

**INTERSHIP TRAINING
AT
CENTRE FOR ADVANCED BIOMEDICAL RESEARCH AND
INNOVATION, GULF MEDICAL UNIVERSITY, AJMAN,
UAE.**

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Introduction

1.1 THUMBAY PROFILE

Thumbay organization which was started in the year of 1998 as a Thumbay Group in Ajman, UAE by the founder Mr. Thumbay Moideen, a visionary and third generation entrepreneur from India.

Thumbay group which having 3000 employees and diversified into 13 sectors, including operations in Education, Healthcare, Medical Research, Diagnostics, Retail Pharmacy, Health Communication, Retail Optical, Wellness, Nutrition Stores, Hospitality, Real Estate, Publishing, Trading, Marketing & Distribution.



The Thumbay Chain of Hospitals, the constituent teaching hospitals of Gulf Medical University, is one of the largest healthcare services providers in U.A.E serving patients from more than 175 countries. As well as, Gulf Medical University attracts a student cohort of over 67 nationalities and faculty and staff from over 22 countries.

Thumbay Group also operates a reputed pharmacy chain, diagnostic centres, multi-brand retail outlets, world-class wellness centres, and a prestigious chain of coffee shops, popular health & lifestyle publication.

1.2 CABRI PROFILE

The Center for Advanced Biomedical Research and Innovation (CABRI) was inaugurated on 13th January 2014 by Sheikh Humaid Bin Rashid Al Nuaimi, member of the Supreme Council UAE & Ruler of Ajman.

CABRI which is carrying out nationally research, as well as internationally relevant research in the field of Medicine applying state of art of medical diagnostics. CABRI is providing tertiary, high complexity, referral testing services to hospitals of the Thumbay group as well as contracted hospitals.

CABRI is also committed to provide foremost facilities and an environment which is conducive to deliver excellence in lab testing and clinical trials for advancing research and innovation.

CABRI is working on three major areas.

- 1) Clinical Research
- 2) High Complexity Laboratory Testing
- 3) Statistical Support for analysis of clinical research data and for the generation of evidence based clinical practice.

CABRI is assist in the incubation of research ideas for value innovation, employing the Blue Ocean Strategy approaches. It is also proposed to enhance inter-university collaborations to create tangible (e.g. manpower) and intangible (e.g. trust, commitment) assets through small-scale collaborations and expanding the same to covering a wide range of activities including student mobility, staff mobility, academic partnerships (joint degree/ double degree/ international credit transfer), R&D, shared IPR and other forms of collaboration.

Areas of research focus have been delineated after multiple discussions with the clinical faculty members. These are diabetes, cardiovascular diseases, hemoglobinopathies, allergies, women and child health.

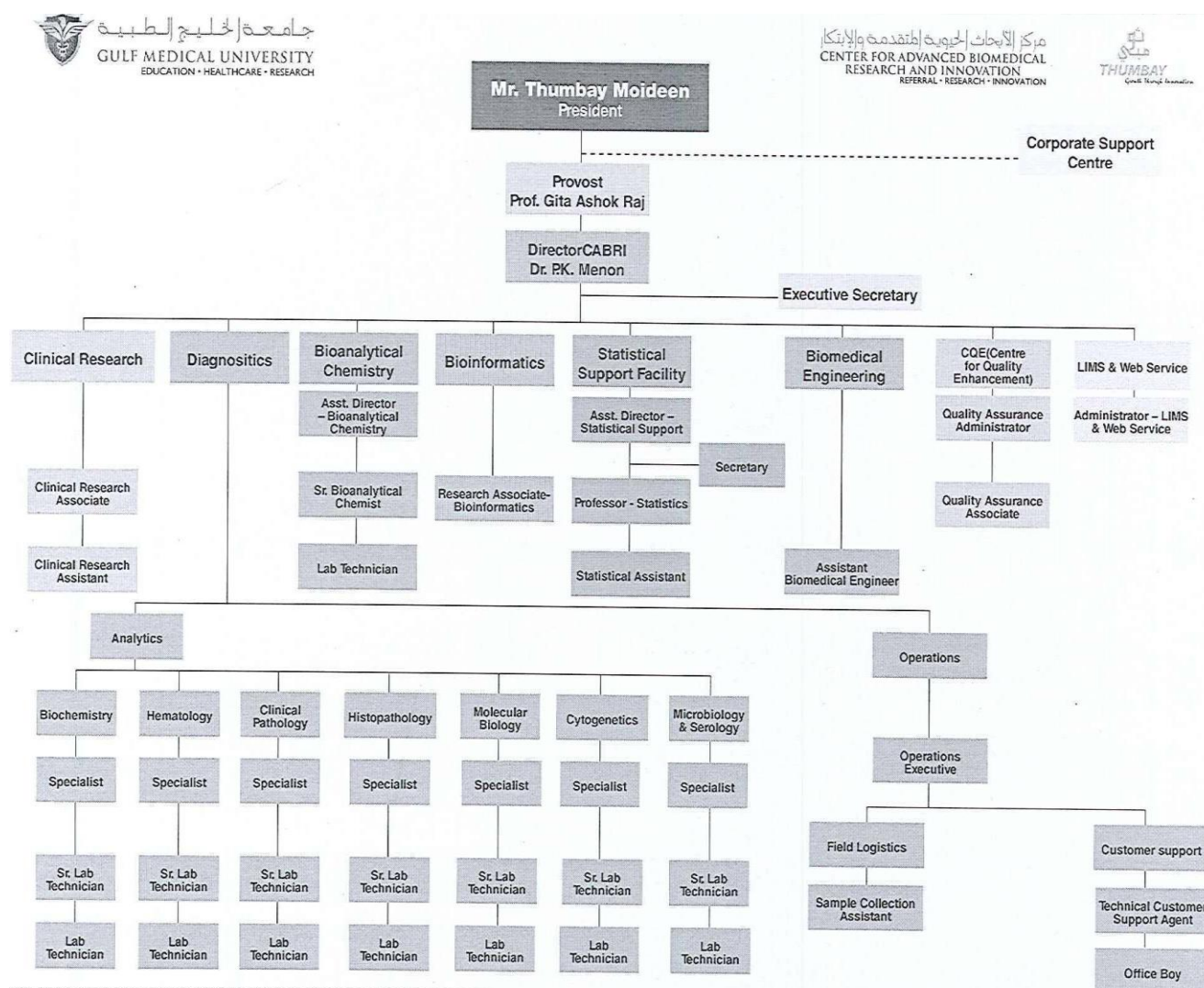
1.3 Vision

The Vision of CABRI is to enhance quality of medical education and the outcome of clinical care.

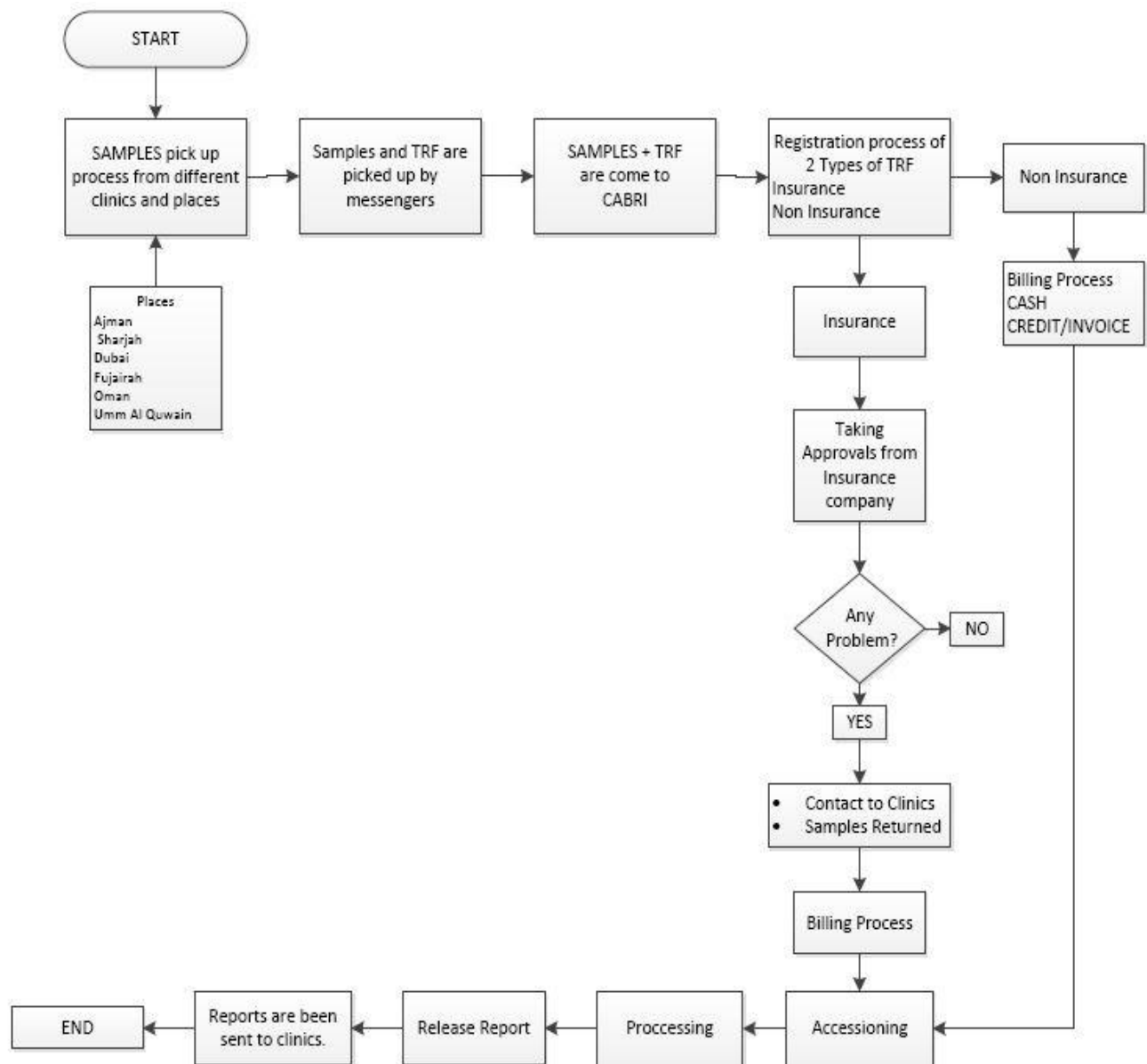
Mission

The Mission of CABRI is to enhance interdisciplinary research and collaboration in the University and provide high quality, state of art, affordable preventive HEALTH CARE SERVICES to the people residing in the UAE and GCC.

1.4 Organizational Structure



1.5 Process Flow Chart



1.6 Departments

1.6.1 Clinical Research

The clinical research facility coordinates collaboration with industry for sponsored research, enhances faculty-initiated research and supports student research. Many students train part time as research assistants to enhance their skills and experience.

Clinical research department which is involve internal study and external study.

1.6.2 Bioanalytical Chemistry

The department encloses the most advanced platforms and technologies in the field used to detect and analyze a broad range of genetic disorders and infectious diseases such as HLA B Locus sequencing, beta thalassemia mutation detection, Human Papillomavirus genotyping, HLA B27,etc..

The Real Time PCR technique is used for the quantification of viral load which is essential for the patients to assess their disease status and their response to treatment.

1.6.3 Bioinformatics

Bioinformatics which is facilitates microarray data analysis and cytogenetic test with the help of Affy matrix software.

1.6.4 Statistical Department

The Statistical Support Facility provides professional assistance in developing research proposal in the field of bio-medical research. Services to academic, researchers, students, corporate and government agencies include assisting in developing research concept, research design and data management. Statistical department provides assistance in developing scientifically, ethically and statistically sound research protocol in epidemiological research, clinical trials, genetic studies and bio-medical research.

1.6.5 Biomedical Engineering

Biomedical engineering department is involved in evaluating devices, procedures and solving out the problems those raise within laboratory.

1.6.6 Quality Assurance

Quality Assurance helping in a quality system to fulfilled requirements and goals for a product and services. It also covers entire laboratory process including Preanalytical, Analytical and Post analytical processes which are monitored using key Quality Indicators for Continuous Quality Improvement.

1.6.7 Operational Department

Serves as the principal advisor to the director of CABRI on operational issues. It provides management oversight of and direction towards the problems. The department is also handling problems arising in billing and dispatch process.

1.6.8 IT Department

Information Technology which is delivering unmatched business value and customer delight by directional interfacing with lab equipment, reduces data entry errors, dedicated to manual data entry and specimen tracking, real time status of each lab study allowing doctors to estimate the time of reporting without interrupting lab staff.

1.6.9 Purchase Department

The purchase department is the business management function that ensures identification, sourcing, and management of external resources that an organization needs or may need to fulfill its strategic objectives.

1.6.10 Sales Department

Sales department which is making and maintaining relationship with clients, respond and follow up sales enquiry in timely manner. They are planning and priorities personal sales activities and customer/prospect contact towards achieving agreed business targets.

1.6.11 Diagnostics

CABRI which is facilitating services including,

- ◆ Core Laboratory (Clinical Chemistry)
- ◆ Histopathological Services
- ◆ Cytogenetic Laboratory
- ◆ Molecular Biology
- ◆ Bioanalytical Laboratory
- ◆ Microbiology Immunology Laboratory
- ◆ Maternal and Child Health Laboratory
- ◆ Diabetes Laboratory
- ◆ Cardiac Disease Research Laboratory
- ◆ Allergy Laboratory
- ◆ Hemoglobinopathy Laboratory

Core Laboratory

CABRI have a fully automated high throughput Clinical Chemistry and Hematology Laboratory focusing on Preventive health care. This laboratory is focus on not only carrying out high quality testing but also provide easy to understand report to the customer using graphical formats and combining results of various tests using algorithms to provide health status of organ systems.

Genomics Laboratory

The Genomics lab has an Advanced Molecular Lab with PCR, Real time PCR, Sequencing and Microarrays. The lab is helping in identifying single gene and multiple gene disorders using PCR and sequencing. It is able to quantify viral loads as well as tumor burden.

Proteomics and Metabolomics Laboratory

Using equipment like Liquid Chromatography Mass Spectrometry (LCMS), and Gas Chromatography and Mass Spectrometry (GCMS), this lab is looking for early molecular signatures of diabetes and other constitutional diseases. It can detect miniscule quantities of molecules generated following metabolism of drugs and pathogens.

Rare metal analysis Laboratory

Atomic Absorption Spectrometry (AAS) is used to detect rare metals in body fluids as well as contaminants in foods and cosmetics.

Maternal and Child Health Laboratory

CABRI is playing an important role in the diagnosis of women and child health by looking for MSS markers, Karyotyping, FISH, neonatal screening for inborn errors of metabolism, LBC, HPV and thyroid profiles. This will help in early detection of diseases and enhance quality of life and longevity.

Diabetes Laboratory

We are setting up a NGSP level 1 laboratory for diabetes research using dedicated HPLC Technology.

Cardiac Disease Research Laboratory

Advanced electrophoresis techniques are being used for Lipid profiling wherein sub-classes of HDL and LDL cholesterol will be delineated. Subclasses of Cholesterol help determining predisposition to cardiac disease even if the cholesterol values are normal and help plan appropriate intervention strategies.

Allergy Laboratory

Allergy studies with IGE, and epitope specific IgE testing is being the cornerstone for allergy treatment and research.

1.7 Services

- Diagnostics Services for walk in patients
- Diagnostics services for practicing clinician's
- Clinical Trials
- Statistical Support and Interpretation of results
- Protocol writing

1.8 Accreditations

CABRI is following national and international standards and guidelines of

- Ministry of Health
- Good Laboratory Practice
- Good Clinical Practice

College of American Pathologists (CAP)

