

DRAFT PROPOSAL

Expansion and upgradation of Vallabhbhai Patel Chest Institute

Draft Proposal for
approval Sir,

by

Chairman
Hon. Chairman G.B. Sr.



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About Institute

Vallabhbhai Patel Chest Institute

(VPCI) has been established in the year 1949 as a national Institute for teaching and research in chest and allied diseases. Lung diseases affect people of all ages in every corner of the world.



Hundreds of millions of people suffer everyday from chronic respiratory diseases such as tuberculosis, asthma, allergic rhinitis, chronic obstructive pulmonary disease, respiratory allergies, occupational lung diseases, pulmonary hypertension, lung cancer and other often-under diagnosed chronic respiratory diseases. Besides developing techniques for effective management of patients suffering from lung disease, it is also imperative to conduct extensive research to further enhance our understanding. In this regard, VPCI has been catering to large number patients visiting from all over India and neighboring countries for specialized services in chest medicine. The mandate of the VPCI are:



To conduct research on basic and clinical aspects of chest medicine



To train postgraduates in Pulmonary Medicine and allied subjects



To develop new diagnostic technology and disseminate it to other institutions in the country



To provide specialized clinical and investigative services to patients.

Patient Care Facilities being provided at VPCI consists of Departments of Pulmonary Medicine, Anaesthesia, Thoracic Surgery, Radio diagnosis and Clinical Laboratories of Biochemistry, Microbiology and Pathology. Medical Mycology unit is a leading centre of research and teaching at VPCI.

The average annual inflow of patients at VPCI is around 65,000. It has 128 bedded inpatient department with 6 bedded Respiratory ICU with total admissions of around 2500 in a year. Department of Pulmonary Medicine provides both diagnostic and therapeutic Bronchoscopic services.

VPCI has State of the art Pulmonary Function Laboratory, Cardio-pulmonary Rehabilitation Clinic, Sleep Laboratory, Allergy and Applied Immunology Laboratory. All laboratories are well equipped for advanced diagnostics and actively participate in research activities and has publications in high impact journals.

Radiology Unit at VPCI has a 64 Slice MDCT Scan Center. Image sharing has been made possible by Picture Archiving and Communication Systems (PACS). VPCI is a national reference Centre for Tobacco cessation activities including quit line service. VPCI also runs a successful Yoga Therapy and Research Centre.

VPCI is a teaching institute affiliated to Delhi University which provides MD, DM and PhD programs under Pulmonary Medicine and allied sciences. Various research projects are being jointly done by various departments in Multidisciplinary Research.

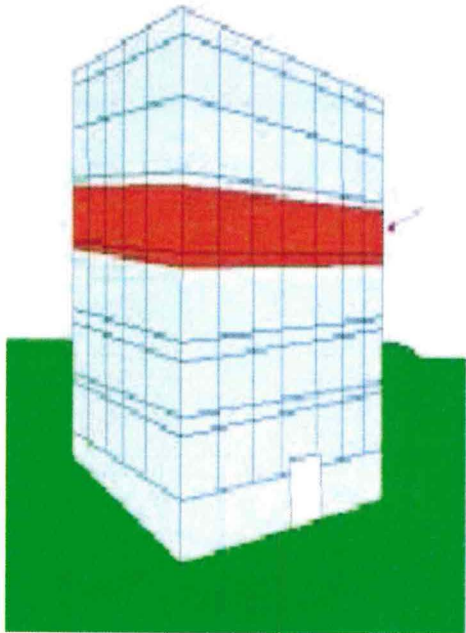


Expansion and Upgradation of VPCI

Justification for Proposal / Project

There is an unmet need for expansion and upgradation of VPCI so that all pulmonary diseases including complex disorders will be provided under one roof. The development of new departments of associated medical and allied specialities will cut down on unnecessary referrals and thereby streamline patient workflow leading to better outcomes. Given the background of VPCI in research activities, this advancement in treatment in Pulmonary diseases will be in addition to the cutting edge research. This research wing will help development of newer management and diagnostic modalities and further research in basic patho-physiology of lung diseases.

In the current era of pandemic and emerging infections, VPCI is uniquely placed to set up laboratories for research in pulmonary infectious diseases. No such comprehensive Pulmonology Centre exists. Expansion and upgradation of VPCI will go a long way in providing quality clinical and research facilities for Pulmonary diseases.



1

New 9 floor building

NEW OBJECTIVES:

1. To provide advanced level of highly specialized patient care in Pulmonology
2. To make available state-of-the-art diagnostic and surgical procedures in Pulmonology
3. To provide care for rare pulmonary disorders (orphan lung diseases)
4. To set up state-of-the-art teaching facilities in Pulmonology and Allied Sciences
5. To undertake, aid, promote, guide & coordinate research of high standards in Pulmonology & Allied Sciences
6. To collaborate with leading/frontline scientific and research agencies and laboratories in Pulmonology and Allied Sciences

2. EXISTING DEPARTMENTS AND THEIR UPGRADATION

1. DEPARTMENT OF PULMONARY MEDICINE

The Department is involved in the patient care (Outdoor and Indoor) at Viswanathan Chest Hospital (VCH), the clinical wing of VPCI. The faculty is involved in individual research and thesis work on different aspects of respiratory diseases as well as teaching of the postgraduate students



in Pulmonary Medicine (DM and MD) of University of Delhi. The Department conducts routine lectures, clinical demonstrations along with seminars, clinical meetings and journal clubs, ICU meetings, mortality meetings etc. regularly, as a part of teaching curriculum. The clinical facilities available at the department include OPD, IPD, RICU, 24 hours Respiratory Emergency etc.

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none">• OPD Service• IPD• Emergency• ICU• Research• Teaching and Training to DM/MD/PhD Students• Diseases Spectrum Services Bronchial asthma, COPD, Interstitial lung diseases, Bronchiectasis, Drug-induced lung diseases, Pulmonary arterial hypertension, Pulmonary thromboembolic disease, Pulmonary vasculitis, Sleep disorder, Pleural diseases, Neuromuscular diseases of chest wall, Occupational & environmental disorders, Perioperative management,	<p>Major Units:</p> <ul style="list-style-type: none">• General Pulmonology• Respiratory ICU• Thoracic oncology• Infectious diseases (Isolation Ward) for (MDR, XDR TB, H1N1 etc)• Respiratory Allergy <p>Special Clinics:</p> <ul style="list-style-type: none">• Allergy & Clinical Immunology• Severe Asthma• COPD• Lung nodule• Neuromuscular respiratory diseases• Pulmonary Hypertension• Interstitial lung diseases• Orphan lung diseases

<p>Pulmonary infections, Acute Respiratory Failure, Orphan lung diseases, Lung cancer</p> <p>Allied Clinical Testing Labs</p> <ol style="list-style-type: none"> Sleep/ Polysomnography Pulmonary Function Testing Pulmonary Rehabilitation Allergen testing & immunotherapy 	<p>Thoracic Oncology</p> <p><i>Disease Spectrum:</i></p> <ul style="list-style-type: none"> NSCLC: <ul style="list-style-type: none"> Adenocarcinoma Squamous cell carcinoma Others SCLC Mesothelioma Thymic cancer Thymoma SVC Obstruction <p><i>Treatment facilities:</i></p> <ol style="list-style-type: none"> Chemotherapy Radiotherapy Management of complications Palliative therapy <p>Pulmonary Rehabilitation</p> <p>Rehabilitation of chronic diseases</p> <ul style="list-style-type: none"> COPD ILD Post TB diseases Others Exercise therapy Airway clearway methods: Percussion <p>Home based rehabilitation</p> <p>Home oxygen and NIV therapy</p> <p>Sleep/Polysomnography (Sleep Study Center)</p> <ul style="list-style-type: none"> All types of Sleep laboratory <ul style="list-style-type: none"> Adult Paediatric Sleep breathing disorder treatment <ul style="list-style-type: none"> CPAP NIV
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	<ul style="list-style-type: none">• Surgery• Other <ul style="list-style-type: none">• Sleep latency test• Clinical Research <p>Pulmonary Function Test (PFT) Center</p> <ul style="list-style-type: none">a. Spirometryb. Cardio-Pulmonary exercise testingc. Body Plathysmographd. Impulse oscillometrye. FENOf. Rhinomanometryg. Volumetric pulmonary function testingh. DLCO
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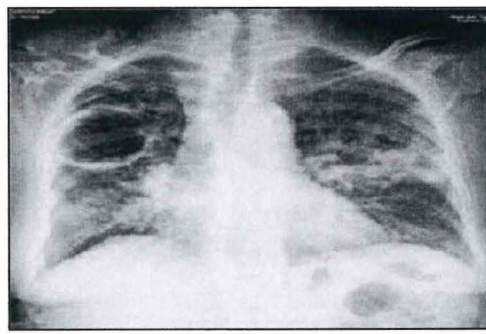
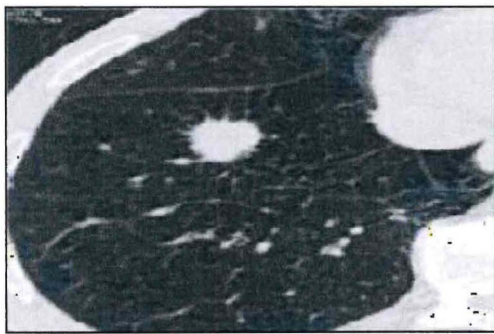
Interventional Pulmonology

Existing facilities	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none">• Diagnostic Bronchoscopy• EBUS	<ul style="list-style-type: none">• Rigid bronchoscopy• Airway stenting• Balloon dilatation• Laser therapy• Cryotherapy• Linear EBUS• Radial EBUS• Electrocautery• Navigation• Bronchoscopy• C-Arm bronchoscopy• BLVRS /BTVA• Robotic-assisted• Medical Pleuroscopy• BTPNA (Archimedes System)• Argon plasmacoagulation

All the clinical departments are involved in clinical research which is one of the mandates of VPCI will continue....

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	3	3	6
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	4	4	8
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	6	2	8
Senior Resident	Pay Level 10: Rs.56,100-1,77,500	2	4	6
Technical Officer	Pay Level-10: Rs.56,100-1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400-1,12,400	4	4	8
Technical Assistant	Pay Level-5: Rs.29,200-92,300	7	5	12
Lab Assistant	Pay Level-4: Rs.25,500-81,100	3	9	12
MTS-Laboratory Attendant	Pay Level-1: Rs.18,000-56,900	9	3	12
Total		38	35	73



2. DEPARTMENT OF ANAESTHESIOLOGY

The department caters to anaesthetic management services in interventional procedures / minor surgeries. The department is involved in management of 8 bedded Pulmonary ICU including 2 HDU beds.



The ICU is well equipped and trained staff for respiratory management of sick patients with 6 ventilators for invasive ventilation, and 6 Bi-pap machines for non-invasive respiratory support.

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> • Management of 8 bedded Pulmonary ICU • 2 HDU beds • 6 ventilators • 6 Bi-pap machines 	<ul style="list-style-type: none"> • General anaesthesia • Regional anaesthesia • Local anaesthesia • Surgical Procedures under local/GA • Pain clinic • PAC clinic

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	1	1	2
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	0	2	2
Senior Resident		0	2	2
Nursing Officer	Pay Level-6: Rs.35,400 – 1,12,400	0	4	4
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	1	14	15

3. DEPARTMENT OF RESPIRATORY ALLERGY & APPLIED IMMUNOLOGY (RAAI)

[UPGRADED TO - NATIONAL CENTER OF RESPIRATORY ALLERGY, ASTHMA AND IMMUNOLOGY (NCRAAI)]

The Department of Respiratory Allergy & Applied Immunology was started in early 1960's with the objective of undertaking research on diagnostic and therapeutic aspects of patients suffering with respiratory allergic disorders. The pioneering work of the Department a large number of allergens of different groups; pollen, fungal, insect, algae, dust and dander were identified and were used for the diagnosis and immunotherapy of the patients with respiratory allergy.

On 12th February 2011, the department of Respiratory Allergy & Applied Immunology (RAAI) then upgraded to the National Centre of Respiratory Allergy, Asthma and Immunology (NCRAAI), is a state-of-the-art Professional, Academic and National Centre for representing the specialty of allergy at all levels. NCRAAI was inaugurated and dedicated to service by Chairman, Governing Body to the Institute and President, National Brain Research Centre Society. The aim of the Centre is to conduct research and training on various aspects of allergy and asthma (aetiopathogenesis, diagnosis and treatment).

Existing Activity	Proposed Additional Activities after Upgradation
Allergy Testing and Immunotherapy In vivo testing <ul style="list-style-type: none"> • Skin prick test In-vitro test <ul style="list-style-type: none"> • Total IgE • Specific IgE • Radio allergosorbent test (RAST) • Enzyme linked immunosorbent assay (ELISA) 	In vivo testing <ul style="list-style-type: none"> • Nasal challenge test • Mucosal challenge tests (Bronchial) • Double blind placebo controlled challenge • Provocation tests In-vitro test <ul style="list-style-type: none"> • Molecular allergology / Component-resolved diagnosis • Basophil-activation test (BAT) <ul style="list-style-type: none"> • Pollen Count Station • To prepare a directory (database) of various clinically important allergens of different geographical

	<p>areas of India and also to provide specialized treatment.</p> <ul style="list-style-type: none"> • Preparation of a national directory of standard allergenic components presents in various clinically important allergens of different geographical areas of our country. • Provide consultancy service to the physicians in and around the country in the diagnosis and management of their patients through telephone, fax, e-mail and other means of electronic media. • Study the interaction between exposure to air pollutants and dietary factors in development of sensitivity to allergens. • Undertake research on the etio-pathogenesis of these diseases and the development of diagnostic and therapeutic modalities. • Develop human resource for allergy research, diagnosis and management of patients by imparting training in state of the art techniques to: <ul style="list-style-type: none"> • Basic and clinical researchers; and • Physicians from various parts of our country.
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Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13 : Rs.1,23,100 - 2,15,900	0	1	1
Associate Professor	Pay Level-12 : Rs.78,800 – 2,09,200	0	1	1
Assistant Professor	Pay Level-11 : Rs.67,700 – 2,08,700	0	2	2
Scientist	Pay Level-11 : Rs.67,700 – 2,08,700	0	2	2
Senior Resident		0	2	2
Technical Officer	Pay Level-10: Rs.56,100-1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400-1,12,400	0	2	2
Nursing Officer	Pay Level-6 : Rs.35,400 – 1,12,400	0	2	2
MTS - Laboratory Attendant	Pay Level-1 : Rs.18,000 – 56,900	0	2	2
	Total	0	13	13

4. DEPARTMENT OF RADIOLOGY

VPCI has a state of art diagnostic imaging and image guided procedures, which includes:



Existing Activity	Proposed Additional Activities after Upgradation
1. Thoracic imaging 2. Interventional Radiology	1. CXR 2. USG 3. CT scan 4. DEXA scan 5. MRI 6. PET- CT 7. Interventional Radiology

Staff

Name of Post	Pay Level	Existing Staff	Proposed	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	1	0	1
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	1	0	1
Technical Officer	Pay Level-10: Rs.56,100-1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400-1,12,400	1	1	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	2	0	2
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	2	0	2
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	2	2
	Total	7	5	12

5. DEPARTMENT OF THORACIC SURGERY

The department has a minor Operation Theatre for conducting minor surgical procedures.



Existing Activity	Proposed Additional Activities after Upgradation
----	<ul style="list-style-type: none">• Airway reconstruction• Bleb resection• Carinal resection• Chest reconstruction• Chest wall resection• Decortication• Diaphragm plicationrepair• VATS• Wedge resection• Endoscopic thoracic sympathectomy• Pneumonectomy• Lobectomy• Lung Transplant• Mediastinoscopy• Robotic surgery• Thoracotomy• Thymectomy

Staff

Name of Post	Pay Level	Existing Staff	Proposed	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	1	0	1
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	0	1	1
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	2	2
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	0	2	2
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	2	2
	Total	1	11	12

6. VISWANATHAN CHEST HOSPITAL

A **Clinical Research** Centre was started in the year 1957 by Dr. Rajendra Prasad, the then President of the Republic of India. Later on in the year 2007, it was renamed as "Viswanathan Chest Hospital (VCH)". At present, it is a 128 bedded hospital with the following Departments:



- Pulmonary Medicine
- Radiodiagnosis and Imaging
- Clinical Laboratories of Biochemistry, Microbiology and Pathology
- Anaesthesia
- Thoracic Surgery

Existing Activity	Proposed Additional Activities after Upgradation (Opening of new Departments)
<p>Facilities available at Viswanathan Chest Hospital</p> <ul style="list-style-type: none"> • Out-patient Department • In-patient Facility with 128 Beds • 24 Hours Respiratory Emergency • 8-bedded Respiratory Intensive Care Unit (with 6 ventilators) • Pulmonary Function Laboratory • Cardio-pulmonary Rehabilitation Clinic • Sleep Laboratory • Allergy and Applied Immunology Laboratory • Clinical Hematology and Pathology Laboratory • Clinical Biochemistry Laboratory • Microbiology Laboratory • Radiology Unit with 64 Slice MDCT Scan Center • Picture Archiving and Communication Systems (PACS) • Tobacco Cessation Clinic • Yoga Therapy and Research Centre • Patient Education Centre • Telemedicine Services • Post Covid Respiratory Management Centre <p>Specialized investigations available at VCH</p> <ul style="list-style-type: none"> • Fibreoptic bronchoscopy • EBUS (Radial/Linear) • Cryo-biopsy • Guided FNAC/Biopsy • Medical thoracoscopy • Respiratory allergy skin tests • Clinical immunology 	<p>New Major Clinical Departments</p> <ul style="list-style-type: none"> • Department of Paediatric Pulmonology • Department of Critical Care • Department of Respiratory Palliative Care • Department of Public Health • Department of Environmental Medicine • In house Supporting Units • Skill Lab for Teaching and Demonstration <p>(the details about the above departments are explained in the different section)</p>

Staff

Name of Post	Pay Level	Existing Staff	Proposed	Total
Medical Superintendent	Pay Level 14:	0	1	1
Chief Matron	Pay Level-12: Rs.67,700 – 2,08,700	0	1	1
Nursing Superintendent	Pay Level-11: Rs.56,100 – 1,77,500	1	7	8
Deputy Nursing Superintendent	Pay Level-10: Rs.56,100 – 1,77,500	0	5	5
Senior Nursing Officer	Pay Level-7: Rs.44,900 – 1,42,400	5	15	20
Nursing Officer	Pay Level-6: Rs.35,400 – 1,12,400	17	223	240
Physiotherapist	Pay Level-6: Rs.35,400 – 1,12,400	1	4	5
Chief Pharmacist	Pay Level-7: Rs.44,900 – 1,42,400	0	1	1
Senior Pharmacist	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
Pharmacist	Pay Level-5: Rs.29,200 – 92,300	1	4	5
Medical Records Officer		0	1	1
Medical Record Assistant		0	3	3
Cook	Pay Level-2: Rs.19,900 – 63,200	6	12	18
MTS – Nursing Orderly	Pay Level-1: Rs.18,000 – 56,900	1	4	5
MTS – Ward Boy	Pay Level-1: Rs.18,000 – 56,900	2	15	17
MTS – Attendant Ward	Pay Level-1: Rs.18,000 – 56,900	6	24	30
	Total	40	322	362

7. DEPARTMENT OF BIOCHEMISTRY

The Department of Biochemistry including Clinical Biochemistry imparts teaching, training and research. Department of Biochemistry is one of the original and four basic Departments that were established in 1954 when the Institute became operational. Activities of the Department include providing diagnostic services for the patient care, actively involved in Research, Teaching, Supervising M.D. Medical Biochemistry students, Ph.D. Medical Biochemistry students and imparting training to students of other prestigious institutes.

Departmental activities:

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> Diagnostic services for admitted & outdoor patients of VPCI: Blood and pleural fluid samples analyzed: Bl. Glucose, Bl. Urea, S. Creatinine, S. Total Protein, S. Albumin, S. Total Bilirubin, S. Direct Bilirubin, S. Alanine transaminase (ALT), S. Aspartate aminotransferase (AST), Alkaline Phosphatase (ALP), Total Cholesterol (CHOL-T), LDL Cholesterol (LDL-C), HDL Cholesterol (HDL-C), VLDL Cholesterol (VLDL-C) etc. Research: Studies on COPD, Bronchial Asthma and lung cancer 	<ul style="list-style-type: none"> Serum therapeutic drug monitoring laboratory Tumour marker laboratory: A) Immunoassay Carcinoembryonic antigen (CEA), B) squamous cell carcinoma antigen (SCC), C) neuron-specific enolase (NSE), D) cytokeratin 19 fragment (CYFRA), and E) pro-gastrin-releasing peptide (proGRP) Introduction of new test panels: <ul style="list-style-type: none"> a) Infectious disease: ADA, Procalcitonin, IL-6 b) Extractable Nuclear Antigen (ENA) panel for autoimmune disorders. c) Critical care: CPK and CPK-MB, A: C ratio

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13 : Rs.1,23,100 - 2,15,900	1	2	3
Associate Professor	Pay Level-12 : Rs.78,800 – 2,09,200	2	2	4
Assistant Professor	Pay Level-11 : Rs.67,700 – 2,08,700	2	2	4
Senior Resident		0	2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6 : Rs.35,400 – 1,12,400	1	3	4
Bioinformatics Scientist		0	2	2
Scientists (PhD)		0	2	2
Technical Assistant	Pay Level-5 : Rs.29,200 – 92,300	3	3	6
Lab Assistant	Pay Level-4 : Rs.25,500 – 81,100	1	4	5
MTS – Lab. Attendant	Pay Level-1 : Rs.18,000 – 56,900	3	4	7
	Total	13	27	40

8. DEPARTMENT OF PHYSIOLOGY

The Department was established by Prof. A.S. Paintal, a doyen among Indian physiologists. The aims of the Department are to conduct fundamental and applied physiological research of the viscera in general and the heart and lungs in particular. Apart from conducting research, clinical services have been introduced by establishing Cardiopulmonary Rehabilitation Clinic. It is a unique clinic where chronic respiratory patients are treated by non-pharmacological methods. These methods include breathing retraining, nutritional counseling, exercise training and educational sessions on self-management and coping-up strategies.

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> • Cardiopulmonary Rehabilitation Clinic: management of chronic respiratory patients who have disability in activities of daily living and exercise limitation due to shortness of breath despite being on optimal pharmacological treatment. • Research on Cognitive performance 	<ul style="list-style-type: none"> • Expansion of existing Cardiopulmonary Rehabilitation Centre and Tele-rehabilitation services. <ol style="list-style-type: none"> a. Additional space required since patient load is increasing. There is a need for installation of more equipment. b. A dedicated space required for running Tele- rehabilitation services.

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100 - 2,15,900	1	2	3
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	3	1	4
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	1	3	4
Senior Resident		0	1	1
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	2	0	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	4	4
Lab Assistant	Pay Level-4: Rs.25,500 – 81,100	1	3	4
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	2	2	4
	Total	10	17	27

9. DEPARTMENT OF MICROBIOLOGY

One of the original and four basic Departments that were established in 1953, the Department of Microbiology provides diagnostic services to VPCI and several other hospitals. The Department is also involved in teaching and training of MD (Microbiology) and PhD students; and research. The Department of Microbiology has state-of-the-art laboratories for molecular diagnostics and research. The Department has contributed richly to the understanding of pathogenicity, drug resistance and molecular epidemiology of aerobic bacteria including *Streptococcus pneumoniae*, *Acinetobacter*, *Pseudomonas* sp, *M. tuberculosis* and nontuberculous mycobacteria (NTM). Novel diagnostic tools to identify *M. tuberculosis* and NTM have also been developed in the Department. The Department is also actively involved in Hospital Infection Control and Bio-waste management in the Institute.

Existing Activity	Proposed Additional Activities after Upgradation
<p>Bacteriology:</p> <ul style="list-style-type: none"> • Diagnostics: Microscopy and culture of samples received from the Vishwanathan Chest Hospital: Sputum, BAL, urine, blood, pus etc. • Vitek • MALDI-TOF • Anaerobic bacteriology <p>Serology: Diagnostics: CRP, RA factor, Malaria, Filariasis</p> <p>Mycobacteriology</p> <p>Diagnostic services:</p> <ul style="list-style-type: none"> • Direct microscopy • Culture: LJ medium and MGIT • Species identification (<i>M. tuberculosis</i> and Nontuberculous mycobacteria) using conventional techniques, rapid immunochromatography and molecular tools such as PCR restriction analysis. • GeneXpert • Hain's Line probe assay • Drug Susceptibility testing (First Line): • Proportion method • Molecular DST (LPA) • Drug Susceptibility testing (Second Line): 	<ul style="list-style-type: none"> • Develop the diagnostic Mycobacteriology (TB) laboratory into a National level laboratory • <i>M. tuberculosis</i> molecular epidemiology laboratory • Develop a national-level laboratory for atypical mycobacteriology • Clinical parasitology laboratory • Atypical bacteria laboratory • Bioinformatics

<ul style="list-style-type: none">• Proportion method• Molecular DST (LPA)• Cell culture lab <p>Research: Studies on drug resistance, molecular epidemiology, pathogenesis, vaccines: <i>M. tuberculosis</i>.</p> <p>Studies on drug resistance, molecular epidemiology of <i>S. pneumoniae</i>, <i>Klebsiella</i> sp., <i>Acinetobacter</i></p>	
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Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100 - 2,15,900	1	3	4
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	2	2	4
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	1	3	4
Senior Resident		0	2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Tech. Assistant	Pay Level-6: Rs.35,400 – 1,12,400	2	4	6
Bioinformatics Scientists		0	1	1
Scientists (PhD)		0	5	5
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	3	3	6
Lab Assistant	Pay Level-4: Rs.25,500 – 81,100	1	5	6
Lab Attendant	Pay Level-1: Rs.18,000 – 56,900	4	2	6
Research Fellows		0	4	4
	Total	14	35	49

10. RESPIRATORY VIROLOGY UNIT

The Respiratory Virology Unit which is part of the Department of Microbiology is mainly associated with diagnosis of respiratory viruses in clinical samples and performing basic/translational research on the viruses. The laboratory is routinely performing diagnostics of SARS-CoV-2 virus in the clinical samples from the patients visited in Viswanathan Chest Hospital. The ongoing research work include working on dendrite cells in vitro manipulation of RNA, studying signalling cascades during influenza and chikungunya virus infection.

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> • Routine diagnosis of SARS-CoV-2 virus • Routine diagnosis of influenza virus • Research: Studies on molecular epidemiology, pathogenesis, vaccines of influenza and SARS CoV-2 virus 	<ul style="list-style-type: none"> • Introduction of a broad range of viral diagnostics such as large panel of respiratory viruses, chikungunya, dengue, HIV and hepatitis virus etc • Master degree course such as M.Sc. Virology

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13 : Rs.1,23,100 - 2,15,900	0	1	1
Associate Professor	Pay Level-12 : Rs.78,800 – 2,09,200	1	1	2
Assistant Professor	Pay Level-11 : Rs.67,700 – 2,08,700	1	1	2
Senior Resident		0	1	1
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6 : Rs.35,400 – 1,12,400	1	2	3
Bioinformatics Scientists		0	1	1
Scientists (PhD)		0	2	2
Technical Assistant	Pay Level-5 : Rs.29,200 – 92,300	2	2	4
Lab Assistant	Pay Level-4 : Rs.25,500 – 81,100	0	2	2
Lab Attendant	Pay Level-1 : Rs.18,000 – 56,900	2	0	2
Research Fellows		0	2	2
	Total	7	16	23

11. MEDICAL MYCOLOGY UNIT

Medical Mycology unit is a leading centre of research and teaching in pulmonary diseases caused by fungi and actinomycetes. Apart from an active research programme and teaching, its activities include running a mycological diagnostic service for referred cases from Delhi and NCR. Medical Mycology Unit, is a highly equipped laboratory and state of art for molecular diagnostics and perform antifungal resistant surveillance. The Unit is also involved in teaching MD and PhD courses. The Unit is a National Reference Laboratory for Antimicrobial Resistance in Fungal Pathogens, and National AMR surveillance programme.

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> • Mycological diagnostic service: Microscopy Culture, Antifungal susceptibility testing, Serology Sequencing, MALDI-TOF • National Reference Laboratory for Antimicrobial Resistance in Fungal Pathogens, and National AMR surveillance programme. • European Society of Clinical Microbiology & Infectious Disease (ESCMID) collaborative centre for Medical Mycology • Research: Studies on drug resistance, molecular epidemiology, pathogenesis of Candida, Cryptococcus, dermatophytes. 	<ul style="list-style-type: none"> • Development of National Reference Centre for invasive Mycoses. • Molecular Mycology laboratory services: 24hrs diagnostic services • Fungal Serology and Biomarker laboratory • National Sequencing facility for Fungal Pathogens • Therapeutic Drug monitoring services • Bioinformatics <p>Instruments required:</p> <ul style="list-style-type: none"> • GCMS, • MALDI, • Scanning Electron microscope, • WGS sequencer • molecular instruments.

Faculty and Staff:

Positions	Pay level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	1	2	3
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	1	2	3
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	1	2	3
Senior Resident			2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	1	3	4
Bioinformatics Scientists			1	1
Scientists (PhD)			2	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	1	3	4
Lab Assistant	Pay Level-4: Rs.25,500 – 81,100	1	3	4
Lab Attendant	Pay Level-1: Rs.18,000 – 56,900	2	2	4
	Total	8	23	31

12. DEPARTMENT OF PATHOLOGY

The Department of Pathology is one of the earliest departments of VPCI which was formed in 1953. It is actively involved in Clinical diagnosis, teaching and research with focus on non-communicable lung diseases. From 2005, the department has established specialized diagnostic and research Laboratories-Hematology, Histopathology, Cytopathology, Emergency hematology laboratory (2005), Coagulation laboratory (2006), Molecular Pathology laboratory (2009), Immunohistochemistry laboratory (2010), Cell Culture laboratory (2013) and Nanomedicine laboratory (2016).

Existing Activity	Proposed Additional Activities after Upgradation
Hematology lab, Clinical pathology lab, Coagulation lab, Histopathology lab, Cytopathology lab, Immunohistochemistry lab, Molecular Pathology lab, Cell culture lab, Nanoparticle lab Research: Studies on lung cancer, nanoparticles	<ul style="list-style-type: none"> • Nanomedicine Laboratory for Research in Interstitial Lung Disease Nanomedicine • Division of Laboratory Medicine • Cytopathology laboratory • Upgrade the Histopathology laboratory

Faculty and Staff:

Positions	Pay level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100 - 2,15,900	1	2	3
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	1	2	3
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	1	2	3
Senior Resident			2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	2	3	5
Bioinformatics Scientists				
Scientists (PhD)				
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	2	3	5
Lab Assistant	Pay Level-4: Rs.25,500 – 81,100	0	4	4
Lab Attendant	Pay Level-1: Rs.18,000 – 56,900	2	2	4
	Total	9	21	30

13. DEPARTMENT OF PHARMACOLOGY

The Department of Pharmacology provides teaching, training and research. The Department of Pharmacology was established in 1967 with an aim to carry out research on interactions between respiratory organs and regulatory substances including drugs. Some of the areas of initial research were smooth muscle pharmacology, visceral epithelial transport of water and electrolyte and mechanisms of osmoregulation. One of the most significant findings was the characterization of a new regulatory peptide, pneumadin, found in the mammalian lung which appeared to be crucial in water and electrolyte disturbances in lung disease. This original piece of work was recognized at the highest international level.

Existing Activity	Proposed Additional Activities after Upgradation
Research: <ul style="list-style-type: none"> • Smart regulation for antibiotic use • Experimental studies on the hepatoprotective and immunomodulatory effects of various agents • Yogic intervention on pulmonary functions, inflammatory markers, oxidative stress and health status in patients 	<ul style="list-style-type: none"> ■ Antimicrobial stewardship (AMS) programme

Faculty and Staff:

Positions	Pay level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100- 2,15,900	1	0	1
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	1	0	1
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	2	2	4
Senior Resident		0	2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	1	1	2
Medical Anthropologist		-	1	1
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	1	1	2
Lab Assistant	Pay Level-4: Rs.25,500 – 81,100	1	3	4
Lab Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	7	15	22

14. ANIMAL HOUSE

The Animal House of the Institute is registered with Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Animal Welfare Division, Government of India, for breeding and conducting experiments on small Laboratory Animals. The Animal House is being maintained under controlled environment conditions as specified in CPCSEA guidelines with maintained temperature, relative humidity, timer controlled light dark cycle and air change per hour with 100% fresh air, providing optimum environment for experimental animals, which is essential for obtaining reliable experimental research.

Departmental activities:

Existing Activity	Proposed Additional Activities after Upgradation
Breed and maintain different strains of Laboratory Animals and supply them upon request of Institutional researchers	<ul style="list-style-type: none"> • State-of-art Nude Mice facility • 'State of Art' facilities for the purpose of conducting pre-clinical (Animal) studies. • To strengthen in – house studies for Drug Development. • To facilitate therapeutic area specific animal models for drug discovery e.g. cancer, sickle cell anemia, inflammation etc. Animal holding Capacity in IVC's

Staff

Name of Post	Pay Level	Existing Staff	Proposed Staff	Total
Veterinarian	Pay Level-10: Rs.56,100 – 1,77,500	1	-	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	1	-	1
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	1	1
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	1	1	2
MTS – Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	4	-	4
MTS – Animal Attendant	Pay Level-1: Rs.18,000 – 56,900	6	-	6
MTS – Animal Catcher	Pay Level-1: Rs.18,000 – 56,900	1	0	1
	Total	14	2	16

15. LIBRARY

The VPCI Library is provides patient care information support and caters to the academic needs of the faculty members, resident doctors, researchers and students alike for research purposes. The library was started in 1955, but it has back volumes of several journals more than 100 years old. Most of the journals have complete sets of volumes originating right from their treatises of medicine which are readily available for basic and historical insights. It also has a very good comprehensive collection of serial publications, like Annual Reviews, Year books, Recent advances. The Institute has one of the best library in the field of Pulmonary Disease and Allied Sciences having 10,130 Books, 25,025 bound Journals, 175 CD's, 570 Thesis and 27 National and International Reports. A total 16 Journals (05 International and 11 National) are being received on exchange programme with the Institute's Journal and 03 Journals (02 International and 01 National) are received on complimentary basis.

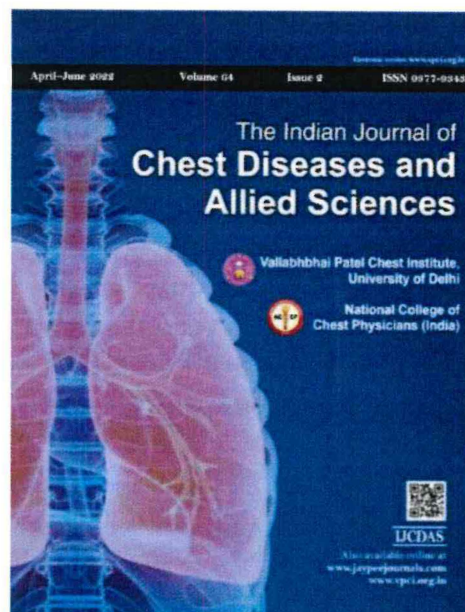
Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> Journals, Publications like Annual Reviews, Year books, Recent advances. 10,130 Books, 25,025 bound Journals, 175 CD's, 570 Thesis and 27 National and International Reports. A total 16 Journals (05 International and 11 National) are being received on exchange programme with the Institute's Journal and 03 Journals (02 International and 01 National) are received on complimentary basis. 	<ul style="list-style-type: none"> Upgradation of internet services Web Centric LSEase Software on Cloud RFID Book Labels (Tags) & RFID Smart Cards Self Service Touch Kiosk&Multi-Purpose Staff Station RFID HF Security Gate (Single Lane) & RFID CD Labels Anti-theft Sticker with Institute Logo&Tagging of Books (Job Work) RFLIMS Server Web Application Including SIP2 server (Middleware Software Layer) Integration, Installation and Training of Complete RFID Based Library Solution Open Source Software Installation & Training (Free of Cost), if required. Data Migration Development of Institutional Repository

Staff

Name of Post	Pay Level	Existing Staff	Proposed Staff	Total
Librarian		1	0	1
Professional Assistant	Pay Level-6: Rs.35,400 – 1,12,400	1	0	1
Semi Professional Assistant	Pay Level-5: Rs.29,200 – 92,300	1	0	1
Library Assistant	Pay Level-4: Rs.25,500 – 81,100	1	0	1
Library Attendant	Pay Level-1: Rs.18,000 – 56,900	2	0	2
Total:		6	0	6

16. PUBLICATION

The Institute publishes a prestigious journal, "The Indian Journal of Chest Diseases and Allied Sciences" which was founded in 1959 by late Professor Raman Viswanathan, the Founder-Director of the Vallabhbhai Patel Chest Institute as an official publication of the VPCI and the Indian Association for Chest Diseases [re-named as National College of Chest Physicians (India) in 1976].



The Journal was published as "Indian Journal of Chest Diseases" from 1959 to 1975 and it was re-named as "Indian Journal of Chest Diseases and Allied Sciences" in 1976. IJCDAS is one of the few medical journals from India which has been fully indexed in Index Medicus, MEDLINE and PubMed since 1965. VPCI also publishes the VPCI Newsletter half yearly.

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> Indian Journal of Chest Diseases and Allied Sciences VPCI Newsletter half yearly 	<ul style="list-style-type: none"> Online Journals e- publication for Annual Report & other publications

Staff

Name of Post	Pay Level	Existing Staff	Proposed Staff	Total
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	1	2	3
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	1	1
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	1	2	3
MTS	Pay Level-1: Rs.18,000 – 56,900	1	2	3
	Total:	3	8	11

17. DEPARTMENT OF BIOSTATISTICS

Established in 1990, the Department of Biostatistics plays a vital role and forms a supportive department of the research activities of the Institute. This department provides the statistical needs of all the research activities i.e. from planning stage of studies or surveys, protocol development designing study schedules/forms, sample size and power determination, collection and validation of data, collation, compilation, generating tables and graphics, analyses of data, and interpretation of the results of various research studies, in order to quantify the effect of risk factors and health interventions on individuals or population.

The statistical analysis is being carried out using Statistical Package for Social Sciences (SPSS).

Existing Activity	Proposed Additional Activities after Upgradation
<ul style="list-style-type: none"> Analysis using SPSS software 	<ul style="list-style-type: none"> Computer laboratory with statistical software e- publication for Annual Report & other publications Internship opportunities

Staff

Name of Post	Pay Level	Existing Staff	Proposed	Total
Professor	Pay Level-13: Rs.1,23,100 - 2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800 – 2,09,200	0	1	1
Assistant Professor	Pay Level-11: Rs.67,700 – 2,08,700	1	2	3
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	0	1	1
Technical Assistant	Pay Level-5 : Rs.29,200 – 92,300	0	1	1
Data entry operator	Pay Level-1 : Rs.18,000 – 56,900	0	2	2
MTS	Pay Level-1: Rs.18,000 – 56,900	1	2	3
	Total	2	10	12

EXISTING COURSES

DM Courses

- Pulmonary Medicine

MD Courses

- Pulmonary Medicine
- Microbiology
- Pharmacology
- Biochemistry
- Physiology

PhD Courses

- Pulmonary Medicine
- Microbiology
- Pharmacology
- Biochemistry
- Physiology

PROPOSED ADDITIONAL COURSES

<p>DM Courses</p> <ul style="list-style-type: none">• Infectious Diseases• Hematology• Virology <p>MD Courses</p> <ul style="list-style-type: none">• Transfusion Medicine• Laboratory Medicine• Pathology <p>M.Sc. Courses</p> <ul style="list-style-type: none">• Respiratory therapy• Virology• Haematology and Transfusion• Oncology• Nanomedicine• Stem Cell Technology and Regenerative Biology• Medical Laboratory• Technology (Clinical Pathology)	<p>PDCC Pulmonary Pathology</p> <p>Pulmonary Pathology</p> <p>Interventional Pulmonology</p> <p>PhD Courses</p> <ul style="list-style-type: none">• Hematology and Transfusion Medicine• Laboratory Oncology• Nanomedicine• Laboratory Medicine• Pathology <p>Internship opportunities for undergraduate/PG students of statistics/biostatistics</p>
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NEW INFRASTRUCTURE

**Clinical and
Basic Research**

NEW BUILDING



New Building

OPENING OF THE NEW DEPARTMENTS

A. NEW MAJOR CLINICAL DEPARTMENTS

1. Department of Paediatric Pulmonology
2. Department of Critical Care
3. Department of Respiratory Palliative Care
4. Department of Public Health
5. Department of Environmental Medicine
6. In house Supporting Units
7. Blood Bank
8. Skill Lab for Teaching and Demonstration Thoracic Oncology

B. CENTER FOR BASIC AND TRANSLATIONAL HEALTH RESEARCH

C. ADMINISTRATIVE WING

1. DEPARTMENT OF PEDIATRIC PULMONOLOGY

Disease spectrum

<ul style="list-style-type: none"> • Upper airway abnormalities • OSA • Pulmonary infections • Allergic Rhinitis • Ciliary dysfunction • Cystic fibrosis • Foreign body aspiration • GERD 	<ul style="list-style-type: none"> • Upper airway abnormalities • OSA • Pulmonary infections • Allergic Rhinitis • Ciliary dysfunction • Cystic fibrosis • Foreign body aspiration • GERD
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Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	0	1	1
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	0	2	2
Senior Resident		0	3	3
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	0	11	11

2. DEPARTMENT OF CRITICAL CARE

<ul style="list-style-type: none">• Acute Respiratory Failure• Sepsis• Multiorgan dysfunction• MI• Massive Haemoptysis	<table><tr><th>Services provided</th></tr><tr><td><ul style="list-style-type: none">• Respiratory ICU• PICU/NICU• SLED/CRRT/Dialysis• Cardiology + Cath lab• CCU• Bronchial A. embolization• General Medicine• ECMO</td></tr></table>	Services provided	<ul style="list-style-type: none">• Respiratory ICU• PICU/NICU• SLED/CRRT/Dialysis• Cardiology + Cath lab• CCU• Bronchial A. embolization• General Medicine• ECMO
Services provided			
<ul style="list-style-type: none">• Respiratory ICU• PICU/NICU• SLED/CRRT/Dialysis• Cardiology + Cath lab• CCU• Bronchial A. embolization• General Medicine• ECMO			

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	0	1	1
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	0	2	2
Senior Resident		0	3	3
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	1	1
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	0	2	2
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	0	17	17



3. RESPIRATORY PALLIATIVE CARE UNIT

- Inpatient ward (5 beds)
- Home based rehabilitation and palliative therapy
- Chronic Intensive care unit (CISU) (5 beds)
 - Ventilators
 - Dialysis machine
 - Cardiac assist devices



- Palliative care team
 - Palliative care physicians
 - Palliative care nurses
 - Social worker
 - Pharmacist
 - Rehabilitation therapist
 - Volunteers



Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	0	1	1
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	0	2	2
Senior Resident		0	3	3
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	1	1
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	0	2	2
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	0	17	17

4. DEPARTMENT OF PUBLIC HEALTH

Public Health is the science and art of preventing diseases and prolonging life. Public health is an interdisciplinary field including:

- Epidemiology
- Biostatistics
- Social Science
- Management health services

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	0	1	1
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	0	2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Social Worker	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	1	1
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	0	2	2
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	0	14	14

5. DEPARTMENT OF ENVIRONMENTAL MEDICINE

Environmental Medicine is a new field of science, research and study of the effect of environment on human life. The important components are:

- Air pollution
- Health and climate change

Faculty and Staff:

Positions	Pay Level	Existing Staff	Proposed Staff	Total
Professor	Pay Level-13: Rs.1,23,100-2,15,900	0	1	1
Associate Professor	Pay Level-12: Rs.78,800-2,09,200	0	1	1
Assistant Professor	Pay Level-11: Rs.67,700-2,08,700	0	2	2
Technical Officer	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
Social Worker	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	0	1	1
Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	0	2	2
MTS - Laboratory Attendant	Pay Level-1: Rs.18,000 – 56,900	0	4	4
	Total	0	14	14

6. IN-HOUSE SUPPORTING UNITS

Separate Department or MOU with other Teaching Hospitals with due permission from Ministry of Health and Family Welfare

Specialist Grade

- Internal Medicine

Visiting Faculty

- Cardiologist
- Endocrinologist
- Rheumatologist
- Nephrologist
- Neurologist
- Gastroenterologist

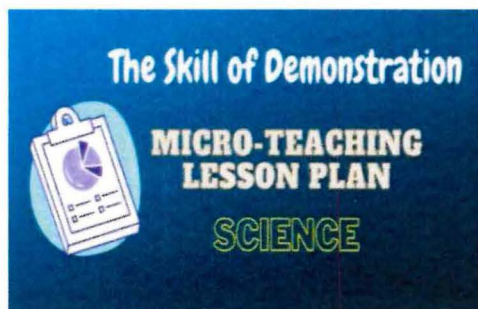
7. BLOOD BANK

VPCI will need a full fledged blood bank to collect blood, perform, tests and store blood. It would also have blood donation facilities.

(UNDER THE DEPARTEMENT OF PATHOLOGY)

8. SKILL LAB FOR TEACHING AND DEMONSTRATION

A Clinical Skill Laboratory will provide hands-on learning experiences to the medical students for the practice of clinical skills, which are deemed essential for the effective and safe management of patients prior to facing real patient population.



B. Center for Basic and Translational Health Research (CBTHR)

The CBTHR will be an upgradation and extension of the existing facilities and Departments.

The departments will be involved in

- (1) Basic research
- (2) Clinical research
- (3) Translational research
- (4) Epidemiological research
- (5) New therapeutic approaches.

Departments

1. Biobank and Repositories:

Clinical samples including tissues and biopsies; and bacterial, fungal, viral, parasitic repositories to enhance our understanding of health and disease

2. Centre for Lung cancer research

Currently the Department of Pathology provides Mutation analysis to lung cancer patients of VPCI and patients referred from hospitals across Delhi and NCR. This can be expanded and upgraded and a full-fledged COE can focus on Personalised therapy of lung cancer

3. Centre for Airway Biology and disease research

4. Centre for stem cell technology and regenerative biology

5. Centre of Biotechnology for Infectious and non-infectious diseases

(Department of Microbiology-Including Mycology and Virology division; Dept. of Biochemistry, and Dept. of Pathology)

Center for Biotechnology for Infectious diseases **is proposed keeping in view of staggering burden of infectious and non-infectious diseases** which are important cause of morbidity and mortality in patients. A single centre that encompasses all the latest technologies is envisioned for cutting edge research in respiratory and systemic diseases covering bacterial, fungal viral and parasitic diseases and non-infectious respiratory diseases. The center will have 5 divisions namely:

- Genomics
- Transcriptomis
- Metabolomics
- Proteomics
- Bioinformatics
- Information technology Centre
- Division of Electron microscopy

6. BSL III LABORATORY

A BSL III facility is needed for handling positive cultures of *M. tuberculosis* and to perform drug susceptibility assays and other manipulation of *M. tuberculosis* cultures. It is also needed for highly pathogenic viruses and fungi. The BSL III facility will be a central facility for Virology, Bacteriology and Mycology.



Staff

S. No.	Name of Post	Pay Level	Proposed
1	Senior Technical Assistant	Pay Level-6: Rs.35,400 – 1,12,400	12
2	Technical Assistant	Pay Level-5: Rs.29,200 – 92,300	12
3	Technical Assistant (Pathology & Museum) (formerly Museum Curator)	Pay Level-5: Rs.29,200 – 92,300	12
4	Laboratory Assistant	Pay Level-4: Rs.25,500 – 81,100	12
5	MTS - Laboratory Attendant including data entry operator	Pay Level-1: Rs.18,000 – 56,900	15
6	Scientists		12
7	Research Fellows		12
		Total	87

C. ADMINISTRATIVE WING

- Admin Section
- Account Section
- Purchase section
- Store Section
- Maintenance cell



Staff

S. No.	Name of Post	Pay Level	Existing Staff	Proposed Staff	Total
1	Director	Pay Level 15: Rs. 1,82,200-2,24,100	1	0	1
2	Additional Registrar	Pay Level-14: Rs.1,44,200 – 2,18,200	0	1	1
3	Deputy Registrar / Joint Registrar	Pay Level-12: Rs.78,800 – 2,09,200/ Pay Level 13: 1,23,100 -2,15,900	1	5	6
4	Chief Security Officer	Pay Level-11: Rs.67,700 – 2,08,700	0	1	1
5	Assistant Registrar	Pay Level-10: Rs.56,100 – 1,77,500	3	5	8
6	Technical Officer (Publication)	Pay Level-10: Rs.56,100 – 1,77,500	0	1	1
7	Private Secretary	Pay Level-8: Rs.44,900 – 1,42,400	1	2	3
8	Sr. PA	Pay Level-7: Rs.44,900 – 1,42,400	0	3	3
9	Section Officer	Pay Level-7: Rs.44,900 – 1,42,400	5	11	16
10	Senior Assistant	Pay Level-6: Rs.35,400 – 1,12,400	12	12	24
11	Legal Assistant	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
12	Senior Assistant (Publication)	Pay Level-6: Rs.35,400 – 1,12,400	1	1	2
13	Personal Assistant	Pay Level-6: Rs.35,400 – 1,12,400	2	2	4
14	Senior Technical Assistant (Photography)	Pay Level-6: Rs.35,400 – 1,12,400	1	1	2
15	Senior Technical Assistant (Publication)	Pay Level-6: Rs.35,400 – 1,12,400	1	1	2
16	Senior Technical Assistant (Store)	Pay Level-6: Rs.35,400 – 1,12,400	1	0	1
17	Assistant Security Officer	Pay Level-6: Rs.35,400 – 1,12,400	0	2	2
18	Technical Assistant (Photography)	Pay Level 5: Rs. 29,200-92,300	0	2	2
19	Assistant	Pay Level-4: Rs.25,500 – 81,100	12	18	30
20	Stenographer	Pay Level-4: Rs.25,500 – 81,100	10	0	10
21	Junior Assistant (including Caretaker-II)	Pay Level-2: Rs.19,900 – 63,200	18	30	48
22	Driver	Pay Level-2: Rs.19,900 – 63,200	3	12	15
23	MTS – Sorter	Pay Level-1: Rs.18,000 – 56,900	2	8	10
24	MTS – Gestetner Operator	Pay Level-1: Rs.18,000 – 56,900	1	0	1
25	MTS – Havaladar	Pay Level-1: Rs.18,000 – 56,900	2	0	2
26	MTS – Sanitary Guide	Pay Level-1: Rs.18,000 – 56,900	2	8	10
27	MTS – Daftri	Pay Level-1: Rs.18,000 – 56,900	2	8	10
28	MTS – Office Attendant	Pay Level-1: Rs.18,000 – 56,900	13	20	33
29	MTS – Security Guards	Pay Level-1: Rs.18,000 – 56,900	15	60	75
30	MTS – Safai karamchari	Pay Level-1: Rs.18,000 – 56,900	19	60	79
		Total:	128	276	404

MAJOR EQUIPMENT REQUIRED

CLINICAL	LABORATORY
Radio-diagnosis <ul style="list-style-type: none"> CT scan (256 Slice) MRI (3T) PET CT DEXA scan Radiotherapy – Planning CT machine and LINAC machine for SBRT Surgery <ul style="list-style-type: none"> Da Vinci Xi Robotic Surgical System ICU <ul style="list-style-type: none"> ECMO CRRT (2) Dialysis (2) Anaesthesia: <ul style="list-style-type: none"> TENS PRP machine Pulmonology <ul style="list-style-type: none"> Ultrasound machine: Routine and bedside Mechanical Ventilators Robotic Bronchoscopy NIV Machines – BPAP and CPAP Polysomnography Equipment General <ul style="list-style-type: none"> ALS ambulance (4) C-ARM (2) 	Spectroscopy Laboratory <ul style="list-style-type: none"> MALDI-TOF MS Scanning Electron Microscope Flow Cytometer GCMS Liquid Chromatography and Mass Spectrometry (LC-MS/MS) HPLC Chemiluminescence based autoanalyser Genomic laboratory <ul style="list-style-type: none"> DNA sequencer Next generation sequencing platform 2D SDS PAGE system Isoelectric Focusing system Pathology/Microbiology <ul style="list-style-type: none"> Real time PCR machines 80 to -160C Deep freezers -4 Microbiology <ul style="list-style-type: none"> Gene Xpert GX XVI MGIT 320 Pharmacology <ul style="list-style-type: none"> Therapeutic drug monitoring Laboratory Animal House <ul style="list-style-type: none"> Nude mice facility

SUPPORTIVE PLANTS AND FIXTURES

<div><div>1. Medical gas pipeline system (all indoor beds with central oxygen supply and suction)</div><div>2. Liquid medical oxygen tank (10 KL – 1 unit)</div><div>3. Gas manifold</div><div>4. STP unit</div><div>5. Water storage system/rain water harvesting</div><div>6. Electricity substation</div></div>	<div><div>7. Solar panels</div><div>8. Laundry</div><div>9. Waste disposal unit</div><div>10. Pneumatic tube system</div><div>11. HVAC system</div><div>12. Kitchen</div><div>13. Pharmacy</div><div>14. Information technology center</div><div>15. Ambulance bay and parking</div></div>
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Details of staff sanctioned in the MAINTENANCE CELL

S. No.	Name of Post	Pay Level	Existing Staff	Proposed Staff	Total
1	Chief Engineer	Pay Level-14: Rs.1,44,200 – 2,18,200	0	1	1
2	Executive Engineer	Pay Level -11: Rs. 67,700-2,08,700	0	2	2
3	Assistant Engineer (Civil)	Pay Level-7: Rs.44,900 – 1,42,400	0	2	2
4	Assistant Engineer (Mechanical)	Pay Level-7: Rs.44,900 – 1,42,400	0	1	1
5	Assistant Engineer (Electrical)	Pay Level-7: Rs.44,900 – 1,42,400	0	2	2
6	Senior Technical Assistant (Refrigeration)	Pay Level-6: Rs.35,400 – 1,12,400	1	1	2
7	Junior Engineer (Mechanical)	Pay Level-6: Rs.35,400 – 1,12,400	0	1	1
8	Junior Engineer (Civil)	Pay Level-6: Rs.35,400 – 1,12,400	1	3	4
9	Junior Engineer (Electrical)	Pay Level-6: Rs.35,400 – 1,12,400	1	3	4
10	Mechanics	Pay Level-5: Rs.29,200 – 92,300	3	3	6
11	Carpenters	Pay Level-2: Rs.19,900 – 63,200	2	2	4
12	Mason	Pay Level-2: Rs.19,900 – 63,200	1	3	4
13	Plumber	Pay Level-2: Rs.19,900 – 63,200	2	4	6
14	Assistant Wireman	Pay Level-2: Rs.19,900 – 63,200	3	9	12
15	Assistant Pump Operator	Pay Level-2: Rs.19,900 – 63,200	2	6	8
16	Lift Operator	Pay Level-2: Rs.19,900 – 63,200	1	11	12
17	MTS – Head Mali	Pay Level-1: Rs.18,000 – 56,900	1	2	3
18	MTS – Helper	Pay Level-1: Rs.18,000 – 56,900	2	6	8
19	MTS – Sewerman	Pay Level-1: Rs.18,000 – 56,900	2	6	8
20	MTS – Khallasi	Pay Level-1: Rs.18,000 – 56,900	3	7	10
21	MTS – Beldar	Pay Level-1: Rs.18,000 – 56,900	2	6	8
22	MTS – Mali	Pay Level-1: Rs.18,000 – 56,900	4	15	19
		Total:	31	96	127

INFRASTRUCTURE REQUIRED

expansion and upgradation of VPCI will have **500 beds** distributed across all subspecialties of Pulmonology and allied sciences. The clinical wing will have all OPDs, IPDs, OTs and clinical labs over 9 floors while the translational research facility will have labs for biomedical research in Pulmonology and allied sciences. It will be established in 13 acres of total land which will include resident hostel.

Following state of the art infrastructure will be developed at the centre:

A. Clinical facilities

1. OPD s (25)	10. Cardio-Pulmonary rehabilitation
2. Wards (360 beds divided across all specialties)	11. Emergency Department
3. Isolation ward (Negative pressure)(20 beds)	12. OT complex
4. Respiratory ICU (40 beds)	<ul style="list-style-type: none">• Modular thoracic surgery OTs(3)• Hybrid OT (1)• Bronchoscopy suites (4)• Cardiac Catheterization laboratory (1)
5. CCU (10 beds)	13. Sleep Labs (4)
6. Respiratory palliative care unitWards (5 beds)	14. PFT center (8 rooms)
<ul style="list-style-type: none">• Chronic ICU (5 beds)	15. Simulation lab BLS
7. Chemotherapy ward (30 beds)	<ul style="list-style-type: none">• ACLS• Bronchoscopy simulator• VATS Simulator NICU/PICU
8. Lung transplant rooms (3)	
9. Pain Clinic (5 beds)	

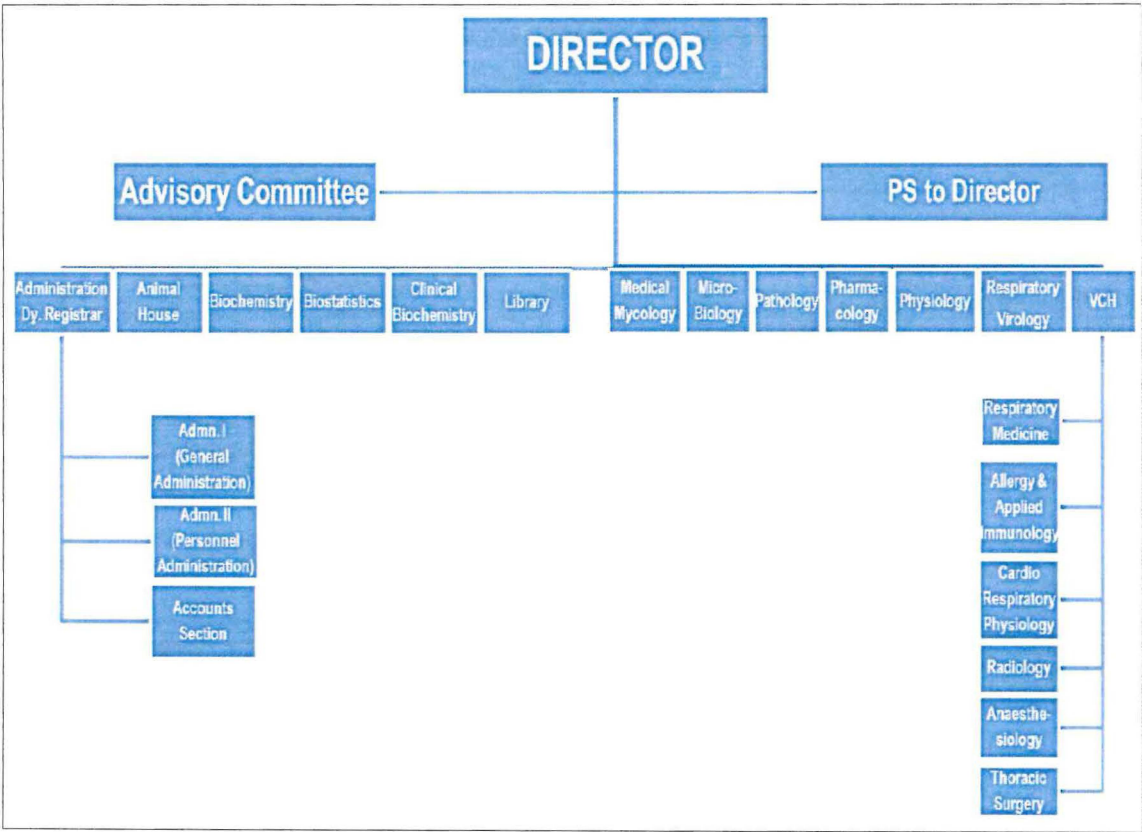
B. Infrastructure facilities is required for Center for Translational Health Research and other activity.

HUMAN RESOURCE REQUIRED

S.No.	Name of the Department	Existing Staff	Proposed Staff	Total
1.	Pulmonary Medicine	38	35	73
2.	Pediatrics Pulmonary	0	11	11
3.	Critical Care	0	17	17
4.	Anesthesiology	1	14	15
5.	Respiratory Palliative Care	0	17	17
6.	Respiratory Allergy & Applied Immunology (NCRAAI)	0	13	13
7.	Radiodiagnosis	7	5	12
8.	Thoracic Surgery	1	11	12
9.	VCH	40	322	362
10.	Biochemistry	13	27	40
11.	Physiology	10	17	27
12.	Microbiology	14	35	49
13.	Respiratory Virology	7	16	23
14.	Medical Mycology	8	23	31
15.	Pathology	9	21	30
16.	Pharmacology	7	15	22
17.	Animal House	14	2	16
18.	Publication	3	8	11
19.	Library	6	0	6
20.	Biostatistics	1	10	11
21.	Administration	128	276	404
22.	Public Health	0	14	14
23.	Environmental Medicine	0	14	14
24.	Centre for Basic and Translational Health Research	0	87	87
25.	Maintenance Cell	31	96	127
	Total	335	1106	1444

Post	Existing	Proposed
Group A	52	215
Group B	68	315
Group C	215	914
Total	335	1444

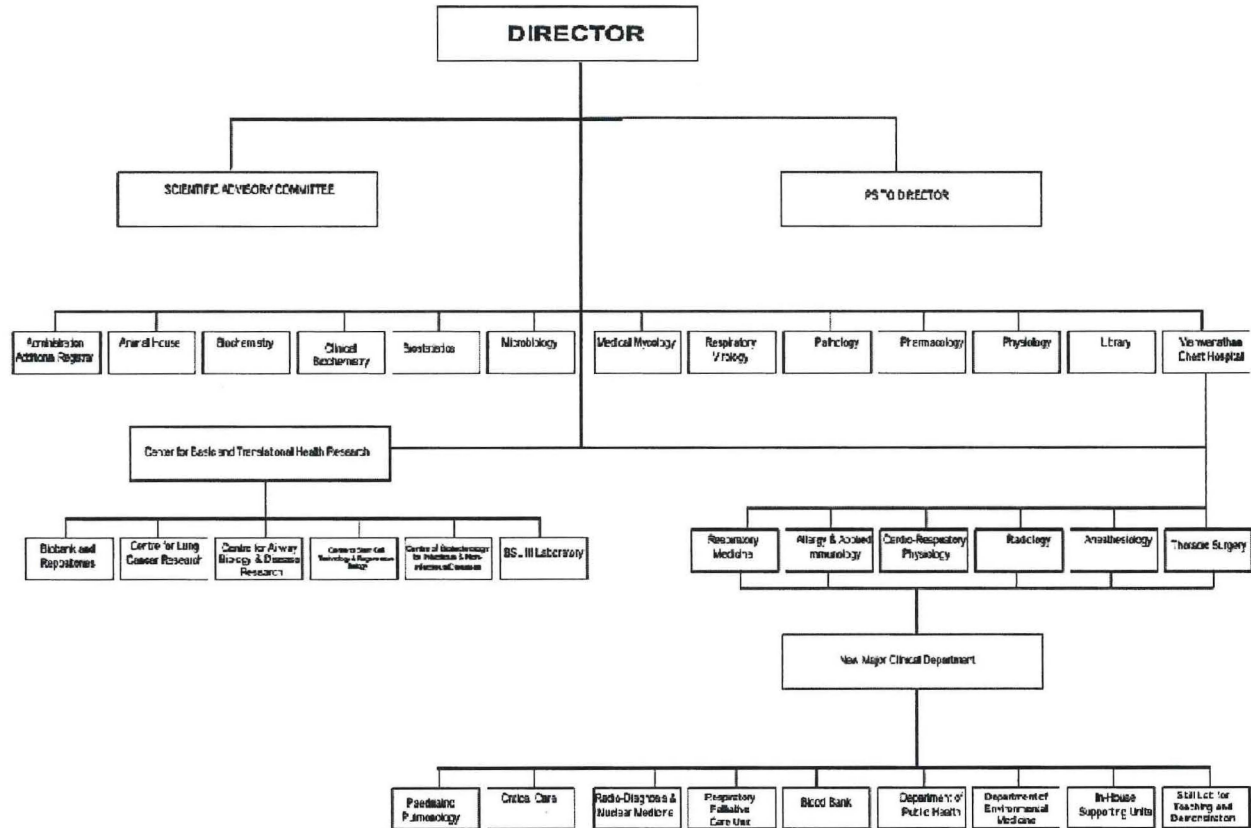
EXISTING ORGANISATIONAL CHART



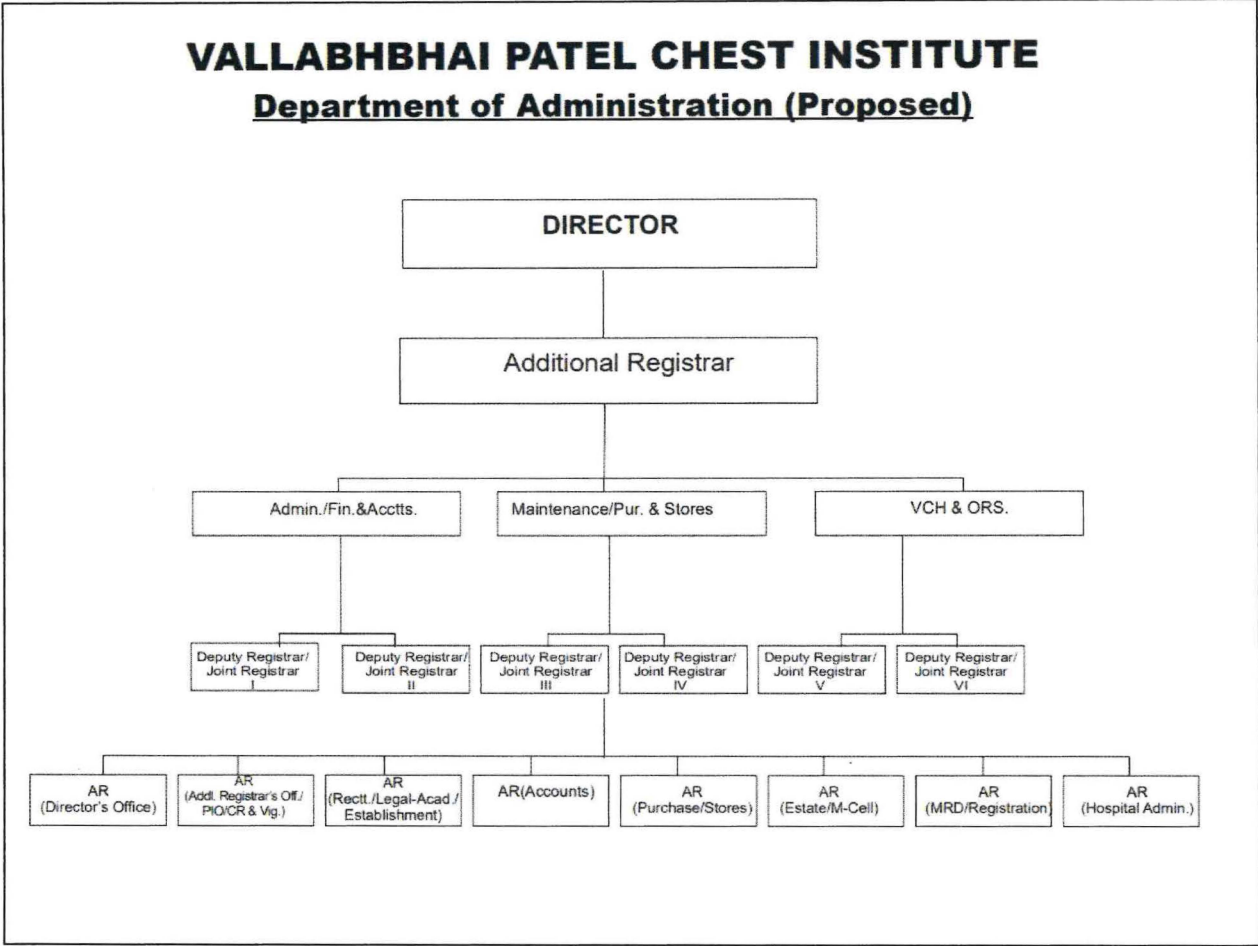
PROPOSED ORGANISATION CHART

VALLABHBHAI PATEL CHEST INSTITUTE

PROPOSED ORGANISATION CHART



DEPARTMENT OF ADMINISTRATION (PROPOSED)



PROJECT FINANCIALS

• Equipment	300 crores
• Utilities	} 450 crores
• Interiors	
• HVAC	
• Maintenance	
• Vehicles including ambulances	2.5 crores
• Human resources	250 crores
• Total	1002.5 crores
Construction cost of the infrastructure has not been included	

LAND NEEDED FOR NEW CONSTRUCTION

About 20 acres

**“This is a just draft proposal.
If approved the final detail
proposal will be submitted.”**

BENEFIT OF EXPANSION AND UPGRADATION OF VPCI

VPCI would require additional faculty members and staff to manage the new and upgraded departments.

This in turn will help us to recruit more students and Research fellows, thus imparting education to a larger student community.

With a larger human resource and improved infrastructure available, VPCI would be able to deliver excellent patient care and diagnosis in line with vast improvements and advances that have taken place in the medical field.

Its research output would also improve and VPCI would be able to contribute intensively to latest and upcoming Scientific developments.

SUMMARY OF EXPANSION AND UPGRADATION OF VPCI

Existing Facilities in Departments	Upgradation of Existing Departments	New Departments
Department of Pulmonary Medicine <ul style="list-style-type: none"> Services OPD IPD Emergency ICU Teaching and Training of MD/DM/PhD Students 	Major Subunits:- <ul style="list-style-type: none"> General Pulmonology Respiratory ICU Thoracic oncology Infectious diseases (Isolation Ward) for (MDR, XDR TB, H1N1 etc) Respiratory Allergy Special Clinics <ul style="list-style-type: none"> Pulmonary Hypertension Interstitial lung diseases Orphan lung diseases Interventional Pulmonology Pulmonary rehabilitation Lung nodule Neuromuscular respiratory diseases, Sleep Center Severe Asthma COPD In vivo testing <ul style="list-style-type: none"> Nasal challenge test Mucosal challenge tests (Bronchial) Double blind placebo controlled challenge Provocation tests In-vitro test <ul style="list-style-type: none"> Molecular allergology / Component-resolved diagnosis Basophil-activation test (BAT) 	Major Clinical Departments <ul style="list-style-type: none"> Department of Paediatric Pulmonology Department of Critical Care Respiratory Palliative Care Unit Department of Public Health Department of Environmental Medicine In house Supporting Units Skill Lab for Teaching and Demonstration
Department of Respiratory Allergy and Applied Immunology <ul style="list-style-type: none"> Allergy Testing for diagnostic and therapeutic aspect 	Thoracic Imaging/Interventional Radiology <ul style="list-style-type: none"> USG PEXA Scan MRI PET CT 	
Department of Radiology <ul style="list-style-type: none"> X ray Chest CT Thorax 	Thoracic Imaging/Interventional Radiology <ul style="list-style-type: none"> USG PEXA Scan MRI PET CT 	
Department of Thoracic Surgery	Airway reconstruction, Bleb resection, Carinal resection, Chest reconstruction, Chest wall resection, Decortication, Diaphragm plication/repair, VATS, Wedge resection, Endoscopic thoracic sympathectomy, Pneumonectomy, Lobectomy, Lung transplant, Mediastinoscopy, Robotic surgery, Thoracotomy, Thymectomy	
Dept. of Anaesthesia	<ul style="list-style-type: none"> General anaesthesia Regional anaesthesia Local anaesthesia Procedures under local/GA Pain clinic PAC clinic 	
VISWANATHAN CHEST HOSPITAL	<ul style="list-style-type: none"> Up-gradation and opening of Departments 	
Dept. of Biochemistry Routine Diagnostic Services	<ul style="list-style-type: none"> Serum therapeutic drug monitoring laboratory Tumour marker laboratory 	
Dept. of Physiology <ul style="list-style-type: none"> Cardio Pulmonary Rehabilitation Clinic 	<ul style="list-style-type: none"> Expansion of existing Cardiopulmonary Rehabilitation Centre Tele- rehabilitation services 	
Dept. of Microbiology <ul style="list-style-type: none"> Diagnostic Bacteriology Serology Diagnostic Services for Patient Care 	<ul style="list-style-type: none"> Develop the diagnostic TB laboratory into a National Level Laboratory M. tuberculosis molecular epidemiology laboratory National Level Atypical Mycobacteriology lab Clinical Parasitology Lab Atypical bacteria lab Bio Informatics 	

Existing Facilities in Departments	Upgradation of Existing Departments	New Departments
Respiratory Virology Unit <ul style="list-style-type: none"> Routine Diagnostic Services 	<ul style="list-style-type: none"> Increase viral Diagnostics capacity: large panel of respiratory viruses, chikungunya, dengue, HIV and hepatitis virus etc. Advance viral research infrastructure to work on pathogenic viruses such as avian influenza, SARS-CoV-2 etc Start new courses: e.g. M.Sc Virology 	Center for Basic and Translational Health Research <ul style="list-style-type: none"> Bicbank and Repositories Centre for Lung cancer research Centre for Airway Biology and disease research Centre for stem cell technology and regenerative biology Centre of Biotechnology for infectious and non-infectious diseases BSL III Laboratory
Medical Mycology Unit <ul style="list-style-type: none"> Routine Diagnostic Services 	<ul style="list-style-type: none"> Development of National Reference Centre for invasive Mycoses Molecular Mycology laboratory services (24 hrs) Fungal Serology and Biomarker laboratory National Sequencing facility for Fungal Pathogens Therapeutic Drug monitoring services Bio Informatics 	
Department of Pathology <ul style="list-style-type: none"> Hematology Lab Clinical Patient Lab Coagulation Lab 	<ul style="list-style-type: none"> Nanomedicine Laboratory Division of Laboratory Medicine Cytopathology laboratory Upgrade the Histopathology laboratory 	
Department of Pharmacology Animal House Library Publication Unit Department of Biostatistics	<p>Antimicrobial stewardship (AMS) programme</p> <p>Up-gradation of Animal House to house state of art Nude Mice Facility with necessary Staff and Space for the same</p> <ul style="list-style-type: none"> Internet Services Web Centric LSEase Software on Cloud. Implementation of RFID Digitalization of Library Collection Development of Institutional Repository Online Journals e- publication for Annual Report & other Publications One colour photocopy machine and Desktop Computer with printer required. Computer laboratory with statistical softwares Enhancement of staff strength Internship opportunities 	

Thanks