, all of whom will enter the Aswan Cardiovascular Nurse Education and Training Centre to begin their training.

The Training Centre will draw on world-class cardiac centres and approach internationally recognised leaders. It will promote and teach "best practice" together with leading edge skills and techniques in Cardiovascular Nursing.

Course curriculum will be focus on the following specialist areas

- Cardiac Theatre Nursing
- Cardiac Nursing – Adult
- Cardiac Nursing – Paediatrics
- Cardiac HDU/ICU Nursing
- Cardiac Out-patient Nursing

The courses will be structured to accommodate Core and Optional modules and will incorporate

both academic theory and practical (on the job) nurse training. The Reference Standards against which the nurses will be assessed will be:

- Knowledge
- Understanding
- Intellectual Skills
- Professional Skills
- Practical Skills
- General and transferrable Skills

Each entrant to the programme will undergo a rigorous assessment against a set of evaluation criteria. The decision candidate suitability and on entry to the Training Centre is entirely at the discretion of Aswan Heart Centre.

### **Outcomes**

Our current nurse staffing plans include a mix of international staff, both Western and Asian, and a small group of locally recruited Egyptian nurses. Our objective (in nurse education and training) is to establish a nursing capacity at Aswan Heart Centre that progressively comprises a substantial majority of Egyptians.

Our first priority will be to replace the Asian nurses with nurses who graduate from the School. Our ultimate requirement is for c. 50 nurses:

- Theatre (10)
- ICU (16)
- Ward (16)
- Outpatient (10)

With an intake of 20 per year, an allowance for fall-out and natural attrition this has to be a multi-year programme. The Centre will have up to 50 international nurses on campus, whose time will include training and coaching of trainees from the school in addition to their duties in clinical service provision.

The nurses who are educated and trained through the School will graduate with high levels of skill and understanding in all aspects of Cardiovascular Nursing. The following outline details the proposed courses the Training Centre will offer

- **Degree level course** - linking with other universities in Egypt and majoring in Cardiovascular Nursing
- **Cardiac Nursing Module** - link with two/three of the most prestigious Universities in Egypt who are offering General Nurse Training in order to develop a Cardiac Nursing Module within their respective programmes. This may be a two month placement in which the student nurse “rotates” through theatres; wards; HDU/ICU; Out-patients department – all of which is underpinned by a strong academic/theory teaching.
- **Bursaries/Scholarships** - Bursaries/Scholarships for places at the Training Centre for up to six of the country’s “Best Nursing Graduates”.

# Cardiovascular Post-Graduate Medical Training Centre

## Sponsorship Options

### 1. Naming Rights and Wall Plaque

- The “XXXX” Cardiovascular Post-Graduate Medical Training Centre.  
**\$1 million dollars per year with a 4 year commitment (\$4m)**; (including costs and expenses of international experts, senior trainers and advisors temporarily resident in Aswan (25); some of this is pro bono work)
- The International Placement Programme – sponsored by “XXXX”  
**\$300k dollars per year with a 4 year commitment (\$1.2m)**

### 2. International Placement programme

Sponsor a doctor’s placement in an International Centre of Excellence  
**\$20,000 p.a.** (fees (if any), travel, accommodation, subsistence for ≤60 days per year)

### 3. Sponsor a Doctor’s Training

Cover the cost of a doctor’s education and training.  
**\$50,000 p.a. per doctor** (training, CPD, international placement)  
2 year commitment

## Description

### Aswan Doctors Fellowship Programme (ADFP)

A key objective for Aswan Heart Centre is the development of a team of doctors who have the ability to become “world class” clinicians and leaders in their field of expertise. The doctors who have recently been appointed to the Aswan Heart Centre fall into this category. Each of them has been advised that they will be supported to refine and further develop their knowledge, skills and experiences.



It is against this background that the Aswan Heart Centre’s Doctors’ Training Programme has been devised and is being introduced. The key elements of the programme are Continuing Professional Development, International Placement and on the job training.

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### Minimum qualifications for Entry:

- MBBBCh; M.Sc (Cardiology) or equivalent
- MBBCh; M.Sc(General Surgery) or equivalent
- MBBCh; M.Sc (Anaesthesia)
- MBBCh; M.Sc. in Radiology.

**Aim of Programme:** To enable Doctors to gain experience across the full range of their Cardiac Speciality e.g. cardiology, surgery, anaesthesia, radiology with excellent practical training and support towards excellence in this specialty

**Duration and timescales:** One year, commencing 2010

### Programme Format

Organised structured Programme consisting of:

- Introductory Programme
- Personal/Individualised Training Programme (including e-learning; master classes; Mentoring/Coaching; Case Based Discussions; Clinical Evaluation Exercises.)
- International Placements (two/three months)

**Education and Assessment:** Multi-source feedback

1. Peer Assessment
2. Team Assessment
3. Clinical based discussion

**Process**

**Training programmes**

- Assessment Centre, (MBTI; Belbin; Strengthfinder; 16PF)
- Personal Development Planning
- Mentoring and Coaching
- Meeting with respective Mentors/Coaches
- Journal keeping and reflective practice
- Presentation skills
- Identification of Individual Training Needs – **Director of Clinical Services**
- Induction Programme
- (Core Induction; Orientation: Mandatory Training)-

**International Placements**

Already Aswan's physicians and surgeons are enjoying short-term placement in institutions of international repute in order to develop skills, gain knowledge, and witness the working and practices of world renowned physicians and surgeons.

Over the next 12 months, each doctor will be allocated a further placements within a world-class centre of clinical and/or research excellence. The actual placement will be agreed between the doctor and his/her mentor, but all placements must be supported and sanctioned by the Director of Clinical Services of the Aswan Heart Centre.

All placements will be supported, arranged and financed. This funding will cover air flights; accommodation and subsistence costs. Each doctor will continue to be paid his/her normal salary during the placement. Doctors are also contractually required to sign a Training Contract relating to conduct during funded training and CPD and they suffer financial penalties should they withdraw from the programme or leave the employment of the Aswan Heart Centre before an agreed period.

**Outcomes**

- To equip Doctors with the knowledge; skills; understanding; competence and confidence to enable them to become world class leaders in their field.
- To train 20+ doctors who will progressively be able to assume positions of responsibility in the Clinical Services Department of Aswan Heart Centre, able to carry out clinical duties unsupervised and through continuing CPD become experienced and well qualified clinicians.



## **Funding Opportunities – Clinical Services**

Paediatric Intensive Care Unit

Adult Intensive Care Unit

Paediatric Cardiac Unit

Adult Cardiac Unit

Cardiovascular Outpatient Clinic

Surgical Operations and Cath Lab Procedures

## Clinical Services

### Sponsorship Options

#### 1. Naming Rights

Donor name included in Wall Plaque and invited to open the unit

- The “XXXX” Paediatric Cardiac Intensive Care Unit @ Aswan Heart Centre  
\$2 million dollars to fit out and equip the new 12 bed unit + \$1 million p.a. to fund 100 paediatric operations. Total funding Year 1- 3 = \$5 million.
- The “XXXX” Adult Cardiac Intensive Care Unit @ Aswan Heart Centre  
\$1m dollars to fit out and equip the re-modelled 12 bed unit + \$1 million p.a. to fund 100 operations on adults desperately in need of surgery. Total funding Year 1- 3 = \$4 million.
- The “XXXX” Paediatric Cardiac Unit @ Aswan Heart Centre  
\$750k to fit out and equip the new 12 bed ward and associated facilities + \$1 million p.a. to fund 100 paediatric operations. Total funding Year 1- 3 = \$3.75 million.
- The “XXXX” Adult Cardiac Unit @ Aswan Heart Centre  
\$750k to fit out and equip the remodelled 12 bed ward + \$1 million p.a. to fund 100 operations on adults desperately in need of surgery. Total funding Year 1- 3 = \$3.75 million.
- The “XXXX” Cardiovascular Clinic @ Aswan Heart Centre  
\$500k to fit out and equip the remodelled unit + \$1 million p.a. to fund 5000+ outpatient consultations p.a.

#### 2. Surgical Operations and Catheter Lab Procedures

Covers the average cost of surgeons and theatre teams, theatre time, stay in intensive care, period in pre and post operative wards, all consumables, drugs, supplies and services, patient travel and accommodation costs. (high-cost assist devices are not covered).

Donor names will be included in Friends of Aswan and Aswan Heart Centre Annual Reports - Valued Donors List. Donations > \$100,000 will be included in Principal Donors List in Main Reception.

One-off and Annual Donations sought.

- Open Heart Surgery - Level 1  
\$10,000 per operation; 10 operations (\$100k)
- Open Heart Surgery – Complex  
\$20,000 per operation; 10 operations (\$200k)
- Catheter Lab Interventional Procedure (e.g. angioplasty)  
\$2,500 per procedure

Covers the average cost of interventional cardiologist, catheter lab support team, time in recovery unit, all consumables, supplies and services, patient travel and accommodation.

#### 3. Outpatient Clinic Consultations

Covers the cost of cardiologists, nursing team, diagnostic tests, all consumables and supplies

\$10,000 for 50 patient consultations;

## Description

### 1. Cardiac Intensive Care Unit (CICU)

Separate 12 bed units for Adults and Children dedicated to the care and management of children with heart disease. In the period immediately following surgery patients are transferred to the Intensive Care Unit (ICU), spending on average 2/3 days before moving to a post-operative ward.



Specialisation of care for these patients requires collaborative effort from a team of personnel with skills and knowledge that are derived from many disciplines, not confined to critical care, cardiology, cardiac surgery or anaesthesia. The ICU team uses a wide range of diagnostic, monitoring and treatment techniques to help care for patients. They will monitor:

- Temperature
- Blood pressure
- Heart rate
- Respiratory rate
- Oxygen in the blood
- Levels of sodium, potassium, etc
- Urine output
- Level of consciousness

The doctors and nurses can, and do, monitor more but their main priority is to support the organs that may be failing and to try to get them functioning properly again. Sophisticated, high-tech equipment is utilised to help them function. The ICU Team work closely with other professionals in the Centre including pharmacy, laboratory, physiotherapy, infection control, blood bank.

In full operation (2011) the Centre expects to carry out > 500 operations on children and a similar number of adults.

### 2. Paediatric Cardiac Unit

This is a 12 bed Unit dedicated to the care of children. Patients would go there on admission in preparation for their operation. They would also return to it following a period in CICU. The unit is designed to be child friendly, making the child's stay in the hospital as stress free as possible. There is also provision for parents to sleep there while the child is undergoing care.

### 3. Adult Cardiac Unit

A 12 bed unit specifically for the care of adults both pre and post operation. The patient would spend a day or so following arrival and depending on the recovery period may spend up to a week following transfer from CICU.

#### 4. Surgical Operations

Open heart surgery is any surgery where the chest is opened and surgery is performed on the heart muscle, valves, arteries, or other heart structures. The term "open" refers to the chest, not the heart itself. A heart-lung machine (also called cardiopulmonary bypass) is usually used during conventional open heart surgery, helping to provide oxygen-rich blood to the brain and other vital organs. Operations typically take a few hours but could last over 12 hours.



#### 5. Interventional Cardiology Procedures

A branch of cardiology that deals specifically with the catheter based treatment of structural heart diseases. The main advantages of using the interventional cardiologic approach is the avoidance of the scars, pain, and long post-operative recovery associated with surgery. Additionally, the interventional cardiology procedure of primary angioplasty is now the gold standard of care for an acute myocardial infarction. This involves the extraction of clots from occluded coronary arteries, deployment of stents and balloons through a small hole made into a major artery, leaving no scars.

#### Outcomes

In the past few months we have carried out 80 open heart surgery operations, many complex procedures. The Outpatient Department and Catheter Lab provided care to hundreds of adults and children and we now have over 1,800 patients on our growing database.

Our plans are to reach the following levels of activity:

- 10,000 outpatient consultations per year
- 1,000+ surgical operations
- 3,000 diagnostic and/or interventional catheter lab procedures



## **Funding Opportunities – Research Services**

Heart Muscle Disease

Rheumatic Heart Disease

Pulmonary Hypertension

## Research Services

A strong research programme is one of the essential features of a Centre of Excellence. It provides opportunities for audit, development of critical faculties, enhances patient care, stimulates discovery and international visibility of the Centre. In addition, training Egyptian doctors and scientists in research methodology, execution of research and publishing in international journals with high impact factors is essential for development of science in the region.

The integrated AHC programme encompasses population, clinical, translational, cellular and molecular studies. A pragmatic approach to a phased implementation of the programmes has been taken. Phase 1 includes three major projects which encompass all the different aspects of research mentioned above and provides funding opportunities.



## Heart Muscle Disease

### Sponsorship Options

#### 1. Naming Rights

**Donor name included in Wall Plaque and invited to open the unit**

– **The "XXXX" Inherited Heart Muscle Disease Unit**

The costs of molecular, genetic, cellular, translational and electrophysiological labs as well as an immunocytochemistry laboratory to study a very large number of specimens of human tissue obtained at the time of operation (septal myectomy) in Aswan.

**\$1m dollars per year. Total Funding Years 1-4 = \$4 million**

– **A high throughput gene sequencing platform.**

Covers the cost of acquisition and installation

**\$750,000**

– **An exercise laboratory**

To measure maximum oxygen consumption and heart power output. This is essential for assessing progress of these patients and importantly the effect of novel therapies.

**\$200k to acquire + \$40k p.a. for a physiologist to run it. Total Funding Years 1-3 = \$320k**

#### 2. Funding Four Researchers

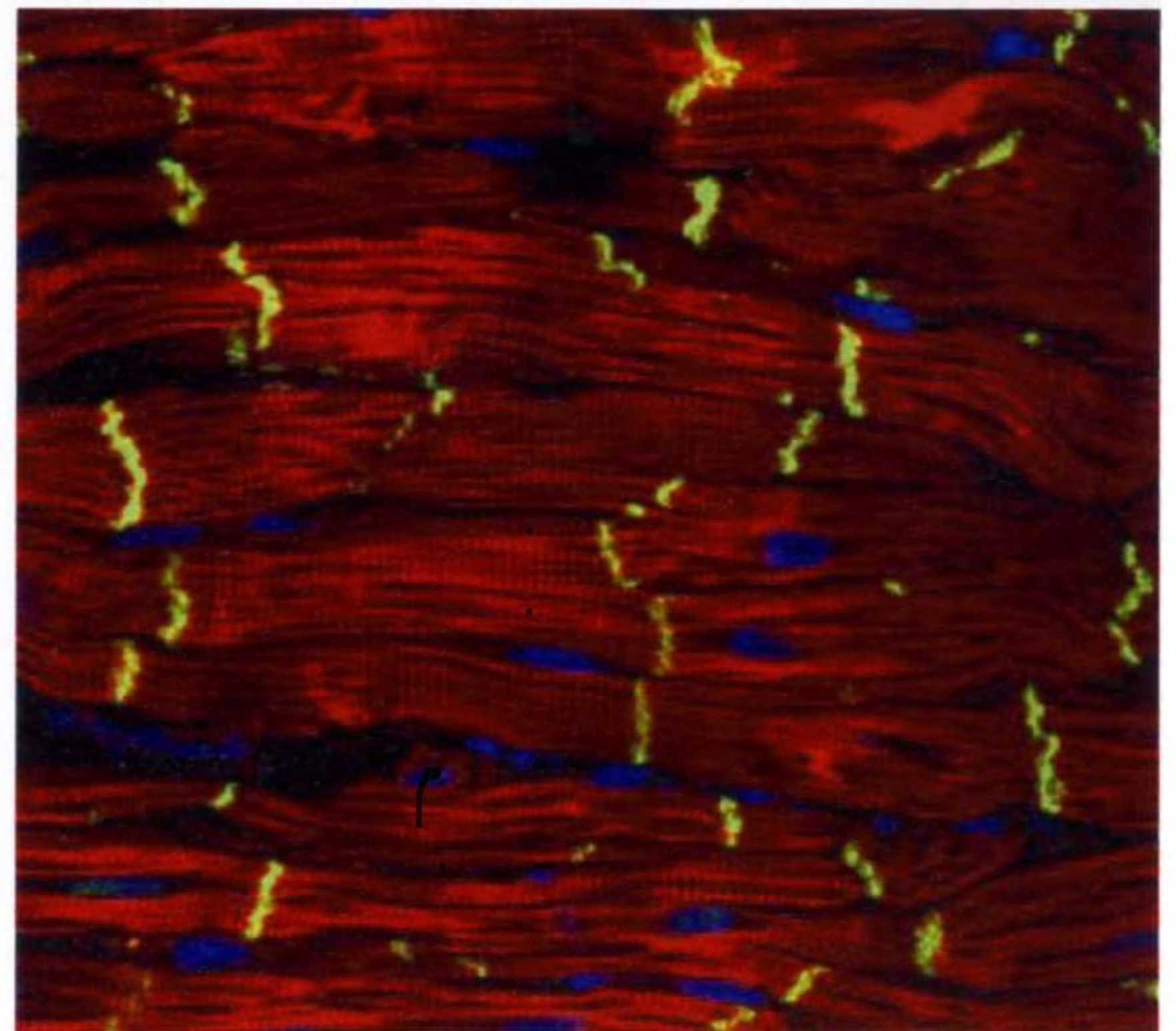
Covers the cost of 2 cardiologists, 1 electrophysiologist and 1 molecular biologist, each for three years.

**\$150,000 p.a.; Total for years 1-3 = \$450,000**

### Description

The incidence of heart failure continues to rise world-wide and has reached epidemic proportions. WHO statistics estimated a significantly higher incidence in the Middle East. Approximately 50% of heart failure is caused by inherited heart muscle disease. The genes implicated in these cases vary in different regions of the world. The current project has started by establishing four screening units, in Aswan, Alexandria, Cairo and Monofeya. To date 200 index patients have been discovered.

Apart from providing state of the art treatment, including surgical treatment in Aswan, these patients are being followed up and studied at genetic, cellular and imaging levels.



## Rheumatic Heart Disease

### Sponsorship Options

#### 1. Naming Rights

**Donor name included in Wall Plaque and invited to open the unit**

– **The "XXXX" Rheumatic Heart Disease Centre**

The costs of epidemiologic, clinical, translational, molecular and cellular components..  
**\$500k per year. Total Funding Years 1-4 = \$2 million**

– **Histology Laboratory**

For specimens generated country wide.  
**\$100,000**

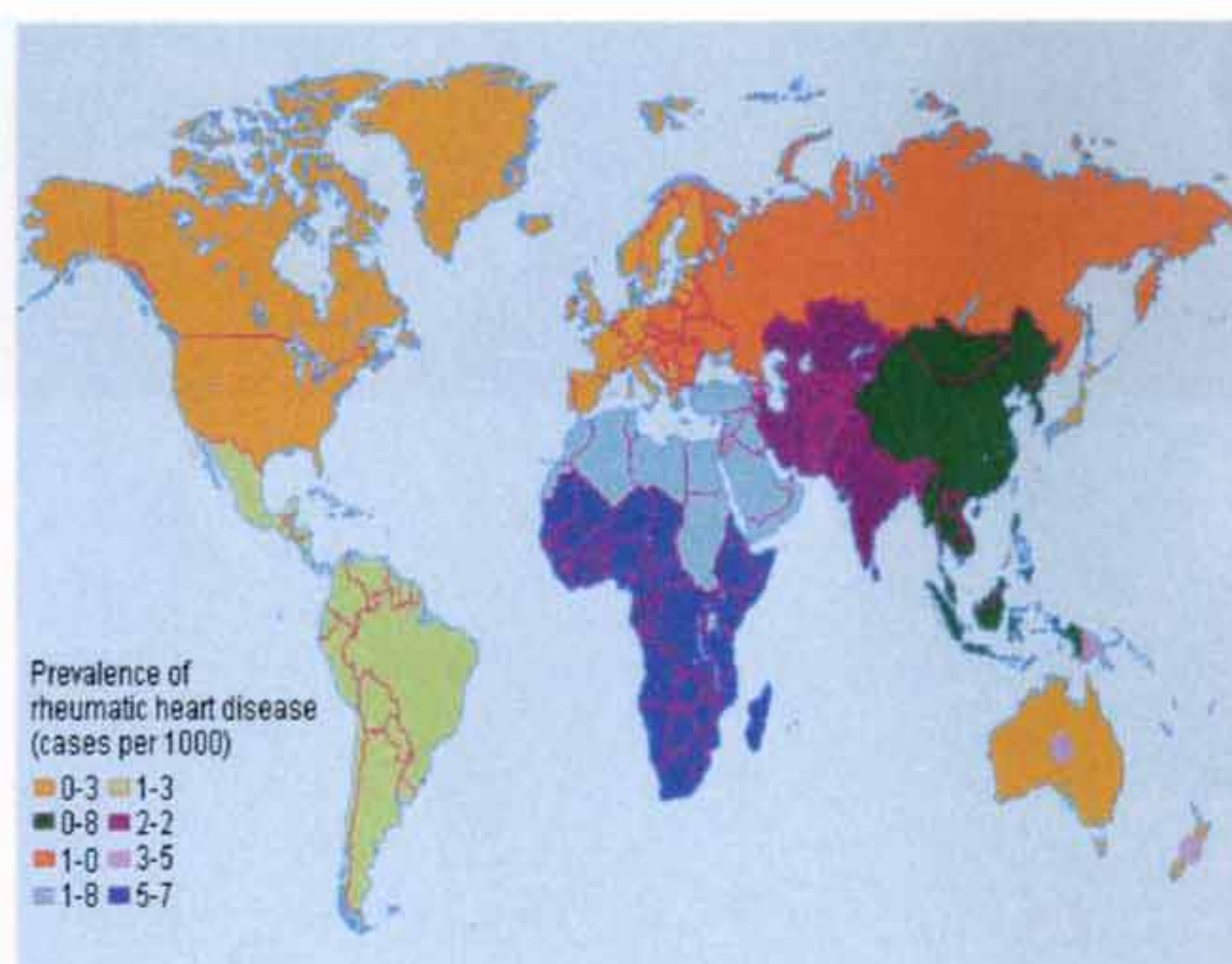
#### 2. Funding Two Researchers

Covers the cost of 2 researchers

**\$50,000 p.a.; Total for years 1-3 = \$150,000**

### Description

Worldwide, it is estimated that 15 million individuals, primarily children, are affected by Rheumatic Heart Disease. The exact molecular mechanisms of the disease are not known, and there is no vaccine or other effective method for primary prevention. The WHO classifies the disease as a neglected disease. The incidence of Rheumatic Heart Disease in Egypt is extremely high, possibly as high as 30/1000 individuals with literally thousands of children dying or becoming incapacitated by the disease each year. The research programme in Egypt includes clinical, molecular and cellular components.





## Pulmonary Hypertension

### Sponsorship Options

#### 1. Naming Rights

Donor name included in Wall Plaque and invited to open the unit

##### – The "XXXX" Pulmonary Hypertension Centre

The costs of establishing a pulmonary hypertension centre to serve Egypt and research into the subject.

**\$250k per year. Total Funding Years 1-4 = \$1 million**

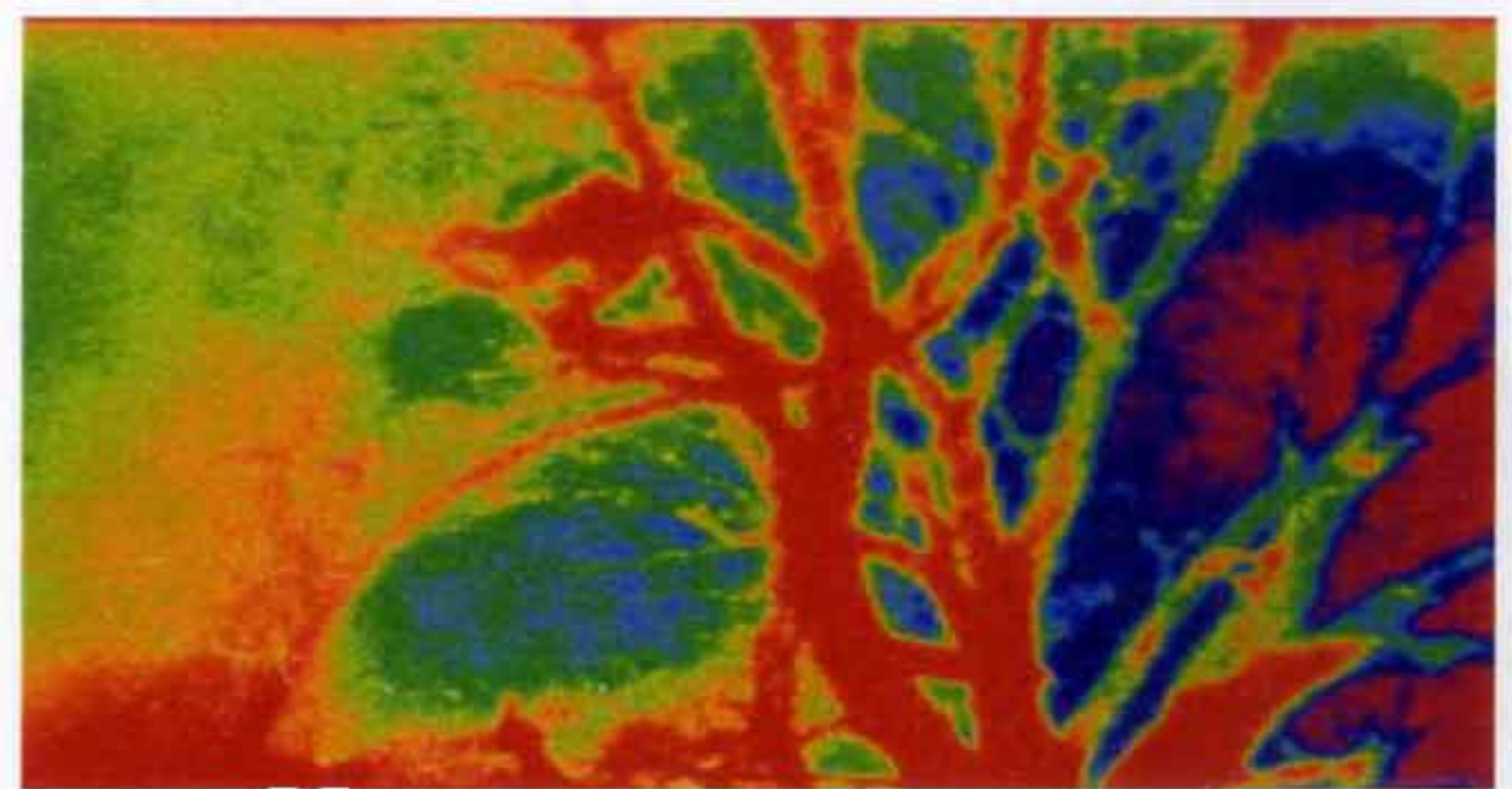
#### 2. Funding Two Researchers

Covers the cost of 2 researchers

**\$50,000 p.a.; Total for years 1-3 = \$150,000**

### Description

Raised blood pressure in the lung vessels is a neglected disease in Egypt. Different groups of patients ( usually young) suffer from the disease and if not treated, die within a short period. Establishing a PHT Centre in Egypt to treat these patients and study the many aspects of the disease can have a strong humanitarian element whilst being of great scientific value.



# ASWAN HEART CENTRE

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## **Funding Opportunities – Capital Equipment**

## Capital Programme

### Sponsorship Options

#### Naming Rights

Donor name included in Wall Plaque and invited to open the unit

Clinical Services	Detail	Cost
		\$k
<b>Buildings</b> (note: some of these are presented as standalone options even though they are also bundled in the Clinical Services sponsorship options)	Paediatric Intensive Care Unit – Fit out and Equipment	2,000
	Adult Intensive Care Unit – Fit out and Equipment	1,000
	Paediatric Cardiac Unit – Fit out and Equipment	750
	Adult Cardiac Unit – Fit out and Equipment	750
	Training centre	450
	Outpatient and Research	750
<b>Clinical Services</b> (note: some of these are presented as standalone options even though they are also bundled in the Clinical Services sponsorship options)	Paediatric Unit (24 bed/10 ICU) Equipment	1,000
	Adult Cardiac Unit (14 bed) equipment	600
<b>Clinical Laboratory</b>	Supplementary Equipment for Clinical Labs	300
	Benching, Chairs, Bins	60
<b>Training Centre</b>	Equipment, facilities	300

Research Area	Detail	Cost
		\$k
<b>Molecular Laboratory</b>	Genetic Sequencer	735
	Real Time PCR	
	Gel Document System and Accessories	
	Clean Air Systems (hoods, +/- pressure)	
	Misc. Equip. (centrifuges, scales, hotplates, etc.)	
	Benching, Chairs, Bins	
	General Laboratory Consumables (bin liners, etc.)	
	Active Work Cold Storage (refrigerator, freezers, etc.)	

<b>Basic Science Laboratory</b>		
<b>Immunocytochemistry</b>	Microscope, Fluorescent with Digital Camera	1,177
	Microscopes, brightfield	
	Confocal Microscope	
	Dark Room Renovations	
	Slide Staining and Preparation Equipment	
	Fume Cupboard and ventilation	
	Microtome and blades	
	Microplate Technology	
	Misc. Equip.	
<b>Tissue Culture</b>	Tissue Culture Room Equipment	
	Clean Air System (neg. pressure)	
	Misc. Equip. (ph meters, scales, shakers, etc.)	
<b>Electrophysiology</b>	Electrophysiology Microscope Systems	
	Misc. Equip.	
<b>General FFE</b>	Active Work Cold Storage (cold room, freezers, etc.)	
	Benching, Chairs, Bins, etc.	
	General Laboratory Consumables (bin liners, etc.)	

<b>Primary Area</b>	<b>Detail</b>	<b>Cost</b>
<b>Interim/Long Term Cold Storage</b>	Cold Room / Refrigeration	2,000
	-80 Freezers	
	LN2 Storage, transport, production	
	-20 Freezers	
	Biobank Software, barcoders, printers, readers, etc.	
	Benching, Chairs, Bins	
	Boxes, Vials, thermometers etc.	
	Temperature Monitoring System for QA	
<b>Washup &amp; Misc.</b>	Autoclaves and associated equipment	
	Misc. Equipment and consumables	
	Power Stabilization and UPS support	
<b>Service Contracts</b>	Assume 2/3rds of Capital Requires Service Contract	
<b>Lab Space Infrastructure</b>	Prefabricated Building Structures	